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ENVIRONMENT

Commissioner
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46206-2241
Attention: Chief, Permits Branch

Subject:
Groundwater Data Statistical Evaluation – 2012 Annual Sampling, Closed Hazardous Waste Surface Impoundment, RACER Trust – INR000021436, 2701 West Raymond Street, Indianapolis, IN

Date:
January 14, 2013

Contact:
Heather Gastineau-Lyons
Phone:
317-236-5214

Email:
heather.gastineau@arcadis-us.com

Our ref:
IN000297.2012.00100

Dear Commissioner:

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS respectfully submits this Groundwater Monitoring Statistical Evaluation as specified in the Final Hazardous Waste Post-Closure Permit Renewal (Permit) dated January 26, 2007. As required by the Permit, this Evaluation provides details regarding the semi-annual groundwater monitoring performed in October 2012 and is being submitted within sixty (60) days of the final laboratory report which was received by ARCADIS on November 16, 2012. Signed Certifications by RACER Trust and ARCADIS are attached as per the Permit. The following sections provide details of the groundwater monitoring.

Groundwater Gauging

All monitoring wells at the Site were gauged on October 16, 2012. The locations of the monitoring wells are presented on Drawing 1. A review of groundwater elevations from monitoring wells installed within the surface impoundment (internal) and monitoring wells installed outside the slurry wall in both the upper and the lower sand units (external) using the October 16, 2012 depth to water data was completed to ensure an inward hydraulic gradient. Based on the review, the groundwater elevations in the external monitoring wells in the upper sand unit were on average 6.97 feet higher than the groundwater elevations in the internal monitoring wells. The groundwater elevations in the external monitoring wells in the lower sand unit were on average 2.05 feet higher than the groundwater elevations in the internal monitoring wells. Therefore, an inward hydraulic gradient was observed during the

second half of 2012. A graphical depiction of the elevations is presented on Drawing 2. In accordance with the Permit (and subsequent Permit Modifications), groundwater extraction from within the surface impoundment would occur if groundwater in one or more of the A-series interior monitoring wells reach an elevation within one foot of the groundwater elevation observed in either aquifer (B or C series monitoring wells).

Groundwater Monitoring

On October 17, 2012 and in accordance with the Permit, one groundwater sample was collected from each of the downgradient monitoring wells (MW-201B, MW-202B and MW-203B) and the upgradient monitoring well MW-206B. The locations of the monitoring wells are presented on Drawing 1. Depth to groundwater was measured prior to purging the monitoring wells for sample collection. Groundwater samples were collected utilizing a low-flow/low-stress sampling technique. A stainless steel bladder pump equipped with disposable polyethylene bladder and tubing was used to purge the monitoring wells prior to sampling. Field parameter (pH, temperature, turbidity, conductivity, oxidation-reduction potential and dissolved oxygen) were measured during the purging of the monitoring wells. Groundwater was purged until the field parameters reached stabilized measurements as specified in the Permit. Approximately ten gallons of water were purged from the four monitoring wells during the sampling event. After field measurements stabilized, groundwater samples were filtered through a 0.45 micron filter and collected in laboratory-supplied containers. The containers were immediately sealed, labeled and placed in an ice-packed cooler that were delivered to Pace Analytical located in Indianapolis, Indiana, observing proper chain-of-custody procedures. The groundwater samples were analyzed for dissolved metals (arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium) and total cyanide. Pace Analytical was provided the estimated quantitation limits (EQLs) outlined in the Permit (Appendix H-Sampling and Analysis Plan). Pace Analytical's reporting limits were equal to the EQLs outlined in the Permit.

Groundwater analytical results for the monitoring wells are presented in Table 1. Groundwater field data sheets from the October sampling event are provided in Attachment 1. The laboratory analytical results are provided in Attachment 2.

Groundwater Evaluation

In accordance with the Permit (and subsequent Permit Modifications), analytical data from monitoring well MW-206B (designated as background upgradient monitoring well) was evaluated to establish background groundwater quality conditions. Details of the exploratory data analysis and statistical evaluation of background data, conducted in accordance with Appendix H, Section 4.3 of the Permit, is included as Attachment 3. Background groundwater quality was established using the most recent 16 valid observations (i.e., November 2004 to October 2012) for each indicator parameter, as summarized in Table 2.

A point-by-point comparison of data from compliance wells to background screening levels (BSLs) was conducted to evaluate groundwater quality. BSLs were calculated using concentrations of indicator parameters in upgradient monitoring well MW-206B. The desired statistic to represent the BSL is a one-sided 95 percent confidence interval for the 99th percentile (95/99 upper tolerance limit [UTL]). However, the high frequency of non-detects precluded calculation of the 95/99 UTL for all but barium, which had six detects. For the other parameters, the BSL was based conservatively on the maximum detected concentration or the maximum reporting limit. The final BSL values are presented in Table 3.

The groundwater analytical results all monitoring wells (MW-201B, 202B, 203B and 206B) were non-detect, and therefore below the Permit-specific EQLs for all indicator parameters. It should be noted that the duplicate, FD-1 which was collected at MW-201B reported selenium above the EQL with a result of 0.0112 mg/L. However, the results of the statistical evaluation, summarized in Attachment 3, suggest that there is no evidence of impacts to groundwater quality from the Surface Impoundment.

In addition to this report, an electronic digital dataset (EDD) report in the format specified in Appendix H, Tables 3 and 4 of the Permit will be submitted electronically to the email address specified in the Permit.

RACER Trust plans to complete the annual sampling and semi-annual gauging events in the spring of 2013 in May 2013. If you have any questions or comments regarding this evaluation, please contact Mr. Robert Hare at 419.277.0815 or either of the undersigned.

Sincerely,

ARCADIS U.S., Inc.

Tim Porter,
Soil Scientist

Heather Gastineau-Lyons, L.P.G.
Project Geologist

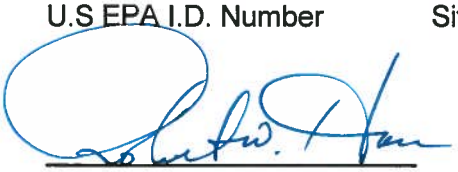
Copies:
Robert Hare, RACER Trust

Attachments:
Table 1 – Groundwater Analytical Data
Table 2 – Upgradient Monitoring Well MW-206B Background Data
Table 3 – Background Screening Levels
Drawing 1 – Site Map
Drawing 2 – Surface Impoundment October 17, 2012 Groundwater Elevations
Attachment 1 – Groundwater Sampling Field Sheets
Attachment 2 – Laboratory Analytical Report
Attachment 3 – Statistical Evaluation of Background Groundwater Quality

Certification

Certification: I certify, under penalty of law, that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

INR000021436	Closed Hazardous Waste Surface Impoundment, RACER Trust
U.S EPA I.D. Number	Site Name



Robert W. Hare, P.E., CHMM
RACER Trust
Cleanup Manager (IL, IN, KS, MO, NJ, WI)

1-8-2013
Date

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (051607)	05/16/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-201B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (10202010)	10/20/10	0.0063	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (053111)	05/31/11	<0.0100	0.011 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-201B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020
	MW-201B (101712) FD	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	0.0112	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	0.0103	<0.0100	<0.0100
	MW-202B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0359	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-202B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (112309)	11/23/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (112309)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (10202010)	10/20/10	<0.0050	0.110	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (053111)	05/31/11	<0.0100	0.035 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-202B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/09/05	<0.0100	<0.0500	0.00132	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.05	<0.0200
	MW-203B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0147	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-203B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (10202010)	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (10202010) FD	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (053111)	05/31/11	<0.0100	0.030 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-203B (053111) FD	05/31/11	<0.0100	0.032 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-203B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/09/05	<0.0100	0.0989	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/09/05	<0.0100	0.0942	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/09/05	<0.0100	0.0967	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/09/05	0.0162	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/10/05	<0.0100	0.0839	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (B)	11/10/05	<0.0100	0.0802	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (C)	11/10/05	<0.0100	0.0804	<0.00500	<0.0100	<0.00500	<0.00020	0.0114	<0.0100	<0.0100
	MW-206B (D)	11/10/05	<0.0100	0.0793	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (A)	05/17/06	<0.0100	0.1	<0.00500	0.0266	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/17/06	<0.0100	0.0986	<0.00500	0.055	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (C)	05/17/06	<0.0100	0.0966	<0.00500	0.0176	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/17/06	<0.0100	<0.100	<0.00500	0.014	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (051607)	05/16/07	<0.0100	0.112	<0.00500	0.0111	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (111507)	11/15/07	<0.0100	<0.100	<0.00500	0.076	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (051408)	05/14/08	<0.0100	0.114	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-206B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B(060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (10202010)	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (053111)	05/31/11	<0.0100	0.090 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0050	<0.010
	MW-206B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (102011) FD	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Notes: * Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)
Table includes results for most recent 16 valid sample observations.

Concentrations are in mg/L

TABLE 2

UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	11/11/2004	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	5/9/2005	0.0162	0.096	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	11/10/2005	<0.0100	0.081	<0.0050	<0.0100	<0.0050	<0.0002	0.0114	<0.0100	<0.0100
	5/17/2006	<0.0100	0.0982	<0.0050	0.0283	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	11/8/2006	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	5/16/2007	<0.0100	0.112	<0.0050	0.0111	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/15/2007	<0.0100	<0.100	<0.0050	0.076	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	5/14/2008	<0.0100	0.114	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	5/14/2009	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	11/23/2009	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	6/4/2010	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	10/20/2010	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	5/31/2011	<0.0100	0.090 J	<0.0020	<0.0050	<0.0030	<0.0002	<0.0050	<0.0050	<0.010
	10/20/2011	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	10/17/2012	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020
Estimated Quantitation Limit		**0.0100**	**0.100**	**0.0050**	**0.0100**	**0.0100**	**0.0020**	**0.0100**	**0.0500**	**0.0200**

Notes: * Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)

Concentrations are in mg/L

TABLE 3

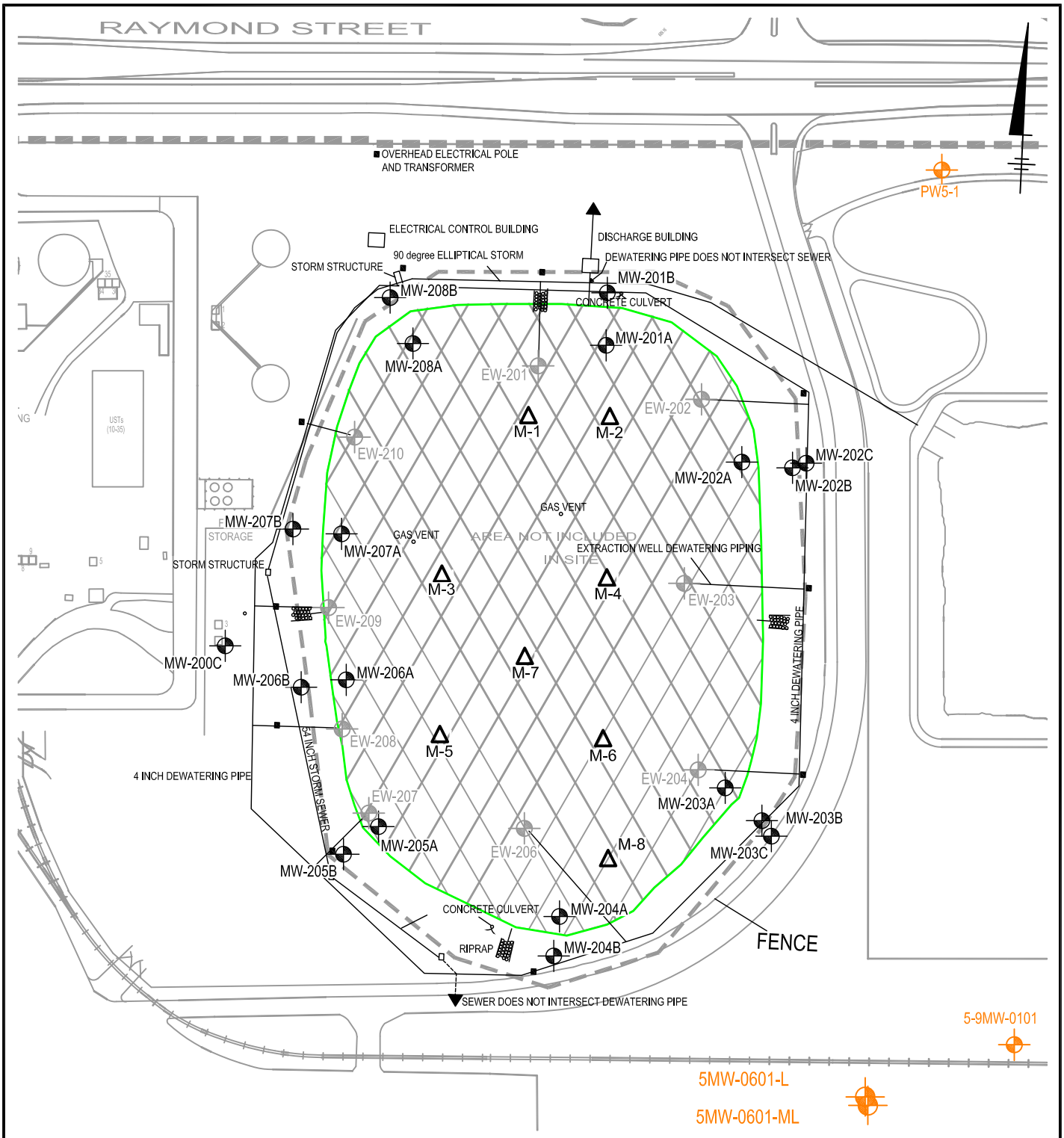
BACKGROUND SCREENING LEVELS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Analyte	Background Wells (MW-206B)					Compliance Wells (MW-201B, -202B, -203B)			
	Detects / N	Maximum (mg/L)	95/99 UTL (mg/L)	Method	BSL (mg/L) [1]	Maximum (mg/L)	Well	2012 Sampling Dates	> BSL ?
Arsenic	1 / 16	0.0162	NA	NA	0.02	< 0.01	All 3 wells	10/17/12	No
Barium	6 / 16	0.114	0.128	Kaplan-Meier [2]	0.13	< 0.1	All 3 wells	10/17/12	No
Cadmium	0 / 16	< 0.005	NA	NA	0.005	< 0.005	All 3 wells	10/17/12	No
Chromium	3 / 16	0.076	NA	NA	0.08	< 0.01	All 3 wells	10/17/12	No
Lead	0 / 16	< 0.01	NA	NA	0.01	< 0.01	All 3 wells	10/17/12	No
Mercury	0 / 16	< 0.002	NA	NA	0.002	< 0.002	All 3 wells	10/17/12	No
Selenium	1 / 16	0.0114	NA	NA	0.01	< 0.01 [3]	All 3 wells	10/17/12	No
Silver	0 / 16	< 0.05	NA	NA	0.05	< 0.05	All 3 wells	10/17/12	No
Cyanide	0 / 16	< 0.02	NA	NA	0.02	< 0.02	All 3 wells	10/17/12	No

Abbreviations:
< = nondetect, value equal to estimated quantitation limit (EQL)
95/99 UTL = upper tolerance limit based on upper 95 percent confidence interval for 99th percentile
BSL = background screening level
N = sample size

Notes:
[1] If detects = 0, the maximum reporting limit of nondetects is used as the BSL. If detects < 5, BSL = maximum detect. If detects ≥ 5, BSL= 95/99 UTL. BSL calculated with the most recent 16 samples only.
[2] Data are left censored with n=16 and detects = 6, normally distributed with mild skew (standard deviation of log of detects ≤ 1), which supports use of Kaplan-Meier 95/99 UTL instead of a Poisson UTL.

Concentrations are in mg/L



LEGEND:

- EXISTING HYDRAULIC MONITORING WELL
- EXISTING EXTRACTION WELL
- ROLLS-ROYCE CORPORATION WELL
- SURVEY MONUMENT
- SLURRY WALL
- PROPERTY BOUNDARY

0 180' 360'

GRAPHIC SCALE

NOTE: PIPING AND BUILDING LOCATIONS ARE APPROXIMATE.

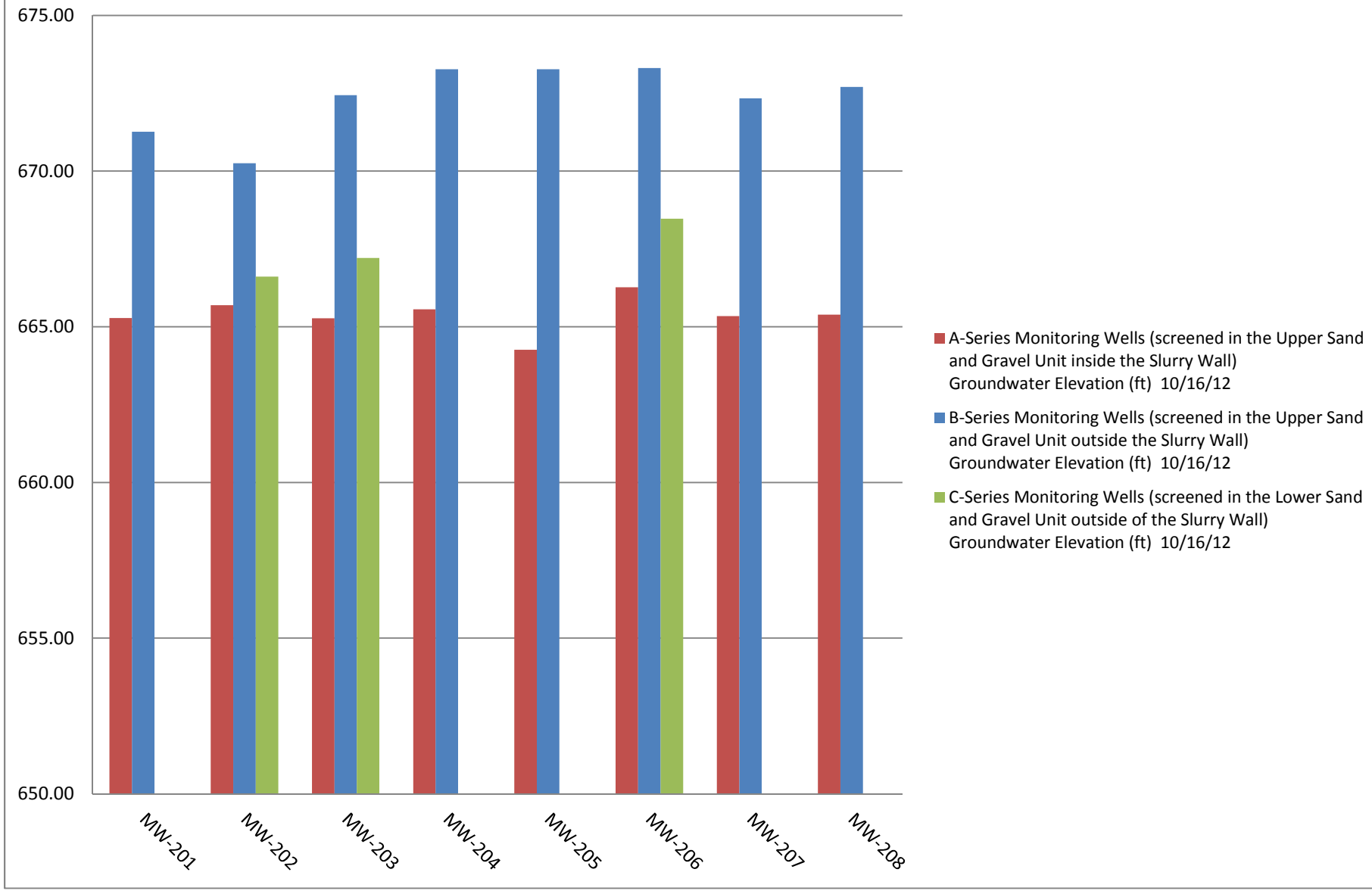
RACER TRUST
INDIANAPOLIS, INDIANA

SITE MAP

ARCADIS

DRAWING 1

Drawing 2. Surface Impoundment
October 16, 2012 Groundwater Elevations



WELL PURGING FIELD INFORMATION FORM

JOB# 1N0000-297

SITE/PROJECT NAME: ~~GM-Rolls Royce~~ AGT Surface Impoundment PP / WELL# MW201B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
10 17 12	10 17 12	12.58 TPP	2.38 TPP

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y (N) (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED (Y) N (CIRCLE ONE) TPP

PURGING DEVICE	A	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	C	C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E	C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - ROPE X- (SPECIFY)		TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	6936 (m/(ft))	GROUNDWATER ELEVATION	6716 (m/(ft))
DEPTH TO WATER	21.80 (m/(ft))	WELL DEPTH	375.5 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
8.04 (std)	9.39 (ntu)	3916 (µm/cm) AT 25°C	96 (mV)	4.57 (mg/L)	21.0 (°C)
8.04 (std)	9.99 (ntu)	3917 (µm/cm) AT 25°C	88 (mV)	4.45 (mg/L)	20.8 (°C)
8.04 (std)	8.52 (ntu)	3917 (µm/cm) AT 25°C	79 (mV)	4.39 (mg/L)	20.7 (°C)
8.04 (std)	8.53 (ntu)	3918 (µm/cm) AT 25°C	73 (mV)	4.35 (mg/L)	20.7 (°C)
8.04 (std)	8.55 (ntu)	3917 (µm/cm) AT 25°C	69 (mV)	4.36 (mg/L)	20.7 (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: no COLOR: clear TURBIDITY: clear

WEATHER CONDITIONS: WIND SPEED 20mph DIRECTION South PRECIPITATION Y (N) OUTLOOK rain possible

SPECIFIC COMMENTS

Field duplicate and equipment blank collected

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
10.17.12	Sarah Jonker	Sarah Jonker

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: ~~GM - Rolls Royce~~ Racer Trust - AGT S1
Ref. No.: IN000297.2011

Date: 10.17.12
Personnel: Sarah Jonker

Monitoring Well Data:

Well No.: MW-201B
Measurement Point: TOC 693.06'
Constructed Well Depth (ft): 38.51'
Measured Well Depth (ft): 37.55'
Depth of Sediment (ft): 0.96'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 32'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 21.80

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level*[3] *(ft)*	*pH*	*Temperature °C*	*Conductivity ~~(mS/cm)~~ µS*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, Vp (mL)*	*No. of Well Screen Volumes Purged*[4]
13:00			started pump								
13:05	~200ml/min	21.79 ❖	0.01	8.02	21.08	408.9	134	6.94	17.09	1000	0.16
13:10	~200	21.79	0.01	8.06	21.07	407.9	151	7.45	10.53	2000	0.16
13:15	~200	21.79	0.01	8.10	21.07	406.1	127	8.17	15.01	3000	0.16
13:20	~200	21.78	0.02	8.05	21.12	397.3	124	4.82	13.57	4000	0.16
13:25	~200	21.79	0.01	8.04	21.01	396.6	96	4.57	9.39	5000	0.16
13:30	~200	21.79	0.01	8.04	20.80	397.3	88	4.45	9.99	6000	0.16
13:35	~200	21.79	0.01	8.04	20.72	397.4	79	4.39	8.52	7000	0.16
13:40	~200	21.78	0.02	8.04	20.74	398.5	73	4.35	8.53	8000	0.16
13:45	~200	21.78	0.02	8.04	20.75	397.7	69	4.36	8.55	9000	~~2.5~~ 0.16
											total: 1.46

Sampled at 13:45

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

❖ Note: Once bladder pump and tubing deployed the water level was collected/recorded. The water level recorded was different than the initial depth to water collected.

WELL PURGING FIELD INFORMATION FORM

JOB# 1N000-297

SITE/PROJECT NAME: AGT Surface Impoundment

WELL# MW-202B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
10/17/12	10/17/12	21.66 PPP	2.38 PPP

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED Y N (CIRCLE ONE)

PURGING DEVICE	A	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	C	C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING DEVICE	E	C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE	G - COMBINATION TEFLON/POLYPROPYLENE	
SAMPLING DEVICE		C - ROPE	X- (SPECIFY)		X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	6914.43 (m/ft)	GROUNDWATER ELEVATION	6702.5 (m/ft)
DEPTH TO WATER	211.8 (m/ft)	WELL DEPTH	375.3 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.78 (std)	40.35 (ntu)	656.4 (um/cm) AT 25°C	12 (mV)	1.70 (mg/L)	20.68 (°C)
7.77 (std)	27.15 (ntu)	656.8 (um/cm) AT 25°C	-16 (mV)	1.64 (mg/L)	20.54 (°C)
7.77 (std)	26.92 (ntu)	656.9 (um/cm) AT 25°C	-17 (mV)	1.62 (mg/L)	20.52 (°C)
7.77 (std)	26.90 (ntu)	656.9 (um/cm) AT 25°C	-18 (mV)	1.61 (mg/L)	20.53 (°C)
7.77 (std)	26.88 (ntu)	656.9 (um/cm) AT 25°C	-18 (mV)	1.60 (mg/L)	20.53 (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: no COLOR: clear TURBIDITY: clear

WEATHER CONDITIONS: WIND SPEED 20 mph DIRECTION South PRECIPITATION Y/N OUTLOOK rain

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
10.17.12	Sarah Jonker	Sarah Jonker

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: IN000297 ~~GM Rolls Royce~~ AGT Surface Impoundment TPP
Ref. No.: IN000297

Date: 10.17.12
Personnel: Sarah Jonker

Monitoring Well Data:

Well No.: MW-202B
Measurement Point: TOC - 691.43'
Constructed Well Depth (ft): 37.71'
Measured Well Depth (ft): 37.53'
Depth of Sediment (ft): 0.18'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 32.5'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 21.18

Time	Pumping Rate (mL/min)	Depth to Water (ft) ★	Drawdown from Initial Water Level[3] (ft)	pH	Temperature °C	Conductivity ~~(mS/cm)~~ (uS/cm) TPP 12/21/12	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, Vp (mL)	No. of Well Screen Volumes Purged[4]
start 14:45	~200ml/min	21.21	0.03	7.80	20.47	644.6	134	1.78	336.9	100	0.16
14:50	~200	21.20	0.02	7.80	20.52	647.5	142	1.65	343.8	1100	0.16
14:55	~200	21.20	0.02	7.80	20.64	642.8	123	2.40	212.0	2100	0.16
15:00	~200	21.19	0.01	7.79	20.63	648.3	60	1.79	145.4	3100	0.16
15:05	~200	21.19	0.01	7.78	20.65	653.1	22	1.64	74.68	4100	0.16
15:10	~200	21.20	0.02	7.78	20.68	656.4	12	1.70	40.35	5100	0.16
15:15	~200	21.19	0.01	7.77	20.54	658.5	-5	1.64	27.15	6100	0.16
15:20	~200	21.19	0.01	7.77	20.52	659.1	-7	1.62	26.92	7100	0.16
15:25	~200	21.19	0.01	7.77	20.53	660.9	-8	1.61	26.90	8100	0.16
15:30	~200	21.19	0.01	7.77	20.53	660.6	-8	1.60	26.88	9100	0.16 ~~1.5~~ TPP 12/21/12
											total: 1.46
											TPP 12/21/12

Sampled @ 15:30

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s = p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

★ Note: Once bladder pump and tubing deployed the water level was collected/recorded. The water level recorded was different than the initial depth to water collected

WELL PURGING FIELD INFORMATION FORM

JOB# 1N000-297

SITE/PROJECT NAME: ~~GM-Rolls Royce~~ AGT Surface Impoundment WELL# MW-203B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
10 17 12	10 17 12	24	~~8~~ 2.32

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED Y N (CIRCLE ONE)

PURGING DEVICE	A	A - SUBMERSIBLE PUMP B - PERISTALTIC PUMP	D - GAS LIFT PUMP E - PURGE PUMP	G - BAILER H - WATERRA®	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	C	C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON B - STAINLESS STEEL	D - PVC E - POLYETHYLENE		X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE	E	C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON B - TYGON	D - POLYPROPYLENE E - POLYETHYLENE	F - SILICONE G - COMBINATION TEFLON/POLYPROPYLENE	X- PURGING OTHER (SPECIFY)
SAMPLING DEVICE		C - ROPE X- (SPECIFY)			X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	691656 (m/ft)	GROUNDWATER ELEVATION	671444 (m/ft)
DEPTH TO WATER	19.21 (m/ft)	WELL DEPTH	339.5 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.1 (std)	4.77 (ntu)	1260 (µm/cm) AT 25°C	417 (mV)	0.54 (mg/L)	16.13 (°C)
7.1 (std)	3.72 (ntu)	1262 (µm/cm) AT 25°C	410 (mV)	0.50 (mg/L)	16.1 (°C)
7.1 (std)	3.66 (ntu)	1263 (µm/cm) AT 25°C	399 (mV)	0.50 (mg/L)	16.1 (°C)
7.1 (std)	3.59 (ntu)	1263 (µm/cm) AT 25°C	398 (mV)	0.50 (mg/L)	16.1 (°C)
7.1 (std)	3.53 (ntu)	1264 (µm/cm) AT 25°C	397 (mV)	0.50 (mg/L)	16.1 (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: no COLOR: clear TURBIDITY: clear

WEATHER CONDITIONS: WIND SPEED 20 mph DIRECTION South PRECIPITATION (Y) N OUTLOOK Rain

SPECIFIC COMMENTS

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
10.17.12	Sarah Jonker	Sarah Jonker

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: ~~GM-Rolls Royce TP~~ AGT Surface Impoundment
Ref. No.: IN000297

Date: 10.17.12
Personnel: Sarah Jonker

Monitoring Well Data:

Well No.: MW-203B
Measurement Point: TOC - 691.65
Constructed Well Depth (ft): 34.30'
Measured Well Depth (ft): 33.95'
Depth of Sediment (ft): 0.35'

Screen Length (ft): 10'
Depth to Pump Intake (ft)[1]: 28'
Well Diameter, D (in): 2"
Well Screen Volume, V_s (mL)[2]: 6200
Initial Depth to Water (ft): 19.21

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*pH*	*Temperature °C*	*Conductivity* ~~(mS/cm)~~ TP 12/21/12 (uS/cm)	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, Vp (mL)*	*No. of Well Screen Volumes Purged[4]*
15:51			started pump								
15:55	~200 ml/min	19.23*	0.02	7.12	16.83	1213	147	2.20	28.03	800	0.16
16:00	~200	19.22	0.01	7.11	16.47	1234	81	1.05	19.34	1800	0.16
16:05	~200	19.20	-0.01	7.11	16.24	1251	66	0.73	11.98	2800	0.16
16:10	~200	19.20	-0.01	7.11	16.14	1257	57	0.58	7.95	3800	0.16
16:15	~200	19.21	-0.0	7.11	16.13	1260	47	0.54	4.77	4800	0.16
16:20	~200	19.21	0.0	7.11	16.15	1262	40	0.50	3.72	5800	0.16
16:25	~200	19.20	-0.01	7.11	16.15	1263	39	0.50	3.66	6800	0.16
16:30	~200	19.20	-0.01	7.11	16.16	1263	38	0.50	3.59	7800	0.16 ~~TP~~ 12/21/12
16:35	~200	19.20	-0.01	7.11	16.15	1264	37	0.50	3.53	8800	~~21.4~~ 0.16
											total: 1.43
											TP 12/21/12

Notes: Sampled @ 16:35

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

* Note: Once the bladder pump and tubing deployed, the water level was collected/recorded. The water level recorded was different than the initial depth to water collected.

WELL PURGING FIELD INFORMATION FORM

JOB# I N 0 0 0 - 2 9 7

SITE/PROJECT NAME: ~~GM - Rolls Royce~~ AGT Surface Impoundment WELL# M W - 2 0 6 B

WELL PURGING INFORMATION

PURGE DATE (MM DD YY)	SAMPLE DATE (MM DD YY)	WATER VOL. IN CASING (LITRES/GALLONS)	ACTUAL VOLUME PURGED (LITRES/GALLONS)
10 17 12	10 17 12	28	96

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED Y N (CIRCLE ONE)

PURGING DEVICE	A	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER	X- PURGING OTHER (SPECIFY)
		B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®	
SAMPLING DEVICE	C	C - BLADDER PUMP	F - DIPPER BOTTLE		X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	B	A - TEFLON	D - PVC		X- PURGING OTHER (SPECIFY)
		B - STAINLESS STEEL	E - POLYETHYLENE		
SAMPLING DEVICE	E	C - POLYPROPYLENE			X- SAMPLING OTHER (SPECIFY)
PURGING DEVICE	E	A - TEFLON	D - POLYPROPYLENE	F - SILICONE	X- PURGING OTHER (SPECIFY)
		B - TYGON	E - POLYETHYLENE	G - COMBINATION	
SAMPLING DEVICE		C - ROPE X- (SPECIFY)		TEFLON/POLYPROPYLENE	X- SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	

FIELD MEASUREMENTS

WELL ELEVATION	6934.46 (m/ft)	GROUNDWATER ELEVATION	673.31 (m/ft)
DEPTH TO WATER	20.15 (m/ft)	WELL DEPTH	37.47 (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
7.13 (std)	0.47 (ntu)	1191 (µm/cm) AT 25°C	31 (mV)	0.06 (mg/L)	17.46 (°C)
7.13 (std)	0.60 (ntu)	1191 (µm/cm) AT 25°C	19 (mV)	0.10 (mg/L)	17.32 (°C)
7.13 (std)	0.40 (ntu)	1191 (µm/cm) AT 25°C	14 (mV)	0.03 (mg/L)	17.38 (°C)
7.13 (std)	0.44 (ntu)	1191 (µm/cm) AT 25°C	14 (mV)	0.04 (mg/L)	17.38 (°C)
7.13 (std)	0.41 (ntu)	1191 (µm/cm) AT 25°C	13 (mV)	0.04 (mg/L)	17.38 (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: clear ODOR: no COLOR: clear TURBIDITY: clear

WEATHER CONDITIONS: WIND SPEED 20 mph DIRECTION South PRECIPITATION Y N OUTLOOK Rain

SPECIFIC COMMENTS

MS/MSD collected

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE	PRINT	SIGNATURE
10.17.12	Sarah Jonker	Sarah Jonker

FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: ~~GM Rolls Royce~~ TPP AGT Surface Impoundment

Ref. No.: 1N000297.0001

Date: 10.17.12

Personnel: Sarah Jonker

Monitoring Well Data:

Well No.: MW-206B

Measurement Point: TOC-693.46'

Constructed Well Depth (ft): 37.73'

Measured Well Depth (ft): 37.47'

Depth of Sediment (ft): 0.26'

Screen Length (ft): 10'

Depth to Pump Intake (ft)[1]: 32.5'

Well Diameter, D (in): 2"

Well Screen Volume, V_s (mL)[2]: 6200

Initial Depth to Water (ft): 20.15

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*pH*	*Temperature °C*	*Conductivity* ~~(mS/cm)~~ (µS/cm) TPP 12/21/12	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, Vp (mL)*	*No. of Well Screen Volumes Purged[4]*
1702	200				Started pump						
1705	200 ml/min	20.17*	0.02	7.15	17.34	1189	79	0.42	18.64	600	0.10
1710	200	20.17	0.02	7.14	17.34	1189	54	0.16	13.47	1600	0.16
1715	200	20.16	0.01	7.14	17.38	1190	45	0.07	5.33	2600	0.16
1720	200	20.16	0.01	7.14	17.40	1190	40	0.05	3.78	3600	0.16
1725	200	20.17	0.02	7.13	17.40	1190	37	0.05	1.60	4600	0.16
1736	200	20.16	0.01	7.13	17.40	1191	31	0.06	0.47	5600	0.16
1735	200	20.16	0.01	7.13	17.39	1191	19	0.10	0.60	6600	0.16
1740	200	20.16	0.01	7.13	17.38	1191	14	0.03	0.40	7600	0.16
1745	200	20.16	0.01	7.13	17.38	1191	14	0.04	0.44	8600	0.16
1750	200	20.16	0.01	7.13	17.38	1191	13	0.04	0.41	9600	~~1.5~~ TPP 12/21/12 0.16
											total: 1.55

Notes: Sampled at 1750

TPP 12/21/12

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

* Note: Once bladder pump and tubing deployed, the water level was collected/recorded. The water level recorded was different from the initial depth to water collected.

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November 09, 2012

Ms. Heather Gastineau-Lyons
Arcadis
132 E. Washington
Suite 600
Indianapolis, IN 46204

RE: Project: Surface Impoundment Revised Report; Reporting limits adjusted for Arsenic, Lead, & Cyanide
Pace Project No.: 5070979

Dear Ms. Gastineau-Lyons:
Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Donna S. Spyker

Donna Spyker

donna.spyker@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: Surface Impoundment
Pace Project No.: 5070979

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10247
Kentucky Certification #: 0042
Louisiana/NELAC Certification #: 04076
Ohio VAP Certification #: CL0065
Pennsylvania Certification #: 68-04991
West Virginia Certification #: 330

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SAMPLE SUMMARY

Project: Surface Impoundment
Pace Project No.: 5070979

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5070979001	**MW-201B**	Water	10/17/12 13:45	10/18/12 08:22
5070979002	**EB-1(101712)-SJ**	Water	10/17/12 12:31	10/18/12 08:22
5070979003	**MW-202B**	Water	10/17/12 15:30	10/18/12 08:22
5070979004	**MW-203B**	Water	10/17/12 16:35	10/18/12 08:22
5070979005	**MW-206B**	Water	10/17/12 17:50	10/18/12 08:22
5070979006	**FD-1(101712)-SJ**	Water	10/17/12 08:00	10/18/12 08:22

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SAMPLE ANALYTE COUNT

Project: Surface Impoundment
Pace Project No.: 5070979

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5070979001	**MW-201B**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5070979002	**EB-1(101712)-SJ**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5070979003	**MW-202B**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5070979004	**MW-203B**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5070979005	**MW-206B**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5070979006	**FD-1(101712)-SJ**	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-201B **Lab ID: 5070979001** Collected: 10/17/12 13:45 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:45	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:45	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:45	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:49	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:18	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: EB-1(101712)-SJ **Lab ID: 5070979002** Collected: 10/17/12 12:31 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:47	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:47	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:47	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:51	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:19	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-202B **Lab ID: 5070979003** Collected: 10/17/12 15:30 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:50	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:50	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:50	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:53	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:20	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-203B **Lab ID: 5070979004** Collected: 10/17/12 16:35 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:52	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:52	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:52	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:59	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:21	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-206B **Lab ID: 5070979005** Collected: 10/17/12 17:50 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:54	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:54	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:54	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 11:01	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:22	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: FD-1(101712)-SJ **Lab ID: 5070979006** Collected: 10/17/12 08:00 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 10:01	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 10:01	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7439-92-1	
Selenium, Dissolved	**11.2**	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 10:01	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 11:07	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:28	57-12-5	

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QUALITY CONTROL DATA

Project: Surface Impoundment
Pace Project No.: 5070979

QC Batch: MERP/4209 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

METHOD BLANK: 820205 Matrix: Water
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	2.0	10/25/12 10:35	

LABORATORY CONTROL SAMPLE: 820206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 820207 820208

Parameter	Units	5070979005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	4.8	4.9	96	98	75-125	3	20	

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QUALITY CONTROL DATA

Project: Surface Impoundment
Pace Project No.: 5070979

QC Batch: MPRP/10067 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

METHOD BLANK: 819665 Matrix: Water
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	10.0	10/23/12 09:34	
Barium, Dissolved	ug/L	ND	100	10/23/12 09:34	
Cadmium, Dissolved	ug/L	ND	5.0	10/23/12 09:34	
Chromium, Dissolved	ug/L	ND	10.0	10/23/12 09:34	
Lead, Dissolved	ug/L	ND	10.0	10/23/12 09:34	
Selenium, Dissolved	ug/L	ND	10.0	10/23/12 09:34	
Silver, Dissolved	ug/L	ND	50.0	10/23/12 09:34	

LABORATORY CONTROL SAMPLE: 819666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1000	1030	103	80-120	
Barium, Dissolved	ug/L	1000	1060	106	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Chromium, Dissolved	ug/L	1000	1030	103	80-120	
Lead, Dissolved	ug/L	1000	1030	103	80-120	
Selenium, Dissolved	ug/L	1000	1030	103	80-120	
Silver, Dissolved	ug/L	500	461	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 819667 819668

Parameter	Units	5070979005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	1000	1000	1090	1090	109	109	75-125	.3	20	
Barium, Dissolved	ug/L	ND	1000	1000	1120	1130	104	105	75-125	1	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1080	1070	108	107	75-125	.4	20	
Chromium, Dissolved	ug/L	ND	1000	1000	994	1020	99	102	75-125	3	20	
Lead, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	75-125	1	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1140	1160	114	116	75-125	2	20	
Silver, Dissolved	ug/L	ND	500	500	443	465	89	93	75-125	5	20	

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QUALITY CONTROL DATA

Project: Surface Impoundment
Pace Project No.: 5070979

QC Batch: WETA/8741 Analysis Method: EPA 9012
QC Batch Method: EPA 9012 Analysis Description: 9012 Cyanide, Total
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

METHOD BLANK: 818510 Matrix: Water
Associated Lab Samples: 5070979001, 5070979002, 5070979003, 5070979004, 5070979005, 5070979006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.020	10/22/12 14:13	

LABORATORY CONTROL SAMPLE: 818511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.21	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 818512 818513

Parameter	Units	5070979005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	.2	.2	0.23	0.22	113	111	90-110	2	20	M3

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QUALIFIERS

Project: Surface Impoundment
Pace Project No.: 5070979

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Surface Impoundment
Pace Project No.: 5070979

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
5070979001	**MW-201B**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979002	**EB-1(101712)-SJ**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979003	**MW-202B**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979004	**MW-203B**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979005	**MW-206B**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979006	**FD-1(101712)-SJ**	EPA 3010	MPRP/10067	EPA 6010	ICP/10475
5070979001	**MW-201B**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979002	**EB-1(101712)-SJ**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979003	**MW-202B**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979004	**MW-203B**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979005	**MW-206B**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979006	**FD-1(101712)-SJ**	EPA 7470	MERP/4209	EPA 7470	MERC/4237
5070979001	**MW-201B**	EPA 9012	WETA/8741		
5070979002	**EB-1(101712)-SJ**	EPA 9012	WETA/8741		
5070979003	**MW-202B**	EPA 9012	WETA/8741		
5070979004	**MW-203B**	EPA 9012	WETA/8741		
5070979005	**MW-206B**	EPA 9012	WETA/8741		
5070979006	**FD-1(101712)-SJ**	EPA 9012	WETA/8741		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1469558

Section A Required Client Information:

Company: ARCADIS
Address: 132 E. Washington Ste. 600
INDPLS, IN 46204
Email To: Heather.Gastineau-Lyons
Phone: 3172316500 Fax: 3172316514
Requested Due Date/TAT: STD

Section B Required Project Information:

Report To: Heather G-L
Copy To:
Purchase Order No.: IN000297.2012
Project Name: Surface Impoundment
Project Number: IN000297.2012

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Donna Sparker
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: IN

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: Cyanide (Total)	Metals (Dissolved)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-201B	WG	G			10.17.12	13:45		2			X		X				X	X		001
2	EB-1(101712)-SJ	WG	G			10.17.12	12:31		2			X		X				X	X		002
3	MW-202B	WG	G			10.17.12	16:30		2			X		X				X	X		003
4	MW-203B	WG	G			10.17.12	16:35		2			X		X				X	X		004
5	MW-206B	WG	G			10.17.12	17:50		6			X		X				X	X		MS/MSD 005
6	FD-1(101712)-SJ	WG	G			10.17.12	—		2			X		X				X	X		006
7																					
8																					
9																					
10																					
11																					
12																					

5070979

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Level IV Reporting	Sarah Jonker/ARCADIS	10.18.12	0822	Kandy Ek / Pace	10/18/12	0822	0.1	Y	N	Y
Res. Metals = As, Ba, Cd, Cr, Pb, Hg, Ag, Se										
**Refer to included TABLE #										

WI / Client

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sarah Jonker

SIGNATURE of SAMPLER: Sarah Jonker

DATE Signed (MM/DD/YY): 10/18/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name: Arcadis Project # 6070979

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Date/Time 5035A kits placed in freezer: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer Used 1 2 3 4 6 A B C D E **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature (Corrected, if applicable) 0.1°C **Ice Visible in Sample Containers:** ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: Lee 10-18-12

Chain of Custody Present:	☒Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☒Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	4.
Short Hold Time Analysis (<72hr):	☐Yes	☒No	☐N/A	5.
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A	6.
Containers Intact:	☒Yes	☐No	☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☒Yes	☐No	☐N/A	8.
All containers needing acid/base pres. have been checked? exceptions: VOA, coliform, TOC, O&G	☒Yes	☐No	☐N/A	9. (Circle) HNO3 H2SO4 NaOH HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No	☐N/A	
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	10.
Trip Blank Present:	☐Yes	☒No	☐N/A	11.
Trip Blank Custody Seals Present	☐Yes	☐No	☒N/A	
Project Manager Review				
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A	12.
Sufficient Volume:	☒Yes	☐No	☐N/A	13.
Correct Containers Used:	☒Yes	☐No	☐N/A	14.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 10/18/12

Form F-IN-Q290-rev.04, 28Apr2011

Sample Container Count

CLIENT: Arcadis

COC PAGE 1 of 1
COC ID# 1469558

Project # 05709179

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Sample Line Item	DG9H	AG1U	WGFU	AG0U	R 4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C		Comments
1									1					1		
2									↓					↓		
3																
4									↓					↓		
5									3					3		
6									1					1		
7																
8																
9																
10																
11																
12																

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved **amber** vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved **clear** vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag

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ICP Metals 6010B

Project Number 5070979

Initials/ Date Compiled FRV 1/11/12

Section 1: Prep and Analytical Information

**** Metals Digestion Logs***
**** Instrument Run Logs***

50ICP3 Run Log

frw 10-23-12

Analytical Run: 102312a3.txt Method: EPA 200.7 / EPA 6010B int std #36494

Date	Time	Sample ID	Dil	Notes:	Batch
10/23/2012	07:51:37	CAL0 36412	1		10470
10/23/2012	07:53:49	CAL1 36590	1		10470
10/23/2012	07:55:58	CAL2 36591	1		10470
10/23/2012	07:58:08	CAL3 36592	1		10470
10/23/2012	08:00:18	CAL4 36593	1		10470
10/23/2012	08:02:29	CAL5 36594	1		10470
10/23/2012	08:04:39	CAL6 36595	1		10470
10/23/2012	08:06:51	CAL7 36596	1		10470
10/23/2012	08:09:05	ICV 36537	1		10470
10/23/2012	08:11:08	ICB 36412	1		10470
10/23/2012	08:13:23	CRDL 36589	1		10470
10/23/2012	08:15:36	ICSA 36514	1		10470
10/23/2012	08:17:59	ICSAB 36515	1		10470
10/23/2012	08:20:15	5070836002 X5	5	5x K	10456
10/23/2012	08:22:25	5070833002 X5	5	5x K	10456
10/23/2012	08:24:42	5070766006 X5	5	5x Na	10456
10/23/2012	08:26:59	818384	1		10469
10/23/2012	08:29:12	818385	1		10469
10/23/2012	08:31:14	5070928001	1		10469
10/23/2012	08:33:37	5070917001	1		10469
10/23/2012	8:35:49	818386	1		10469
10/23/2012	8:37:51	818387	1		10469
10/23/2012	8:39:52	819602	1		10469
10/23/2012	8:41:56	CCV 36538	1		10470
10/23/2012	8:43:59	CCB 36412	1		10470
10/23/2012	8:46:14	819603	1		10469
10/23/2012	8:48:27	5070917002	1		10469
10/23/2012	8:50:44	5070917003	1		10469
10/23/2012	8:52:56	5070917004	1		10469
10/23/2012	8:55:07	5070917005	1		10469
10/23/2012	8:57:18	5070917006	1		10469
10/23/2012	8:59:35	5070917007	1		10469
10/23/2012	9:01:53	5070917008	1		10469
10/23/2012	9:04:04	5070917009	1		10469
10/23/2012	9:06:21	5070917010	1		10469
10/23/2012	9:08:33	CCV 36538	1		10470
10/23/2012	9:10:36	CCB 36412	1		10470
10/23/2012	9:12:51	CRDL 36589	1		10470
10/23/2012	9:15:06	5070917011	1		10469
10/23/2012	9:17:22	5070917012	1		10469
10/23/2012	9:19:32	5070917013	1		10469
10/23/2012	9:21:43	5070917014	1		10469
10/23/2012	9:23:59	5070917015	1		10469
10/23/2012	9:26:16	5070917016	1		10469
10/23/2012	9:28:32	5070917017	1		10469

50ICP3 Run Log

frw 10-23-12

Analytical Run: 102312a3.txt Method: EPA 200.7 / EPA 6010B Int std #36494

Date	Time	Sample ID	Dil	Notes:	Batch
10/23/2012	9:34:29	819665	1		10475
10/23/2012	9:36:41	819666	1		10475
10/23/2012	9:38:44	5071016001	1		10475
10/23/2012	9:40:59	CCV 36538	1		10470
10/23/2012	9:43:01	CCB 36412	1		10470
10/23/2012	9:45:47	5070979001	1		10475
10/23/2012	9:47:58	5070979002	1		10475
10/23/2012	9:50:11	5070979003	1		10475
10/23/2012	9:52:22	5070979004	1		10475
10/23/2012	9:54:40	5070979005	1		10475
10/23/2012	9:56:56	819667	1		10475
10/23/2012	9:59:04	819668	1		10475
10/23/2012	10:01:11	5070979006	1		10475
10/23/2012	10:03:24	ICSA 36514	1		10470
10/23/2012	10:05:47	ICSAB 36515	1		10470
10/23/2012	10:08:04	CCV 36538	1		10470
10/23/2012	10:10:07	CCB 36412	1		10470
10/23/2012	10:12:22	CRDL 36589	1		10470

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ICP Metals 6010B

Section 2: Initial Calibration Data

**** Initial Calibration Blank***
**** Initial Calibration Standards***
**** Initial Calibration Verification Standards***
(ICV, ICB, CRDL, ICSA, ICSAB)

Initial Calibrations included:
(Instrument name and calibration date)

ICAL 1: 5a1cP3 102312 **ICAL 4:** _____

ICAL 2: _____ **ICAL 5:** _____

ICAL 3: _____ **ICAL 6:** _____

Sample Name: CAL0 Acquired: 10/23/2012 7:51:37 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0003	.0005	-.0001	.0001	.0040	.0000
Stddev	.0000	.0001	.0000	.0000	.0002	.0000
%RSD	1.016	15.61	35.02	65.09	5.377	2260.
#1	.0003	.0006	-.0001	.0001	.0042	.0000
#2	.0003	.0005	-.0001	.0000	.0039	.0000

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0019	.0001	.0001	.0001	.0006	.0000
Stddev	.0000	.0001	.0001	.0001	.0002	.0000
%RSD	1.750	126.8	57.01	184.8	30.10	178.5
#1	.0019	.0001	.0002	.0000	.0007	.0001
#2	.0020	.0000	.0001	.0001	.0005	.0000

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0029	.0000	.0003	.0009	-.0001	.0001
Stddev	.0001	.000	.0000	.0001	.0001	.0000
%RSD	3.163	444.8	10.05	15.82	120.8	28.23
#1	-.0030	.0000	.0003	.0008	-.0002	.0001
#2	-.0028	-.0001	.0003	.0010	.0000	.0001

Sample Name: CAL0 Acquired: 10/23/2012 7:51:37 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Sb2068	Se1960	Si2881	Sn1899	Tl3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0000	.0000	.0025	.0002	-.0001	-.0002
Stddev	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	205.5	407.8	1.325	21.16	146.0	8.447
#1	.0000	.0000	.0025	.0002	-.0001	-.0002
#2	.0001	.0000	.0024	.0002	.0000	-.0001

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S
Avg	-.0003	.0003	-.0003
Stddev	.0000	.0001	.0000
%RSD	.6508	24.55	10.63
#1	-.0003	.0003	-.0003
#2	-.0003	.0002	-.0003

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5900.1	44120.	14897.
Stddev	15.7	332.	16.
%RSD	.26632	.75175	.10811
#1	5889.0	43885.	14909.
#2	5911.2	44354.	14886.

Sample Name: CAL1 Acquired: 10/23/2012 7:53:49 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: ;
Comment:

Elem	Be3130	Cd2288	Mn2576	Pb2203	Se1960	Zn2062
Line	313.042 {108}	228.802 {447}	257.610 {131}	220.353 {453}	196.090 {472}	206.200 {463}
IS Ref	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.078	3.082	1.882	1.145	.1957	1.807
Stddev	.010	.006	.003	.003	.0003	.006
%RSD	.4703	.1947	.1363	.2516	.1410	.3188
#1	2.085	3.078	1.881	1.143	.1955	1.803
#2	2.071	3.086	1.884	1.147	.1959	1.811

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5945.5	44230.	15144.
Stddev	3.1	52.	57.
%RSD	.05186	.11833	.37457
#1	5947.7	44193.	15104.
#2	5943.3	44267.	15184.

Sample Name: CAL2 Acquired: 10/23/2012 7:55:58 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Be4554	Co2286	Cu3247	Fe2714	V_2924
Line	455.403 { 74}	228.616 {447}	324.754 {104}	271.441 {124}	292.464 {115}
IS Ref	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.543	.5794	.0661	.7458	.1155
Stddev	.008	.0002	.0001	.0033	.0001
%RSD	.3174	.0278	.1546	.4459	.1225
#1	2.537	.5792	.0662	.7481	.1156
#2	2.549	.5795	.0661	.7434	.1154

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5923.3	43508.	14784.
Stddev	9.3	347.	41.
%RSD	.15673	.79676	.27684
#1	5916.8	43263.	14813.
#2	5929.9	43754.	14755.

Sample Name: CAL3 Acquired: 10/23/2012 7:58:08 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	As1890	Mo2020	Si2881
Line	189.042 (478)	202.030 (467)	288.158 (117)
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S
Avg	.5751	1.046	.2918
Stddev	.0004	.004	.0018
%RSD	.0639	.3660	.6067
#1	.5753	1.049	.2906
#2	.5748	1.043	.2931

Int. Std.	Y_2243	Y_3600
Line	224.306 (450)	360.073 (94)
Units	Cts/S	Cts/S
Avg	5952.2	44134.
Stddev	17.9	258.
%RSD	.30032	.58396
#1	5939.6	43952.
#2	5964.8	44316.

Sample Name: CAL4 Acquired: 10/23/2012 8:00:18 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Al3082	Ca3158	Cr2677	K_7664	Ni2316	Na5895
Line	308.215 {109}	315.887 {107}	267.716 {126}	766.490 { 44}	231.604 {446}	589.592 { 57}
IS Ref	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2748	3.189	.0409	.6896	.3295	1.057
Stddev	.0005	.005	.0003	.0017	.0002	.001
%RSD	.1890	.1574	.7394	.2506	.0592	.1323
#1	.2745	3.186	.0406	.6884	.3294	1.056
#2	.2752	3.193	.0411	.6908	.3297	1.058

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5928.9	43481.	15126.
Stddev	4.2	34.	55.
%RSD	.07075	.07716	.36040
#1	5931.9	43504.	15165.
#2	5925.9	43457.	15088.

Sample Name: CAL5 Acquired: 10/23/2012 8:02:29 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	B_2496	Mg2790	Sb2068	Tl1908
Line	249.678 (135)	279.079 (121)	206.833 (463)	190.856 (477)
IS Ref	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.1252	.3021	.3307	.4165
Stddev	.0003	.0004	.0004	.0006
%RSD	.2246	.1167	.1249	.1469
#1	.1254	.3019	.3310	.4169
#2	.1250	.3024	.3304	.4160

Int. Std.	Y_2243	Y_3600
Line	224.306 (450)	360.073 (94)
Units	Cts/S	Cts/S
Avg	5946.3	43285.
Stddev	.1	24.
%RSD	.00217	.05513
#1	5946.4	43302.
#2	5946.2	43268.

Sample Name: CAL6 Acquired: 10/23/2012 8:04:39 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Sn1899	Ti3372
Line	189.989 (477)	337.280 (100)
IS Ref	(Y_2243)	(Y_3600)
Units	Cts/S	Cts/S
Avg	1.439	6.169
Stddev	.004	.000
%RSD	.2603	.0006
#1	1.442	6.169
#2	1.436	6.169

Int. Std.	Y_2243	Y_3600
Line	224.306 (450)	360.073 (94)
Units	Cts/S	Cts/S
Avg	5996.3	43477.
Stddev	25.1	347.
%RSD	.41836	.79817
#1	5978.5	43232.
#2	6014.0	43723.

Sample Name: CAL7 Acquired: 10/23/2012 8:06:51 Type: Cal
Method: 50ICP3 method build(v28) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280
Line	328.068 (103)
IS Ref	(Y_3710)
Units	Cts/S
Avg	.1451
Stddev	.0011
%RSD	.7585
#1	.1458
#2	.1443
Int. Std.	Y_3710
Line	371.030 (91)
Units	Cts/S
Avg	15007.
Stddev	167.
%RSD	1.1137
#1	14889.
#2	15125.

Sample Name: ICV Acquired: 10/23/2012 8:09:05 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	491.1	9829.	970.6	988.4	1001.	981.4
Stddev	.7	52.	.3	5.6	2.	.2
%RSD	.1403	.5247	.0334	.5620	.2107	.0209
#1	490.6	9793.	970.4	984.5	999.2	981.6
#2	491.6	9866.	970.9	992.4	1002.	981.3
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9846.	974.1	970.7	1008.	978.2	10010.
Stddev	64.	.9	.3	1.	6.8	42.
%RSD	.6544	.0924	.0345	.1477	.6935	.4152
#1	9801.	973.4	970.9	1009.	973.4	9979.
#2	9892.	974.7	970.5	1007.	983.0	10040.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV Acquired: 10/23/2012 8:09:05 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9939.	9704.	1006.	976.5	996.0	973.3
Stddev	11.	47.	6.	2.6	1.3	2.3
%RSD	.1066	.4862	.6040	.2646	.1285	.2409
#1	9931.	9671.	1001.	978.3	995.1	974.9
#2	9946.	9738.	1010.	974.6	996.9	971.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	958.6	968.1	4908.	1016.	1016.	941.1
Stddev	.1	2.6	23.		5.	.4
%RSD	.0114	.2725	.4766	.0058	.4801	.0416
#1	958.5	966.2	4891.	1016.	1012.	940.8
#2	958.6	970.0	4924.	1016.	1019.	941.3
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICV Acquired: 10/23/2012 8:09:05 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1021.	984.5	9948.
Stddev	7.	.4	16.
%RSD	.7050	.0382	.1565
#1	1016.	984.3	9937.
#2	1026.	984.8	9959.
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5986.7	43456.	14959.
Stddev	2.9	99.	134.
%RSD	.04815	.22859	.89722
#1	5988.8	43526.	14864.
#2	5984.7	43385.	15054.

Sample Name: ICB Acquired: 10/23/2012 8:11:08 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.292	-5.665	2.697	2.710	-.2559	.0104
Stddev	.453	2.884	2.110	.919	.1127	.0151
%RSD	35.09	50.92	78.23	33.93	44.04	145.0
#1	-1.612	-7.704	1.205	2.060	-.1762	-.0003
#2	-.9713	-3.625	4.189	3.360	-.3356	.0211
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	F 85.17	-.0275	.0995	-.7024	.4899	9.177
Stddev	1.42	.1115	.1215	1.252	1.949	5.747
%RSD	1.670	405.8	122.1	178.3	397.9	62.62
#1	84.16	.0514	.1854	.1831	1.868	13.24
#2	86.18	-.1064	.0136	-1.588	-.8886	5.114
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	50.00					
Low Limit	-50.00					

Sample Name: ICB Acquired: 10/23/2012 8:11:08 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-5.414	61.29	-.1129	5.106	.2789	-.2681
Stddev	20.14	1.02	.1275	1.181	.2630	.5893
%RSD	372.0	1.669	113.0	23.14	94.31	228.3
#1	8.828	62.01	-.2031	4.271	.4649	.1586
#2	-19.66	60.57	-.0227	5.941	.0929	-.6748
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3.047	3.844	66.55	.6094	1.196	-.4278
Stddev	1.380	.455	1.74	.8792	.078	.5593
%RSD	45.27	11.82	2.621	144.3	6.485	130.7
#1	2.072	3.522	67.79	-.0123	1.141	-.0323
#2	4.023	4.165	65.32	1.231	1.251	-.8232
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICB Acquired: 10/23/2012 8:11:08 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1.540	-.0907	8.367
Stddev	.269	.0095	5.449
%RSD	17.44	10.51	65.12
#1	1.729	-.0840	12.22
#2	1.350	-.0975	4.514
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5999.4	43047.	14779.
Stddev	18.9	117.	18.
%RSD	.31524	.27187	.12030
#1	5986.0	42965.	14766.
#2	6012.8	43130.	14791.

Sample Name: CRDL Acquired: 10/23/2012 8:13:23 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	8.385	189.6	9.025	147.3	2.832	9.819
Stddev	.619	.9	1.515	.1	.011	.119
%RSD	7.386	.4999	16.78	.0736	.4008	1.215
#1	7.947	188.9	7.954	147.4	2.840	9.904
#2	8.822	190.3	10.10	147.3	2.824	9.735
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	491.6	1.182	19.61	19.20	5.436	97.87
Stddev	1.3	.009	.46	.52	.036	16.17
%RSD	.2573	.8044	2.333	2.705	.6597	16.52
#1	490.7	1.176	19.28	19.57	5.410	109.3
#2	492.5	1.189	19.93	18.83	5.461	86.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 8:13:23 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5021.	481.8	9.958	29.38	40.17	7.072
Stddev	15.	.2	.111	.13	.45	.738
%RSD	.3060	.0362	1.118	.4369	1.111	10.43
#1	5032.	481.7	9.879	29.29	39.85	7.594
#2	5010.	482.0	10.04	29.47	40.48	6.551
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Tl3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	11.31	11.03	55.85	71.89	20.63	18.39
Stddev	.77	2.83	1.06	.14	.10	.64
%RSD	6.826	25.67	1.907	.1915	.4829	3.496
#1	10.76	9.025	56.60	71.79	20.56	18.84
#2	11.85	13.03	55.09	71.98	20.70	17.94
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 8:13:23 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	29.34	40.77	1992.
Stddev	1.37	.19	7.
%RSD	4.662	.4616	.3591
#1	30.31	40.63	1997.
#2	28.38	40.90	1987.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5981.0	43870.	15065.
Stddev	5.2	47.	100.
%RSD	.08649	.10748	.66549
#1	5977.4	43837.	14994.
#2	5984.7	43903.	15136.

Sample Name: ICSA Acquired: 10/23/2012 8:15:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.424	508200.	1.466	81.43	1.061	.0148
Stddev	2.164	2173.	.247	.75	.081	.0182
%RSD	151.9	.4277	16.84	.9263	7.586	122.8
#1	-2.954	509700.	1.641	81.97	1.118	.0277
#2	.1057	506600.	1.292	80.90	1.004	.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	462400.	1.295	-1.946	-1.014	3.894	187700.
Stddev	3286.	.137	.234	.371	3.116	520.
%RSD	.7106	10.56	12.00	36.62	80.02	.2768
#1	460100.	1.198	-1.781	-1.277	6.098	187300.
#2	464700.	1.392	-2.111	-.7515	1.691	188000.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 10/23/2012 8:15:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-261.9	503300.	F 27.03	-1.710	-3.422	-.2295
Stddev	12.1	1610.	.31	.382	.136	1.397
%RSD	4.631	.3199	1.144	22.33	3.964	608.6
#1	-253.4	502100.	26.81	-1.980	-3.326	-1.217
#2	-270.5	504400.	27.24	-1.440	-3.518	.7583
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit			10.00			
Low Limit			-10.00			

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {483}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1.613	.7532	53.23	-1.192	8.401	.8440
Stddev	1.219	7.706	3.13	.377	.251	1.199
%RSD	75.57	1023.	5.884	31.66	2.988	142.0
#1	2.474	-4.696	51.01	-.9252	8.224	-.0035
#2	.7509	6.202	55.44	-1.459	8.579	1.692
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 10/23/2012 8:15:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	5.389	9.069	47.07
Stddev	.262	.145	11.19
%RSD	4.852	1.601	23.78
#1	5.574	8.967	39.15
#2	5.204	9.172	54.98
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5414.2	39270.	14328.
Stddev	11.3	94.	75.
%RSD	.20934	.23865	.52022
#1	5406.2	39336.	14381.
#2	5422.3	39203.	14276.

Sample Name: ICSAB Acquired: 10/23/2012 8:17:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	244.7	513200.	491.0	587.0	506.2	477.6
Stddev	2.5	1220.	1.1	1.9	2.1	.8
%RSD	1.042	.2377	.2167	.3204	.4163	.1606
#1	242.9	512300.	491.8	585.7	507.7	477.1
#2	246.5	514000.	490.3	588.4	504.7	478.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	464300.	513.1	449.8	472.8	498.2	188300.
Stddev	1683.	.5	.1	2.8	2.9	239.
%RSD	.3625	.0918	.0310	.5914	.5916	.1267
#1	463100.	512.8	449.7	470.9	496.1	188500.
#2	465500.	513.4	449.9	474.8	500.2	188200.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/23/2012 8:17:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-205.4	504500.	515.7	464.0	443.4	451.9
Stddev	7.7	128.	.3	1.5	.9	4.9
%RSD	3.763	.0253	.0507	.3126	.2088	1.090
#1	-200.0	504400.	515.9	465.0	444.1	455.4
#2	-210.9	504600.	515.5	463.0	442.8	448.4
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	495.2	486.7	2503.	466.4	514.9	430.2
Stddev	4.1	3.0	3.	4.3	1.6	.4
%RSD	.8227	.6142	.1102	.9198	.3186	.0863
#1	492.4	488.8	2505.	469.4	516.1	430.4
#2	498.1	484.5	2501.	463.4	513.7	429.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/23/2012 8:17:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	501.0	450.3	75.80
Stddev	1.3	6.0	7.55
%RSD	.2607	1.340	9.963
#1	500.0	454.6	81.14
#2	501.9	446.0	70.46
Check ?	Chk Pass	Chk Pass	None
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5427.8	39219.	14348.
Stddev	19.3	16.	36.
%RSD	.35555	.04205	.24789
#1	5414.1	39208.	14374.
#2	5441.4	39231.	14323.

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ICP Metals 6010B

Section 3: Remaining Sequence Data
(Arranged Chronologically)

**** Calibration Verification Standards***
**** Calibration Verification Blanks***
**** Method Blanks***
**** Laboratory Control Samples (LCS)***
**** Matrix Spike and Spike Duplicate Samples (MS/MSD)***
**** Client Sample Raw Data***

Sample Name: CCV Acquired: 10/23/2012 9:08:33 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	481.2	9664.	957.2	973.3	989.6	960.8
Stddev	4.4	51.	1.4	3.4	2.3	2.3
%RSD	.9204	.5234	.1427	.3505	.2297	.2364
#1	484.4	9700.	956.2	975.7	987.9	959.2
#2	478.1	9628.	958.1	970.9	991.2	962.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9655.	960.1	956.2	979.1	967.9	9825.
Stddev	33.	.9	1.4	1.7	3.7	28.
%RSD	.3379	.0944	.1467	.1766	.3814	.2867
#1	9678.	960.7	955.2	977.9	965.3	9845.
#2	9632.	959.4	957.1	980.3	970.5	9805.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 9:08:33 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9864.	9508.	987.6	961.5	978.3	956.3
Stddev	47.	13.	6.6	2.6	1.9	1.3
%RSD	.4806	.1378	.6691	.2665	.1971	.1313
#1	9830.	9517.	992.2	963.4	977.0	957.1
#2	9897.	9499.	982.9	959.7	979.7	955.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Sb2068	Se1960	Si2881	Sn1899	Tl3372	Tl1908
Line	206.833 {483}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	950.5	957.3	4792.	997.8	995.5	925.8
Stddev	3.3	2.3	16.	1.2	6.1	1.4
%RSD	.3452	.2438	.3410	.1216	.5161	.1538
#1	952.8	955.7	4803.	998.7	999.1	926.8
#2	948.2	959.0	4780.	996.9	991.8	924.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 9:08:33 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1004.	958.9	9775.
Stddev	3.	1.7	27.
%RSD	.3122	.1811	.2730
#1	1006.	957.7	9756.
#2	1001.	960.1	9794.
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6098.4	44440.	15442.
Stddev	3.3	141.	21.
%RSD	.05331	.31845	.13344
#1	6096.1	44340.	15428.
#2	6100.7	44539.	15457.

Sample Name: CCB Acquired: 10/23/2012 9:10:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.791	-8.300	1.798	4.954	-.1505	-.0384
Stddev	3.082	4.260	1.802	1.176	.0321	.0450
%RSD	172.0	67.62	100.4	23.73	21.33	123.9
#1	-3.970	-3.287	.5213	4.123	-.1732	-.0045
#2	.3878	-9.312	3.070	5.785	-.1278	-.0682
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	F 83.76	-.0583	.1885	-2.038	-.4580	8.341
Stddev	.88	.0261	.3486	1.323	1.585	8.588
%RSD	1.051	44.67	184.9	64.91	345.9	103.0
#1	84.39	-.0399	-.0580	-2.974	-1.578	2.269
#2	83.14	-.0768	.4360	-1.103	.6624	14.41
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	50.00					
Low Limit	-50.00					

Sample Name: CCB Acquired: 10/23/2012 9:10:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	68.58	54.34	-.1420	4.963	.1938	.1568
Stddev	11.33	3.62	.0091	1.209	.1596	1.270
%RSD	16.52	6.662	6.430	24.36	82.37	809.4
#1	60.57	56.90	-.1485	4.108	.0809	-.7409
#2	76.59	51.78	-.1356	5.818	.3067	1.055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.7689	3.872	14.73	.4803	.6225	.4119
Stddev	1.282	.831	1.89	.2287	.1088	.7926
%RSD	166.7	21.48	12.81	49.69	17.48	192.4
#1	-.1374	4.460	16.07	.2985	.5456	.9723
#2	1.675	3.284	13.40	.6220	.6995	-.1485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB Acquired: 10/23/2012 9:10:36 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	.3716	-.1464	39.54
Stddev	.8769	.2395	.29
%RSD	236.0	163.6	.7239
#1	-.2484	-.3158	39.34
#2	.9917	.0229	39.75
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6091.0	43958.	15179.
Stddev	6.9	199.	34.
%RSD	.11394	.45345	.22271
#1	6095.9	43817.	15203.
#2	6086.1	44099.	15155.

Sample Name: CRDL Acquired: 10/23/2012 9:12:51 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9.801	189.5	9.762	149.9	2.798	9.499
Stddev	1.811	1.6	.497	.3	.050	.098
%RSD	18.48	.8618	5.094	.1830	1.786	1.028
#1	11.08	190.6	9.410	150.0	2.762	9.430
#2	8.520	188.3	10.11	149.7	2.833	9.568
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	501.7	1.011	19.34	16.97	9.873	100.6
Stddev	1.1	.095	.43	.49	.400	.6
%RSD	.2151	9.403	2.229	2.871	4.054	.5877
#1	502.4	.9440	19.64	17.31	9.590	100.2
#2	500.9	1.078	19.03	16.62	10.16	101.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 9:12:51 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	4963.	478.7	10.06	28.82	39.97	6.287
Stddev	22.	2.4	.12	.04	.38	1.764
%RSD	.4362	.5039	1.172	.1228	.9601	28.06
#1	4978.	480.4	10.14	28.80	39.70	7.534
#2	4948.	477.0	9.977	28.85	40.24	5.040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9.506	6.337	10.57	70.03	20.04	18.66
Stddev	.730	1.081	3.03	.85	.21	.91
%RSD	7.676	17.07	28.67	1.219	1.029	4.864
#1	8.990	5.572	8.431	69.43	19.89	19.31
#2	10.02	7.102	12.72	70.64	20.18	18.02
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 9:12:51 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	29.88	40.28	1974.
Stddev	.16	.15	4.
%RSD	.5450	.3694	.2211
#1	29.99	40.18	1971.
#2	29.76	40.39	1977.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6072.2	43680.	15121.
Stddev	13.1	34.	68.
%RSD	.21522	.07869	.44744
#1	6063.0	43656.	15073.
#2	6081.4	43704.	15169.

Sample Name: 819665_10475 Acquired: 10/23/2012 9:34:29 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-4.917	-3.595	-.0475	2.623	-.1144	-.0485
Stddev	3.246	3.925	.2686	.643	.0045	.0583
%RSD	66.01	109.2	564.9	24.53	3.952	120.3
#1	-7.212	-.8203	.1424	2.168	-.1176	-.0072
#2	-2.622	-6.370	-.2375	3.078	-.1112	-.0897
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-10.92	.0068	.0290	-2.031	-3.032	3.024
Stddev	1.95	.0407	.0237	.154	.446	12.88
%RSD	17.86	600.7	81.70	7.595	14.70	425.9
#1	-9.538	-.0220	.0458	-1.921	-2.717	-6.084
#2	-12.30	.0355	.0123	-2.140	-3.347	12.13
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819665_10475 Acquired: 10/23/2012 9:34:29 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	60.64	2.671	-.1423	-.7717	.0491	.1472
Stddev	5.27	.491	.0578	.2707	.2550	1.408
%RSD	8.692	18.37	40.65	35.08	519.5	956.1
#1	64.37	3.018	-.1014	-.9631	-.1312	-.8481
#2	56.91	2.324	-.1832	-.5803	.2294	1.143
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-.7736	-1.337	2.822	-.5811	-.2057	.2854
Stddev	.1740	2.611	2.479	.1349	.0537	.1303
%RSD	22.49	195.3	87.85	23.21	26.09	45.67
#1	-.8967	.5095	1.069	-.4857	-.2437	.1932
#2	-.6506	-3.183	4.575	-.6764	-.1678	.3776
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819665_10475 Acquired: 10/23/2012 9:34:29 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	.5476	-.1343	42.42
Stddev	.4451	.0469	4.37
%RSD	81.28	34.88	10.30
#1	.2329	-.1675	45.51
#2	.8623	-.1012	39.33
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6078.0	43901.	15088.
Stddev	21.8	70.	21.
%RSD	.35884	.15852	.13975
#1	6062.5	43950.	15073.
#2	6093.4	43852.	15103.

Sample Name: 819666_10475 Acquired: 10/23/2012 9:36:41 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	461.4	10390.	1028.	1037.	1063.	1022.
Stddev	2.0	41.	7.	.	2.	.
%RSD	.4331	.3923	.6662	.0198	.1931	.0362
#1	462.8	10360.	1030.	1037.	1064.	1022.
#2	459.9	10420.	1021.	1038.	1061.	1022.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	10720.	1036.	1031.	1031.	1040.	10660.
Stddev	60.	2.	3.	12.	2.	72.
%RSD	.5631	.1822	.2937	1.117	.1993	.6734
#1	10770.	1037.	1034.	1023.	1041.	10710.
#2	10680.	1034.	1029.	1040.	1038.	10610.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819666_10475 Acquired: 10/23/2012 9:36:41 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	11190.	10320.	1067.	1018.	1056.	1029.
Stddev	12.	52.	2.	7.	3.	3.
%RSD	.1116	.5048	.2317	.7344	.2523	.3301
#1	11180.	10360.	1068.	1023.	1058.	1032.
#2	11200.	10280.	1065.	1013.	1055.	1027.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	996.0	1029.	4915.	1041.	1061.	998.7
Stddev	6.5	.	14.	6.	.	2.5
%RSD	.6552	.0282	.2849	.5300	.0217	.2462
#1	1001.	1029.	4905.	1045.	1061.	996.9
#2	991.4	1029.	4925.	1037.	1061.	1000.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819666_10475 Acquired: 10/23/2012 9:36:41 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1070.	1054.	10730.
Stddev	2.	2.	20.
%RSD	.1549	.1650	.1898
#1	1071.	1055.	10750.
#2	1068.	1053.	10720.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6085.7	44186.	15640.
Stddev	15.2	116.	76.
%RSD	.25039	.26159	.48558
#1	6074.9	44104.	15586.
#2	6096.5	44268.	15693.

Sample Name: CCV Acquired: 10/23/2012 9:40:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	490.5	9730.	987.6	972.1	1001.	967.6
Stddev	8.3	3.	2.0	1.1	4.	3.5
%RSD	1.689	.0291	.2038	.1154	.4122	.3587
#1	484.6	9732.	989.0	971.3	997.8	965.2
#2	496.4	9728.	986.1	972.9	1004.	970.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9965.	967.9	970.0	987.0	980.9	10070.
Stddev	10.	1.3	.2	4.9	6.0	5.
%RSD	.0975	.1314	.0203	.5008	.6082	.0501
#1	9972.	967.0	970.2	983.5	976.7	10070.
#2	9958.	968.8	969.9	990.5	985.1	10060.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 9:40:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9924.	9592.	1016.	978.5	995.1	965.8
Stddev	50.	24.	1.	5.0	.6	3.2
%RSD	.5008	.2534	.1401	.5141	.0653	.3337
#1	9889.	9575.	1017.	982.1	994.6	963.6
#2	9959.	9609.	1015.	974.9	995.5	968.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	960.6	1024.	4846.	1004.	1013.	937.8
Stddev	5.5	13.	2.	1.	.	1.7
%RSD	.5678	1.227	.0491	.1082	.0011	.1812
#1	964.5	1033.	4844.	1003.	1013.	939.0
#2	956.8	1015.	4847.	1004.	1013.	936.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 9:40:59 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1019.	971.2	9876.
Stddev	1.	.7	43.
%RSD	.0551	.0750	.4367
#1	1019.	970.7	9845.
#2	1020.	971.7	9906.
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6063.6	43921.	15076.
Stddev	11.7	4.	50.
%RSD	.19317	.00897	.33208
#1	6055.3	43918.	15041.
#2	6071.9	43924.	15112.

Sample Name: CCB Acquired: 10/23/2012 9:43:01 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.851	5.163	2.775	2.913	-.1297	.0257
Stddev	.625	2.304	.014	.563	.1782	.0129
%RSD	33.78	44.62	.5015	19.34	137.4	50.01
#1	-2.294	6.792	2.765	3.311	-.0037	.0166
#2	-1.409	3.534	2.785	2.515	-.2557	.0348
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	F 89.86	.0173	.0585	-1.775	-2.153	9.992
Stddev	1.18	.0068	.2290	1.573	3.229	5.179
%RSD	1.312	39.61	391.7	88.59	150.0	51.83
#1	89.03	.0221	.2204	-.8633	-4.437	6.330
#2	90.70	.0124	-.1035	-2.888	.1305	13.65
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	50.00					
Low Limit	-50.00					

Sample Name: CCB Acquired: 10/23/2012 9:43:01 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	71.32	62.01	.2280	5.882	1.008	-1.188
Stddev	2.54	3.73	.0367	1.023	.207	.421
%RSD	3.566	6.021	16.26	18.00	20.53	35.47
#1	69.52	59.37	.2519	4.959	1.155	-.8897
#2	73.12	64.65	.2000	6.405	.8619	-1.485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1.721	5.528	14.38	1.174	.8333	.8423
Stddev	.352	.277	.87	.412	.0567	1.009
%RSD	20.47	5.004	6.020	35.07	6.798	119.9
#1	1.472	5.333	14.99	1.466	.8734	1.556
#2	1.970	5.724	13.77	.8832	.7932	.1285
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB Acquired: 10/23/2012 9:43:01 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	.0406	1.126	28.06
Stddev	.1664	.228	14.52
%RSD	409.5	20.29	51.77
#1	-.0770	1.287	17.79
#2	.1583	.9641	38.33
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6091.5	44426.	15547.
Stddev	25.7	96.	15.
%RSD	.42222	.21589	.09485
#1	6073.4	44494.	15557.
#2	6109.7	44358.	15536.

Sample Name: 5070979001_10475 Acquired: 10/23/2012 9:45:47 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {108}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-2.625	-2.790	8.408	126.9	4.890	.0334
Stddev	1.811	.198	1.343	2.5	.120	.0461
%RSD	69.00	7.314	15.97	1.965	2.446	138.0
#1	-3.906	-2.561	7.458	128.7	4.974	.0008
#2	-1.344	-2.840	9.358	125.2	4.805	.0660
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	20290.	-.0414	.3222	-2.498	-.4846	7.698
Stddev	81.	.0703	.2360	.078	2.504	6.989
%RSD	.4004	169.9	73.25	3.121	516.7	90.80
#1	20350.	.0083	.1553	-2.554	-2.255	12.64
#2	20230.	-.0911	.4891	-2.443	1.286	2.755
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979001_10475 Acquired: 10/23/2012 9:45:47 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3178.	7764.	.4294	31.41	1.012	.9453
Stddev	11.	18.	.0855	2.65	.060	.0830
%RSD	.3483	.2296	19.91	8.428	5.975	8.777
#1	3170.	7777.	.3690	33.28	1.054	1.004
#2	3186.	7752.	.4899	29.53	.9689	.8867
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-.3626	1.699	2858.	-.9388	-.8045	2.292
Stddev	1.104	4.118		.0177	.2615	.120
%RSD	304.4	242.4	.0077	1.890	32.51	5.218
#1	-1.143	4.611	2858.	-.9511	-.6196	2.377
#2	.4179	-1.213	2857.	-.9260	-.9894	2.208
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979001_10475 Acquired: 10/23/2012 9:45:47 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	2.762	-.0897	44550.
Stddev	.824	.0425	2.
%RSD	29.81	47.36	.0050
#1	2.180	-.1197	44550.
#2	3.344	-.0596	44550.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6134.0	45067.	16351.
Stddev	4.9	21.	22.
%RSD	.08009	.04686	.13181
#1	6130.6	45052.	16366.
#2	6137.5	45082.	16336.

Sample Name: 5070979002_10475 Acquired: 10/23/2012 9:47:58 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-4.182	-5.890	2.233	1.784	.1003	-.0004
Stddev	.089	.654	2.215	.318	.0045	.0678
%RSD	2.120	11.50	99.19	17.82	4.486	17100.
#1	-4.255	-6.153	.6689	1.560	.0971	.0476
#2	-4.129	-5.627	3.799	2.009	.1035	-.0484
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	38.77	-.1239	.3390	-.4312	-3.066	-1.288
Stddev	1.36	.1812	.1785	.1110	1.619	7.758
%RSD	3.501	146.3	52.65	25.75	52.82	602.3
#1	37.81	.0043	.4653	-.5098	-4.209	4.198
#2	39.73	-.2620	.2128	-.3527	-1.920	-6.774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979002_10475 Acquired: 10/23/2012 9:47:58 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {487}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	54.30	9.067	.1786	1.172	.4773	-.4135
Stddev	29.60	3.387	.0236	.462	.3258	.4228
%RSD	54.51	37.35	13.17	39.45	68.27	102.2
#1	33.37	11.46	.1963	.8463	.7076	-.1146
#2	75.23	6.672	.1628	1.499	.2469	-.7125
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-.4990	-2.172	-.8090	-1.500	-.2491	1.750
Stddev	.2190	.838	2.633	.562	.1230	.854
%RSD	43.88	38.59	325.4	36.82	49.37	48.84
#1	-.3442	-1.579	1.053	-1.110	-.3361	2.354
#2	-.6538	-2.764	-2.671	-1.891	-.1622	1.145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979002_10475 Acquired: 10/23/2012 9:47:58 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	.3717	1.220	27.26
Stddev	1.010	.063	.64
%RSD	271.6	5.151	2.353
#1	-.3422	1.175	27.71
#2	1.086	1.264	26.80
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6179.5	44953.	15827.
Stddev	12.1	124.	103.
%RSD	.19625	.27608	.65389
#1	6171.0	45041.	15901.
#2	6188.1	44866.	15754.

Sample Name: 5070979003_10475 Acquired: 10/23/2012 9:50:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-3.383	-4.282	.9190	209.7	65.61	-.0748
Stddev	1.908	.210	.2408	1.0	.34	.0616
%RSD	56.41	4.908	26.20	.4597	.5171	82.24
#1	-4.732	-4.133	1.089	209.0	65.85	-.0313
#2	-2.033	-4.430	.7487	210.4	65.37	-.1184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	38920.	.1117	.3271	.8096	.5724	25.29
Stddev	293.	.0045	.0993	.9960	2.347	2.37
%RSD	.7522	4.043	30.35	123.0	410.1	9.380
#1	38710.	.1148	.3974	1.514	2.232	23.61
#2	39130.	.1085	.2569	.1053	-1.088	26.97
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979003_10475 Acquired: 10/23/2012 9:50:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5905.	12450.	1.661	40.80	3.180	-.6677
Stddev	34.	86.	.065	2.99	.684	1.333
%RSD	.5815	.6938	3.889	7.334	21.50	199.7
#1	5929.	12390.	1.707	42.91	2.696	-1.610
#2	5881.	12510.	1.615	38.68	3.663	.2751
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.160	1.454	4213.	-.8554	-.9645	2.218
Stddev	.752	.954	30.	.4635	.1789	.842
%RSD	64.80	65.58	.7196	54.18	18.54	37.98
#1	-.6284	2.128	4191.	-.5277	-1.091	1.622
#2	-1.691	.7798	4234.	-1.183	-.8380	2.813
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979003_10475 Acquired: 10/23/2012 9:50:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	3.884	.4857	69170.
Stddev	.771	.1904	251.
%RSD	19.85	39.20	.3628
#1	3.339	.6203	69350.
#2	4.429	.3511	69000.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6036.4	44284.	15962.
Stddev	12.2	99.	67.
%RSD	.20183	.22341	.41803
#1	6045.0	44354.	15915.
#2	6027.8	44214.	16009.

Sample Name: 5070979004_10475 Acquired: 10/23/2012 9:52:22 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-4.112	-7.822	2.120	314.3	64.13	-.0689
Stddev	.939	4.187	.599	2.7	.28	.0304
%RSD	22.84	53.52	28.28	.8691	.4386	44.07
#1	-3.448	-10.78	1.696	316.3	64.33	-.0904
#2	-4.776	-4.862	2.543	312.4	63.93	-.0475
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	120900.	.2935	.3655	-4.116	1.310	28.98
Stddev	264.	.1095	.2739	1.940	1.492	1.16
%RSD	.2183	37.30	74.95	47.14	113.9	3.997
#1	121100.	.2161	.5592	-2.744	2.365	29.80
#2	120700.	.3709	.1718	-5.487	.2550	28.16
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979004_10475 Acquired: 10/23/2012 9:52:22 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3740.	30220.	1.666	4.042	6.833	-.2209
Stddev	20.	70.	.043	.239	.351	.5554
%RSD	.5472	.2315	2.612	5.920	5.138	251.4
#1	3726.	30170.	1.635	3.873	6.585	-.6137
#2	3755.	30260.	1.697	4.211	7.081	.1718
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.3697	1.902	5229.	-.8610	-1.808	2.590
Stddev	.6749	.655	27.	.1097	.154	.062
%RSD	182.5	34.43	.5094	12.74	8.523	2.405
#1	.8470	2.366	5210.	-.7834	-1.917	2.546
#2	-.1075	1.439	5248.	-.9385	-1.699	2.634
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979004_10475 Acquired: 10/23/2012 9:52:22 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	8.254	2.520	92570.
Stddev	.347	.010	115.
%RSD	4.203	.3891	.1242
#1	8.500	2.513	92650.
#2	8.009	2.527	92490.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5867.8	43417.	15714.
Stddev	2.3	140.	89.
%RSD	.03891	.32146	.56406
#1	5869.4	43516.	15776.
#2	5866.2	43318.	15651.

Sample Name: 5070979005_10475 Acquired: 10/23/2012 9:54:40 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-4.774	-9.791	1.265	335.8	83.13	-.0259
Stddev	.224	.551	1.730	.4	.30	.0611
%RSD	4.689	5.632	136.7	.1072	.3554	236.0
#1	-4.932	-9.401	.0421	336.1	82.92	-.0691
#2	-4.616	-10.18	2.489	335.6	83.34	.0173
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	95760.	.1103	.3227	-2.533	1.529	40.33
Stddev	233.	.0655	.1221	.277	1.573	2.92
%RSD	.2428	59.37	37.84	10.92	102.8	7.246
#1	95930.	.0640	.2364	-2.337	2.641	42.39
#2	95600.	.1566	.4091	-2.728	.4173	38.26
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979005_10475 Acquired: 10/23/2012 9:54:40 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3894.	29650.	5.388	.8637	4.688	-.5488
Stddev	4.	25.	.050	.0015	.213	1.581
%RSD	.1058	.0841	.9299	.1734	4.538	288.1
#1	3897.	29630.	5.353	.8627	4.538	.5691
#2	3891.	29670.	5.423	.8648	4.838	-1.667
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.6930	1.233	5981.	-.0350	-1.450	2.236
Stddev	.7009	.801	14.	.4839	.071	.841
%RSD	118.2	64.98	.2308	1382.	4.904	37.60
#1	1.089	.6664	5972.	.3072	-1.400	2.831
#2	.0974	1.799	5991.	-.3772	-1.500	1.642
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979005_10475 Acquired: 10/23/2012 9:54:40 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	7.518	.4330	99450.
Stddev	.444	.1817	150.
%RSD	5.904	41.97	.1505
#1	7.204	.5615	99560.
#2	7.832	.3045	99350.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5884.7	43757.	15896.
Stddev	3.3	20.	4.
%RSD	.05610	.04636	.02766
#1	5882.4	43771.	15893.
#2	5887.1	43742.	15899.

Sample Name: 819667_10475 Acquired: 10/23/2012 9:56:56 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	443.2	10640.	1090.	1416.	1123.	999.4
Stddev	1.1	65.	2.	11.	3.	1.7
%RSD	.2399	.6074	.1990	.7763	.2671	.1661
#1	444.0	10590.	1089.	1408.	1121.	1001.
#2	442.5	10680.	1092.	1424.	1125.	998.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	104000.	1078.	1013.	994.4	1019.	10360.
Stddev	329.	4.	6.	1.1	.	48.
%RSD	.3168	.4154	.5766	.1139	.0008	.4606
#1	104200.	1074.	1009.	993.6	1019.	10320.
#2	103700.	1081.	1017.	995.2	1019.	10390.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819667_10475 Acquired: 10/23/2012 9:56:56 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	14260.	39590.	1049.	847.4	1040.	1022.
Stddev	66.	93.	5.	24.3	7.	7.
%RSD	.4662	.2353	.4400	2.866	.6657	.7132
#1	14210.	39530.	1046.	864.5	1035.	1017.
#2	14310.	39660.	1053.	830.2	1044.	1027.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	971.1	1138.	10880.	916.2	1036.	983.7
Stddev	2.9	5.	19.	13.0	3.	4.9
%RSD	.2962	.4232	.1737	1.419	.3264	.5026
#1	969.1	1141.	10870.	925.4	1034.	980.2
#2	973.2	1134.	10900.	907.0	1039.	987.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819667_10475 Acquired: 10/23/2012 9:56:56 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1062.	1030.	106800.
Stddev	8.	4.	34.
%RSD	.7736	.4149	.0323
#1	1056.	1027.	106900.
#2	1068.	1033.	106800.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5935.5	43466.	15929.
Stddev	14.1	.	78.
%RSD	.23748	.00013	.49184
#1	5945.4	43466.	15984.
#2	5925.5	43466.	15874.

Sample Name: 819668_10475 Acquired: 10/23/2012 9:59:04 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	464.7	10760.	1093.	1429.	1134.	1019.
Stddev	1.2	4.	3.	1.	4.	5.
%RSD	.2497	.0410	.3100	.0992	.3518	.5054
#1	465.5	10760.	1091.	1428.	1137.	1023.
#2	463.8	10760.	1096.	1430.	1131.	1016.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	105800.	1074.	1006.	1021.	1037.	10520.
Stddev	550.	1.	.	10.	6.	40.
%RSD	.5201	.0897	.0234	.9653	.5474	.3758
#1	106200.	1073.	1007.	1028.	1033.	10550.
#2	105400.	1074.	1006.	1014.	1041.	10490.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819668_10475 Acquired: 10/23/2012 9:59:04 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	14420.	39870.	1063.	901.8	1034.	1012.
Stddev	102.	76.	3.	19.8	1.	3.
%RSD	.7080	.1914	.2665	2.190	.1075	.2661
#1	14490.	39920.	1065.	915.8	1033.	1010.
#2	14350.	39820.	1061.	887.8	1034.	1014.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	972.8	1157.	10960.	940.1	1053.	974.1
Stddev	.4	7.	9.	13.9	4.	3.5
%RSD	.0406	.6250	.0820	1.478	.3846	.3568
#1	972.5	1162.	10970.	949.9	1056.	971.7
#2	973.1	1152.	10960.	930.3	1050.	976.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 819668_10475 Acquired: 10/23/2012 9:59:04 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1075.	1017.	106700.
Stddev	4.	2.	347.
%RSD	.4010	.2217	.3246
#1	1078.	1018.	107000.
#2	1072.	1015.	106500.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5951.4	43080.	15559.
Stddev	1.3	68.	96.
%RSD	.02181	.15862	.62005
#1	5950.5	43012.	15491.
#2	5952.3	43108.	15628.

Sample Name: 5070979006_10475 Acquired: 10/23/2012 10:01:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: _10475 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-3.884	-4.022	8.759	129.5	5.145	.0287
Stddev	2.835	.703	.004	1.0	.009	.0046
%RSD	73.00	17.47	.0503	.7509	.1733	16.19
#1	-5.889	-4.519	8.756	130.2	5.151	.0254
#2	-1.879	-3.525	8.763	128.8	5.138	.0320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	20500.	.0710	.3161	-2.290	2.003	13.83
Stddev	14.	.0816	.2561	.634	1.282	1.85
%RSD	.0662	115.0	81.02	27.68	64.00	13.37
#1	20490.	.1287	.4972	-2.738	2.910	15.14
#2	20510.	.0133	.1350	-1.842	1.097	12.52
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979006_10475 Acquired: 10/23/2012 10:01:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: _10475 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3189.	7812.	.3950	59.33	1.165	.5441
Stddev	1.	19.	.1284	.87	.511	.0718
%RSD	.0211	.2405	32.50	1.831	43.89	13.20
#1	3189.	7798.	.4858	58.64	1.527	.4934
#2	3190.	7825.	.3042	60.01	.8038	.5949
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1.794	11.24	2864.	5.663	1.465	1.908
Stddev	1.029	1.27	3.	.236	.523	.814
%RSD	57.39	11.28	.0915	4.170	35.72	42.68
#1	1.066	10.35	2862.	5.496	1.095	1.333
#2	2.521	12.14	2866.	5.830	1.835	2.484
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5070979006_10475 Acquired: 10/23/2012 10:01:11 Type: Unk
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: _10475 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	4.047	.1318	44430.
Stddev	.658	.0064	87.
%RSD	16.26	4.856	.1954
#1	3.582	.1364	44490.
#2	4.512	.1273	44360.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.308 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6129.9	44203.	15740.
Stddev	.3	74.	50.
%RSD	.00494	.16730	.31623
#1	6129.7	44150.	15705.
#2	6130.1	44255.	15776.

Sample Name: ICSA Acquired: 10/23/2012 10:03:24 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.058	515400.	5.443	82.12	1.543	.1305
Stddev	1.489	2007.	2.801	.87	.005	.0680
%RSD	140.7	.3894	51.47	1.055	.2985	52.14
#1	-2.110	516800.	3.462	81.51	1.546	.0824
#2	-.0051	513900.	7.424	82.74	1.539	.1786
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	454500.	1.404	-1.895	-2.740	.0361	185300.
Stddev	116.	.006	.295	1.770	3.627	110.
%RSD	.0255	.4342	15.57	64.58	10060.	.0593
#1	454400.	1.408	-1.686	-3.992	-2.529	185300.
#2	454600.	1.400	-2.104	-1.489	2.601	185200.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 10/23/2012 10:03:24 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-164.6	494800.	F 27.32	27.99	-2.793	6.862
Stddev	40.4	203.	.24	3.39	.556	2.742
%RSD	24.55	.0411	.8772	12.10	19.92	39.96
#1	-193.2	494900.	27.49	25.60	-3.187	4.923
#2	-136.1	494600.	27.15	30.39	-2.400	8.801
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit			10.00			
Low Limit			-10.00			

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	F 22.76	5.139	30.50	F 41.40	12.90	.1145
Stddev	4.54	3.603	24.57	5.13	.69	.6127
%RSD	19.94	70.11	80.55	12.38	5.337	535.3
#1	19.55	2.592	13.13	37.78	12.41	-.3188
#2	25.97	7.687	47.87	45.03	13.38	.5477
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit	12.00			20.00		
Low Limit	-12.00			-20.00		

Sample Name: ICSA Acquired: 10/23/2012 10:03:24 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	4.867	10.52	199.1
Stddev	.239	.21	18.2
%RSD	4.912	1.981	9.160
#1	4.698	10.66	186.2
#2	5.036	10.37	212.0
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5447.3	39669.	14851.
Stddev	7.6	140.	3.
%RSD	.13891	.35411	.01706
#1	5442.0	39570.	14849.
#2	5452.7	39769.	14852.

Sample Name: ICSAB Acquired: 10/23/2012 10:05:47 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	239.4	513700.	494.4	585.1	505.9	469.7
Stddev	.6	2151.	1.0	2.7	.2	.8
%RSD	.2555	.4186	.1999	.4663	.0356	.1774
#1	239.8	515200.	493.7	583.2	506.0	470.3
#2	238.9	512200.	495.1	587.1	505.8	469.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	464200.	510.0	446.3	468.8	494.3	187900.
Stddev	1232.	1.6	.6	.3	2.3	15.
%RSD	.2653	.3069	.1416	.0570	.4607	.0078
#1	465100.	508.9	445.8	469.0	492.7	187900.
#2	463400.	511.1	446.7	468.7	495.9	187800.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/23/2012 10:05:47 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-112.1	502900.	514.8	471.2	440.7	448.6
Stddev	18.5	108.	.0	.6	.5	2.4
%RSD	16.51	.0215	.0084	.1268	.1125	.5415
#1	-99.00	503000.	514.8	471.6	440.3	450.3
#2	-125.2	502800.	514.7	470.8	441.0	446.9
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	498.8	481.9	2436.	475.9	515.0	425.8
Stddev	4.3	5.1	5.	2.2	.4	4.8
%RSD	.8527	1.060	.2194	.4617	.0791	1.125
#1	495.8	478.3	2433.	474.3	515.3	422.4
#2	501.8	485.6	2440.	477.4	514.7	429.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/23/2012 10:05:47 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	499.9	446.7	215.3
Stddev	1.5	.2	.4
%RSD	.3087	.0420	.2013
#1	498.8	446.8	215.6
#2	501.0	446.5	215.0
Check ?	Chk Pass	Chk Pass	None
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5479.4	39441.	14550.
Stddev	.7	248.	24.
%RSD	.01189	.62899	.16702
#1	5478.9	39265.	14533.
#2	5479.9	39616.	14567.

Sample Name: CCV Acquired: 10/23/2012 10:08:04 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	484.3	9758.	977.1	978.4	1002.	964.1
Stddev	.2	8.	8.6	.2	4.	2.9
%RSD	.0327	.0864	.8765	.0167	.3736	.2999
#1	484.2	9752.	983.2	978.3	1005.	966.1
#2	484.4	9764.	971.1	978.5	999.6	962.0
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9828.	974.2	971.2	977.2	971.8	9970.
Stddev	27.	2.3	1.3	1.6	4.5	47.
%RSD	.2779	.2393	.1314	.1618	.4599	.4700
#1	9809.	975.9	972.1	976.0	974.9	9937.
#2	9847.	972.6	970.3	978.3	968.6	10000.
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 10:08:04 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9927.	9659.	1001.	987.3	993.4	970.6
Stddev	1.	4.	1.	4.7	2.4	1.0
%RSD	.0123	.0394	.0622	.4804	.2367	.1041
#1	9928.	9656.	1001.	990.7	995.1	971.3
#2	9926.	9662.	1002.	984.0	991.7	969.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	971.1	974.4	4851.	1016.	1008.	945.9
Stddev	6.2	.6	24.	1.		2.1
%RSD	.6343	.0619	.4915	.0796	.0108	.2229
#1	975.5	974.8	4834.	1017.	1008.	947.4
#2	966.8	974.0	4867.	1016.	1008.	944.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: CCV Acquired: 10/23/2012 10:08:04 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	1012.	969.4	9877.
Stddev	1.	1.4	21.
%RSD	.1036	.1400	.2091
#1	1013.	968.4	9891.
#2	1012.	970.3	9862.
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6083.6	44158.	15449.
Stddev	16.9	37.	36.
%RSD	.27704	.08380	.22989
#1	6071.6	44132.	15424.
#2	6095.5	44184.	15474.

Sample Name: CCB Acquired: 10/23/2012 10:10:07 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-1.625	4.490	.9678	4.390	-.1130	.0074
Stddev	1.066	2.048	.2718	.958	.0276	.0678
%RSD	65.58	45.61	28.09	21.83	24.44	912.2
#1	-2.379	5.938	.7756	3.712	-.1325	.0553
#2	-.8715	3.042	1.160	5.067	-.0934	-.0405
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	40.53	.1278	.1999	-.3045	-1.049	.6727
Stddev	2.16	.0504	.1186	.8445	2.692	4.102
%RSD	5.326	39.45	59.33	277.3	256.6	609.8
#1	42.06	.0921	.2837	.2926	.8543	-2.228
#2	39.01	.1634	.1160	-.9017	-2.952	3.573
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB Acquired: 10/23/2012 10:10:07 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	92.29	24.09	.3068	9.268	.7346	.3328
Stddev	2.78	5.55	.0642	1.630	.2057	.8019
%RSD	3.016	23.06	20.92	17.58	28.01	241.0
#1	94.26	28.02	.2614	8.116	.8801	.8998
#2	90.33	20.16	.3522	10.42	.5891	-.2343
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	4.162	5.854	11.49	4.321	.7940	1.124
Stddev	.816	1.336	1.31	.889	.1305	.660
%RSD	19.60	22.82	11.44	20.58	16.44	58.72
#1	4.739	4.909	10.56	3.692	.7017	.6571
#2	3.585	6.798	12.42	4.950	.8863	1.590
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CCB Acquired: 10/23/2012 10:10:07 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	-.3880	1.392	73.49
Stddev	.9939	.052	7.98
%RSD	256.2	3.746	10.86
#1	.3148	1.429	67.85
#2	-1.091	1.355	79.14
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {450}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	5956.4	45006.	15606.
Stddev	177.8	15.	30.
%RSD	2.9844	.03438	.19175
#1	5830.7	45017.	15585.
#2	6082.1	44995.	15627.

Sample Name: CRDL Acquired: 10/23/2012 10:12:22 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Be4554	Be3130
Line	328.068 {103}	308.215 {109}	189.042 {478}	249.678 {135}	455.403 { 74}	313.042 {108}
IS Ref	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3710)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	7.233	196.8	10.95	150.4	3.024	9.733
Stddev	.911	9.1	.60	.3	.193	.069
%RSD	12.60	4.635	5.524	.2320	6.376	.7044
#1	7.877	190.4	10.52	150.6	2.888	9.781
#2	6.589	203.3	11.38	150.2	3.160	9.684
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Ca3158	Cd2288	Co2286	Cr2677	Cu3247	Fe2714
Line	315.887 {107}	228.802 {447}	228.616 {447}	267.716 {126}	324.754 {104}	271.441 {124}
IS Ref	(Y_3600)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	512.8	1.163	20.05	16.33	9.418	112.2
Stddev	1.4	.206	.16	1.51	1.800	14.7
%RSD	.2785	17.75	.7867	9.250	19.11	13.11
#1	511.8	1.309	20.17	15.26	8.145	101.8
#2	513.9	1.017	19.94	17.40	10.69	122.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 10:12:22 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	K_7664	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203
Line	766.490 { 44}	279.079 {121}	257.610 {131}	202.030 {467}	231.604 {446}	220.353 {453}
IS Ref	(Y_3710)	(Y_3600)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5086.	485.2	10.22	32.87	40.83	6.405
Stddev	47.	4.1	.13	.75	.30	.365
%RSD	.9200	.8476	1.239	2.279	.7257	5.691
#1	5053.	482.3	10.31	32.34	41.04	6.663
#2	5119.	488.1	10.13	33.40	40.62	6.148
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Tl1908
Line	206.833 {463}	196.090 {472}	288.158 {117}	189.989 {477}	337.280 {100}	190.856 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_2243)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	10.90	10.36	13.65	76.47	20.82	20.52
Stddev	.92	.07	4.47	1.27	.48	.26
%RSD	8.404	.6621	32.74	1.667	2.293	1.285
#1	10.26	10.32	10.49	76.57	20.48	20.71
#2	11.55	10.41	16.81	77.38	21.16	20.34
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/23/2012 10:12:22 Type: QC
Method: 50ICP3 method build(v28) Mode: CONC Corr. Factor: 1.000000
User: frw 6010 B: 50ICP3: :
Comment:

Elem	V_2924	Zn2062	Na5895
Line	292.464 {115}	206.200 {463}	589.592 { 57}
IS Ref	(Y_3600)	(Y_2243)	(Y_3710)
Units	ppb	ppb	ppb
Avg	29.87	43.44	2062.
Stddev	.57	.01	3.
%RSD	1.910	.0263	.1610
#1	29.47	43.43	2064.
#2	30.28	43.45	2060.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3710
Line	224.306 {460}	360.073 { 94}	371.030 { 91}
Units	Cts/S	Cts/S	Cts/S
Avg	6060.6	44895.	15674.
Stddev	15.8	7.	210.
%RSD	.26073	.01530	1.3412
#1	6049.4	44891.	15823.
#2	6071.7	44900.	15525.

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Mercury
7470A/7471A

Project Number 5070979

Initials/ Date Compiled UB/10-31-12

Information is arranged in chronological order:

**** Sample Preparation Log***
**** Analytical Run Log***
**** Initial Calibration Data***
**** Calibration Verification Data***
**** Laboratory Control Samples (LCS)***
**** Matrix Spike and Spike Duplicate Samples (MS/MSD)***
**** Method Blanks***
**** Client Sample Raw Data***

Pace Analytical Prep Log Report

Batch Information: MERP WCAL 102412

Template Version: EF-IN-I-322(rev.00, 30Nov2011)

Prep Method	EPA 7470
Block ID	3
Thermometer ID	PT-180
Reviewed By Date	10/25/2012 13:43:55:943

Analysis Method	EPA 7470
Block Temp (C)	93
Digestion Vessel Lot	1207143

Extracted By	PHB
Correction Factor (C)	+1.4
Batch Notes	Calibration

Extracted By Date	10/24/2012 11:50:54:709
Corrected Temp. (C)	94.4
Reviewed By	LLB

Sample Information:

QC Rule	Sample Type	Lab Sample ID	Matrix	Initial Volume (mL)	Conc. HNO3 (mL)	Conc. H2SO4 (mL)	5% KMnO4 (mL)	5% K2SO4 (mL)	12% NH2OH*HCL (mL)	Final Volume (mL)	Sample Notes	CAL-STD
MERC_Q	CAL0	CAL0	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36728 (0)
MERC_Q	CAL1	CAL1	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36729 (0)
MERC_Q	CAL2	CAL2	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36730 (0)
MERC_Q	CAL3	CAL3	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36731 (0)
MERC_Q	CAL4	CAL4	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36732 (0)
MERC_Q	CAL5	CAL5	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36733 (0)
MERC_Q	CAL6	CAL6	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36734 (0)
MERC_Q	ICV	ICV	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36735 (0)
MERC_Q	CCV	CCV	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36732 (0)
MERC_Q	CCB	CCB	WT	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		36728 (0)

Standard Notes:

36728: MERC 7470/245.1
36729: MERC 7470/245.1
36730: MERC 7470/245.1
36731: MERC 7470/245.1
36732: MERC 7470/245.1
36733: MERC 7470/245.1
36734: MERC 7470/245.1
36735: MERC 7470/245.1

Thu, 25 Oct 2012 13:43:42 -0400

Pace Analytical Prep Log Report

Batch Information: MERP 4209 AB #4237

Template Version: EF-IN-I-322(rev.00, 30Nov2011)

Prep Method	EPA 7470	Analysis Method	7470	Extracted By	phb	Extracted By Date	10/24/2012 11:50:36:574
Block ID	3	Block Temp (C)	93	Correction Factor (C)	+1.4	Corrected Temp. (C)	94.4
Thermometer ID	PT-180	Digestion Vessel Lot	1207143	Batch Notes		Reviewed By	phb
Reviewed By Date	10/24/2012 15:54:33:601						

Sample Information:

QC Rule	Sample Type	Lab Sample ID	Matrix	Initial Volume (mL)	Conc. HNO3 (mL)	Conc. H2SO4 (mL)	5% KMnO4 (mL)	5% K2SO4 (mL)	12% NH2OH*HCL (mL)	Final Volume (mL)	Sample Notes	MERCURY-SPK (mL)
7470 WD_P	BLANK	820205	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	LCS	820206	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		33802 (1.5)
7470 WD_P	PS	5070858001	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070858002	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070858003	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070858004	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070858005	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070979001	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070979002	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070979003	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	PS	5070979004	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	RQS	5070979005	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		
7470 WD_P	MS	820207	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		33802 (1.5)
7470 WD_P	MSD	820208	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		33802 (1.5)
7470 WD_P	PS	5070979006	Water	30	36492 (0.75)	21637 (1.5)	35762 (5)	33290 (2.5)	36679 (1.8)	30		

Standard Notes:

33802: prepared fresh daily

Wed, 24 Oct 2012 15:54:41 -0400

50HG02 Analytical Run
ICV STD#33802/CCV STD#33801
Analyst: LLB Stannous Chloride Soln#36740
Analytical Run: 102512wt.csv
Method: EPA 7470

Below Negative RL (Red Indicates Failure)
CCB/ ICB / Blank > 1/2 RL (Red Indicates Failure)
CCV / ICV / LCS / ICSA / ICSAB / CRDL Failure
Over Range
Check %RSD
Element Not Uploaded
Instrument Over/Under Range
RESULT Check ISTD

Sample ID	Dil	QC	Date	Time	Mercury
CAL0 36728_4236	1	CAL0	10/25/12	10:14:23	0
CAL1 36729_4236	1	CAL1	10/25/12	10:16:26	0.2
CAL2 36730_4236	1	CAL2	10/25/12	10:18:29	1
CAL3 36731_4236	1	CAL3	10/25/12	10:20:33	2
CAL4 36732_4236	1	CAL4	10/25/12	10:22:37	5
CAL5 36733_4236	1	CAL5	10/25/12	10:24:42	7.5
CAL6 36734_4236	1	CAL6	10/25/12	10:26:48	10
ICV 36735_4236	1	ICV	10/25/12	10:28:54	5.07
					101.40%
ICB 36728_4236	1	ICB	10/25/12	10:30:56	0.019
					2
CRDL 36729_4236	1	CRDL	10/25/12	10:32:59	0.195
					97.50%
820205_4237	1	BLANK	10/25/12	10:35:01	0.021
					2
820206_4237	1	LCS	10/25/12	10:37:03	4.83
					96.60%
5070858001_4237	1	PS	10/25/12	10:39:06	0.002
5070858002_4237	1	PS	10/25/12	10:41:09	0.002
5070858003_4237	1	PS	10/25/12	10:43:12	0.021
5070858004_4237	1	PS	10/25/12	10:45:16	-0.001
5070858005_4237	1	PS	10/25/12	10:47:20	-0.03
5070979001_4237	1	PS	10/25/12	10:49:24	0.011
5070979002_4237	1	PS	10/25/12	10:51:28	0.024
5070979003_4237	1	PS	10/25/12	10:53:33	0.023
CCV 36732_4236	1	CCV	10/25/12	10:55:37	5.02
					100.40%
CCB 36728_4236	1	CCB	10/25/12	10:57:40	0.024
					2
5070979004_4237	1	PS	10/25/12	10:59:45	0.024
5070979005_4237	1	RQS	10/25/12	11:01:50	0.017
820207_4237	1	MS	10/25/12	11:03:52	4.8
820208_4237	1	MSD	10/25/12	11:05:54	4.94
5070979006_4237	1	PS	10/25/12	11:07:56	0.012
820209_4238	1	BLANK	10/25/12	11:09:59	0.069
					2
820210_4238	1	LCS	10/25/12	11:12:02	4.81
					96.20%
5070735035_4238	1	PS	10/25/12	11:14:05	0.066
5071115001_4238	1	PS	10/25/12	11:16:08	0.069
5071115002_4238	1	RQS	10/25/12	11:18:12	0.065
CCV 36732_4236	1	CCV	10/25/12	11:20:17	5
					100.00%
CCB 36728_4236	1	CCB	10/25/12	11:22:19	0.02

50HG02 Analytical Run

Below Negative RL (Red Indicates Failure) | Over Range | Instrument Overbridge Range

ICV STD#33802/CCV STD#33801

CCB/ ICB / Blank > 1/2 RL (Red Indicates Failure) | Check %RSD | RESULT Check ISTD

Analyst: LLB Stannous Chloride Soln#36740

CCV / ICV / LCS / ICSA / ICSAB / CRDL Failure | Element Not Uploaded

Analytical Run: 102512wt.csv

Method: EPA 7470

Sample ID	Dil	QC	Date	Time	Mercury
					2
CRDL 36729_4236	1	CRDL	10/25/12	11:24:21	0.206
					103.00%
820211_4238	1	MS	10/25/12	11:26:26	5.57
820212_4238	1	MSD	10/25/12	11:28:30	5.02
5071115003_4238	1	PS	10/25/12	11:30:35	0.073
5071115004_4238	1	PS	10/25/12	11:32:39	0.074
5071115005_4238	1	PS	10/25/12	11:34:41	0.07
5071115006_4238	1	PS	10/25/12	11:36:43	0.064
5071115007_4238	1	PS	10/25/12	11:38:46	0.068
5071115008_4238	1	PS	10/25/12	11:40:48	0.07
5071115009_4238	1	PS	10/25/12	11:42:51	0.061
5071115010_4238	1	PS	10/25/12	11:44:55	0.065
CCV 36732_4236	1	CCV	10/25/12	11:46:59	5.11
					102.20%
CCB 36728_4236	1	CCB	10/25/12	11:49:01	0.018
					2
5071115011_4238	1	PS	10/25/12	11:51:05	0.053
5071115012_4238	1	PS	10/25/12	11:53:08	0.059
5071115013_4238	1	PS	10/25/12	11:55:12	0.02
5071115014_4238	1	PS	10/25/12	11:57:17	0.043
5071115015_4238	1	PS	10/25/12	11:59:21	0.06
5071115016_4238	1	PS	10/25/12	12:01:26	0.06
5071115017_4238	1	PS	10/25/12	12:03:29	0.069
5071115018_4238	1	PS	10/25/12	12:05:31	0.011
5071115019_4238	1	PS	10/25/12	12:07:33	0.012
820260_4239	1	BLANK	10/25/12	12:09:36	-0.018
					2
CCV 36732_4236	1	CCV	10/25/12	12:11:41	4.99
					99.80%
CCB 36728_4236	1	CCB	10/25/12	12:13:43	0.013
					2
CRDL 36729_4236	1	CRDL	10/25/12	12:15:45	0.195
					97.50%
820261_4239	1	LCS	10/25/12	12:17:48	4.53
					90.60%
820262_4239	1	LCSD	10/25/12	12:19:52	4.38
					87.60%
5070992001_4239	1	PS	10/25/12	12:21:55	-0.016
820263_4239	1	MS	10/25/12	12:23:59	4.49
820264_4240	1	BLANK	10/25/12	12:26:03	0.024
					2
820265_4240	1	LCS	10/25/12	12:28:07	4.95
					99.00%

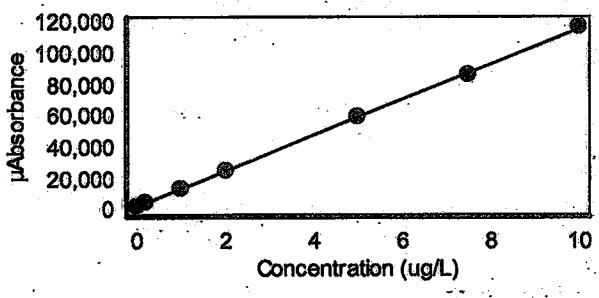
Report Generated By CETAC QuickTrace
Analyst: 50Metals
Worksheet file: C:\Program Files\QuickTrace\Worksheets\10-25-2012 4237-4241.wsz
Date Started: 10/25/2012 9:10:16 AM
Comment: ICV-STD#33802/CCV STD#33801

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CAL0					STD	10/25/12 10:14:23 am	0.000	3309	0.23		1.00
	Replicates	3298.8	3307.4	3315.2	3314.9						
CAL1					STD	10/25/12 10:16:26 am	0.200	5436	0.21		1.00
	Replicates	5446.3	5441.3	5437.6	5419.9						
CAL2					STD	10/25/12 10:18:29 am	1.000	14327	0.07		1.00
	Replicates	14326.5	14333.8	14335.8	14312.2						
CAL3					STD	10/25/12 10:20:33 am	2.000	26008	0.29		1.00
	Replicates	26117.9	25988.7	25950.3	25974.7						
CAL4					STD	10/25/12 10:22:37 am	5.000	59994	0.10		1.00
	Replicates	59910.0	60005.1	60057.4	60004.6						
CAL5					STD	10/25/12 10:24:42 am	7.500	87508	0.12		1.00
	Replicates	87368.0	87520.9	87607.8	87536.4						
CAL6					STD	10/25/12 10:26:48 am	10.000	117510	0.12		1.00
	Replicates	117612.5	117591.3	117538.8	117298.4						

Calibration

Equation: A = 3112.216 + 11373.840C
R2: 0.99989
SEE: 519.1502
Flags:



ICV					ICV	10/25/12 10:28:54 am	5.070	60811	0.08		1.00
	Replicates	60751.4	60823.1	60864.4	60804.2						
	% Recovery	101.46									

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
ICB					ICB	10/25/12 10:30:56 am	0.019	3329	0.14		1.00
	Replicates	3323.9	3325.8	3333.8	3331.3						
CRDL					CRDL	10/25/12 10:32:59 am	0.195	5331	0.19		1.00
	Replicates	5317.5	5327.9	5340.8	5336.9						
	% Recovery	97.53									
820205					UNK	10/25/12 10:35:01 am	0.021	3349	0.09		1.00
	Replicates	3349.3	3353.0	3349.6	3345.9						
820206					UNK	10/25/12 10:37:03 am	4.830	58002	0.96		1.00
	Replicates	57255.7	57918.4	58335.6	58497.5						
5070858001					UNK	10/25/12 10:39:06 am	0.002	3137	0.76		1.00
	Replicates	3106.1	3130.2	3150.8	3159.3						
5070858002					UNK	10/25/12 10:41:09 am	0.002	3129	0.45		1.00
	Replicates	3112.7	3123.4	3138.0	3143.8						
5070858003					UNK	10/25/12 10:43:12 am	0.021	3346	0.17		1.00
	Replicates	3338.0	3348.1	3351.2	3347.1						
5070858004					UNK	10/25/12 10:45:16 am	-0.001	3104	0.10		1.00
	Replicates	3102.1	3105.8	3107.4	3100.9						
5070858005					UNK	10/25/12 10:47:20 am	-0.030	2766	0.48		1.00
	Replicates	2749.6	2763.2	2772.9	2780.1						
5070979001					UNK	10/25/12 10:49:24 am	0.011	3234	0.34		1.00
	Replicates	3221.5	3228.1	3239.5	3245.6						
5070979002					UNK	10/25/12 10:51:28 am	0.024	3385	0.11		1.00
	Replicates	3380.1	3388.6	3386.1	3386.8						
5070979003					UNK	10/25/12 10:53:33 am	0.023	3379	0.10		1.00
	Replicates	3377.3	3375.4	3383.4	3379.0						

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	10/25/12 10:55:37 am	5.020	60253	0.09		1.00
Replicates	60180.0	60265.5	60314.7	60253.0						
% Recovery	100.48									
CCB				CCB	10/25/12 10:57:40 am	0.024	3384	0.20		1.00
Replicates	3377.3	3380.6	3388.3	3391.7						
5070979004				UNK	10/25/12 10:59:45 am	0.024	3390	0.16		1.00
Replicates	3382.7	3392.3	3395.0	3390.2						
5070979005				UNK	10/25/12 11:01:50 am	0.017	3305	0.15		1.00
Replicates	3308.0	3307.7	3306.0	3297.2						
820207				UNK	10/25/12 11:03:52 am	4.800	57709	0.37		1.00
Replicates	57438.6	57650.6	57827.9	57918.7						
820208				UNK	10/25/12 11:05:54 am	4.940	59321	0.15		1.00
Replicates	59199.4	59313.2	59394.7	59376.1						
5070979006				UNK	10/25/12 11:07:56 am	0.012	3248	0.15		1.00
Replicates	3247.0	3253.3	3249.3	3241.3						
820209				UNK	10/25/12 11:09:59 am	0.069	3901	0.20		1.00
Replicates	3890.1	3901.7	3908.0	3903.9						
820210				UNK	10/25/12 11:12:02 am	4.810	57842	0.28		1.00
Replicates	57629.7	57810.9	57946.2	57980.9						
5070735035				UNK	10/25/12 11:14:05 am	0.066	3865	0.62		1.00
Replicates	3833.5	3861.3	3878.6	3888.2						
5071115001				UNK	10/25/12 11:16:08 am	0.069	3899	0.23		1.00
Replicates	3887.9	3898.0	3902.3	3909.6						
5071115002				UNK	10/25/12 11:18:12 am	0.065	3857	0.31		1.00
Replicates	3868.1	3863.1	3856.9	3840.6						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV					CCV	10/25/12 11:20:17 am	5.000	60030	0.11		1.00
	Replicates	59984.7	60082.3	60086.8	59964.8						
	% Recovery	100.08									
CCB					CCB	10/25/12 11:22:19 am	0.020	3342	0.39		1.00
	Replicates	3326.3	3336.5	3351.0	3354.4						
CRDL					CRDL	10/25/12 11:24:21 am	0.206	5460	1.66		1.00
	Replicates	5532.4	5522.9	5448.2	5336.2						
	% Recovery	103.21									
820211					UNK	10/25/12 11:26:26 am	5.570	66458	0.07		1.00
	Replicates	66472.0	66462.6	66508.6	66390.7						
820212					UNK	10/25/12 11:28:30 am	5.020	60221	0.16		1.00
	Replicates	60086.4	60219.3	60302.4	60274.9						
5071115003					UNK	10/25/12 11:30:35 am	0.073	3941	0.12		1.00
	Replicates	3934.0	3943.4	3944.6	3942.6						
5071115004					UNK	10/25/12 11:32:39 am	0.074	3959	0.34		1.00
	Replicates	3939.7	3958.7	3969.4	3967.6						
5071115005					UNK	10/25/12 11:34:41 am	0.070	3905	0.31		1.00
	Replicates	3890.2	3899.8	3914.1	3915.4						
5071115006					UNK	10/25/12 11:36:43 am	0.064	3845	0.66		1.00
	Replicates	3812.0	3837.9	3859.2	3869.2						
5071115007					UNK	10/25/12 11:38:46 am	0.068	3886	1.29		1.00
	Replicates	3822.2	3871.3	3914.8	3935.4						
5071115008					UNK	10/25/12 11:40:48 am	0.070	3914	0.47		1.00
	Replicates	3891.2	3908.9	3924.9	3932.3						
5071115009					UNK	10/25/12 11:42:51 am	0.061	3812	0.43		1.00
	Replicates	3789.5	3811.5	3822.2	3825.6						

Pace Analytical

Wet Chemistry Methods

Project Number 5070979

Initials/ Date Compiled JA 11-6-12

***Check all methods included in this package:**

___ *% Moisture (ASTM D 2974-87)*
___ *pH (SM4500H+B/EPA 9045)*
___ *Total Dissolved Solids (TDS) (SM2540C)*
___ *Total Suspended Solids (TSS) (SM2540D)*
___ *Total Solids (TS) (SM2540B)*
___ *Alkalinity (SM2320B)*
___ *Chloride (SM4500-Cl-E)*
_J_ *Cyanide (SM4500-CN-E/EPA 335.4/9012)*
___ *Fluoride (SM4500-F-C)*
___ *Ammonia (EPA 350.1, rev.2)*
___ *Hexavalent Chromium (SM3500-Cr-D/EPA 7196A)*
___ *Total Kjeldahl Nitrogen (TKN) (EPA 351.2, rev.2)*
___ *Nitrate/Nitrite (EPA 353.2, rev.2)*
___ *Phosphorus (SM4500-P-E)*
___ *Turbidimetric Sulfate (ASTM D516-02/EPA 9038)*
___ *Sulfide (SM4500-S2-D)*
___ *Chemical Oxygen Demand (COD) (Hach 8000)*
___ *Phenolics (EPA 420.4, rev.1)*
___ *TCLP prep (EPA SW-846 1311)*
___ *Other* _____
___ *Other* _____

Pace Analytical Services
7726 Moller Road
Indianapolis, IN 46268

Laboratory Data Sheet

Cyanide Distillation Logbook

For Methods: EPA 9012A, SM4500CN-E, and EPA 335.4

$MgCl_2$ # 10752
H_2SO_4 # 3665
Sulfamic Acid # 10764
0.25 N NaOH # 10780
Sodium Arsenite # _____
Lead Carbonate # _____

CN Std. # 23596 Vol. used: 0.2ml
Ottawa Sand # ——— Sodium Hypochlorite # _____ Ascorbic Acid # _____

Date/Analyst	Sample #	Batch	Matrix	Sample Volume or Weight Initial	Sample Volume or Weight Final	Block #	Presence Y/N Cl_2	Presence Y/N S^{2-}	Comments
10-22-12 WB	Blank 818510	8741	AQ	50ml	50ml	3	N	N	
	LCS 818511			↓					
	5070832001			10ml					
	5070832002			↓					
	5070832003			50ml					
	5070979001								
	5070979002								
	5070979003								
	5070979004								
	5070979005								
	MS 818512								
	MSD 818513					↓			
	5070979006					4			
	5070848004								
	5070848005								
↓	5070848006	↓	↓	↓	↓	↓	↓	↓	
———	——— 10-22-12								

Validated by : JP 10-24-12

50WTA1 Analytical Run

Analyst: ILP

Analytical Run: 102212CN.TXT Method: 9012 CN 5070979

Sample ID	Dil	QC	Date	Time	Cn			
STD #1 0.50MG/L	1	UNK	10/22/12	14:02:35	15716480			
STD #2 0.20MG/L	1	UNK	10/22/12	14:03:32	6887213			
STD #3 0.10MG/L	1	UNK	10/22/12	14:04:30	3669619			
STD #4 0.05MG/L	1	UNK	10/22/12	14:05:28	1863805			
STD #5 0.02MG/L	1	UNK	10/22/12	14:06:26	790176			
STD #6 0.01MG/L	1	UNK	10/22/12	14:07:25	405639			
STD #7 0.005MG/L	1	UNK	10/22/12	14:08:24	211126			
STD #8 0.00MG/L	1	UNK	10/22/12	14:09:23	0			
ICV	1	ICV	10/22/12	14:11:36	0.051023			
ICB	1	ICB	10/22/12	14:12:36	-0.006623			
818510_8741	1	BLANK	10/22/12	14:13:34	-0.006623			
818511_8741	1	LCS	10/22/12	14:14:33	0.214342			
5070832001_8741	1	PS	10/22/12	14:15:31	0.020912			
5070832002_8741	1	PS	10/22/12	14:16:29	0.123922			
5070832003_8741	1	PS	10/22/12	14:17:28	0.014517			
5070979001_8741	1	PS	10/22/12	14:18:26	-0.006623			
5070979002_8741	1	PS	10/22/12	14:19:23	-0.006623			
5070979003_8741	1	PS	10/22/12	14:20:21	-0.006623			
5070979004_8741	1	PS	10/22/12	14:21:18	-0.006623			
5070979005_8741	1	RQS	10/22/12	14:22:15	-0.006623			
CCV	1	CCV	10/22/12	14:23:15	0.053186			
CCB	1	CCB	10/22/12	14:24:15	-0.006623			
818512_8741	1	MS	10/22/12	14:26:25	0.225601			
818513_8741	1	MSD	10/22/2012	14:27:22	0.221904			
5070979006_8741	1	PS	10/22/2012	14:28:20	-0.006623			
5070848004_8741	1	PS	10/22/2012	14:29:16	-0.006623			
5070848005_8741	1	PS	10/22/2012	14:30:12	-0.002814			
5070848006_8741	1	PS	10/22/2012	14:31:11	-0.006623			
819200_8745	1	BLANK	10/22/2012	14:32:09	-0.006623	RR	To confirm	
819201_8745	1	LCS	10/22/2012	14:33:08	0.218791	RR	to confirm	
5070843002_8745	1	PS	10/22/2012	14:34:06	0.008187	RR		
819202_8745	1	MS	10/22/2012	14:35:04	0.246081	RR		
CCV	1	CCV	10/22/2012	14:36:04	0.053869			
CCB	1	CCB	10/22/2012	14:37:04	-0.006623			
819203_8745	1	MSD	10/22/2012	14:39:15	0.252039	RR	To Confirm	
5071055005_8745	1	PS	10/22/2012	14:40:13	-0.004569	RR	to confirm	
5070928001_8745	1	PS	10/22/2012	14:41:11	-0.00442	RR		
5070931001_8745	1	PS	10/22/2012	14:42:08	-0.004255	RR		
5071047001_8745	1	PS	10/22/2012	14:43:05	0.012194	RR		
5071055006_8745	1	PS	10/22/2012	14:44:03	0.007044	RR		
5071047002_8745	1	PS	10/22/2012	14:45:00	-0.006623	RR		
5071047003_8745	1	PS	10/22/2012	14:45:57	0.222656	RR		
5071047004_8745	1	PS	10/22/2012	14:46:55	-0.001707	RR		
5071050002_8745	1	PS	10/22/2012	14:47:52	0.222052	RR		
CCV	1	CCV	10/22/2012	14:48:51	0.06296			
CCB	1	CCB	10/22/2012	14:49:51	-0.006623			
818514_8747	1	BLANK	10/22/2012	14:52:04	0.227158	RR	To Confirm	
818515_8747	1	LCS	10/22/2012	14:53:02	0.001746	RR		
5070875017_8747	1	PS	10/22/2012	14:54:01	-0.005129	RR		
818516_8747	1	MS	10/22/2012	14:54:59	-0.004195	RR		
818517_8747	1	MSD	10/22/2012	14:55:58	0.002636	RR		
5070875020_8747	1	PS	10/22/2012	14:56:56	-0.003603	RR		
5070875021_8747	1	PS	10/22/2012	14:57:54	-0.001377	RR		
5070875022_8747	1	PS	10/22/2012	14:58:53	0.000274	RR		
5070875023_8747	1	PS	10/22/2012	14:59:50	0.001688	RR		
5070875024_8747	1	PS	10/22/2012	15:00:47	-0.006623	RR		
CCV	1	CCV	10/22/2012	15:01:46	0.063281			
CCB	1	CCB	10/22/2012	15:02:46	-0.006623			
819344_8748	1	BLANK	10/22/2012	15:04:58	-0.006623			
819345_8748	1	LCS	10/22/2012	15:05:55	0.214762			
5070657001_8748	1	PS	10/22/2012	15:06:53	-0.006623			
819346_8748	1	MS	10/22/2012	15:07:50	0.225411			
819347_8748	1	MSD	10/22/2012	15:08:47	0.22632			
10208960001_8748	1	PS	10/22/2012	15:09:47	-0.006623			
10208960002_8748	1	PS	10/22/2012	15:10:46	-0.006623			

right sample.

right sample.

right sample.

dp 10-23-12

50WTA1 Analytical Run

Analyst: ILP

Analytical Run: 102212CN.TXT Method: 9012 CN

Sample ID	Dil	QC	Date	Time	Cn			
10208960003_8748	1	PS	10/22/2012	15:11:45	-0.006623			
CCV	1	CCV	10/22/2012	15:12:43	0.052789			
CCB	1	CCB	10/22/2012	15:13:43	-0.006623			
STD #1 0.50MG/L	1	UNK	10/22/2012	15:23:45	16475002			
STD #2 0.20MG/L	1	UNK	10/22/2012	15:24:42	7048087			
STD #3 0.10MG/L	1	UNK	10/22/2012	15:25:40	3741786			
STD #4 0.05MG/L	1	UNK	10/22/2012	15:26:38	1885056			
STD #5 0.02MG/L	1	UNK	10/22/2012	15:27:36	770778			
STD #6 0.01MG/L	1	UNK	10/22/2012	15:28:36	406362			
STD #7 0.005MG/L	1	UNK	10/22/2012	15:29:34	211114			
STD #8 0.00MG/L	1	UNK	10/22/2012	15:30:34	0			
ICV	1	ICV	10/22/2012	15:32:47	0.05297			
ICB	1	ICB	10/22/2012	15:33:46	-0.005112			
819200_8745	1	BLANK	10/22/2012	15:34:45	-0.005112	RP		
819201_8745	1	LCS	10/22/2012	15:35:43	0.212744	RP		
5070843002_8745	1	PS	10/22/2012	15:36:41	-0.000395	RP		
819202_8745	1	MS	10/22/2012	15:37:40	0.214146	RP		
819203_8745	1	MSD	10/22/2012	15:38:38	0.216056	RP		
5071055005_8745	1	PS	10/22/2012	15:39:37	-0.002471	RP		
5070928001_8745	1	PS	10/22/2012	15:40:35	-0.000983	RP		
5070931001_8745	1	PS	10/22/2012	15:41:32	-0.003034	RP		
5071047001_8745	1	PS	10/22/2012	15:42:30	0.003805	RP		
5071055006_8745	1	PS	10/22/2012	15:43:27	-0.001993	RP		
CCV	1	CCV	10/22/2012	15:44:26	0.051662			
CCB	1	CCB	10/22/2012	15:45:26	-0.005112			
5071047002_8745	1	PS	10/22/2012	15:47:37	0.000116	RP		
5071047003_8745	1	PS	10/22/2012	15:48:34	0.00146	RP		
5071047004_8745	1	PS	10/22/2012	15:49:31	0.003049	RP		
5071050002_8745	1	PS	10/22/2012	15:50:29	-0.005112	RP		
818514_8747	1	BLANK	10/22/2012	15:51:27	-0.005112	RP		
818515_8747	1	LCS	10/22/2012	15:52:25	0.210866	RP		
5070875017_8747	1	PS	10/22/2012	15:53:24	0.006836	RP		
818516_8747	1	MS	10/22/2012	15:54:22	0.233632	RP		
818517_8747	1	MSD	10/22/2012	15:55:21	0.240319	RP		
5070875020_8747	1	PS	10/22/2012	15:56:19	-0.003063	RP		
CCV	1	CCV	10/22/2012	15:57:18	0.051913			
CCB	1	CCB	10/22/2012	15:58:18	-0.005112			
5070875021_8747	1	PS	10/22/2012	16:00:30	-0.003275	RP		
5070875022_8747	1	PS	10/22/2012	16:01:28	-0.002935	RP		
5070875023_8747	1	PS	10/22/2012	16:02:25	0.012735	RP		
5070875024_8747	1	PS	10/22/2012	16:03:23	0.007984	RP		
CCV	1	CCV	10/22/2012	16:04:22	0.052187			
CCB	1	CCB	10/22/2012	16:05:22	-0.005112			

Creator: ilp
Creation Date: Oct 5, 2012 11:54:04
Last Modified: Oct 22, 2012 14:21:18
Description: cyanide

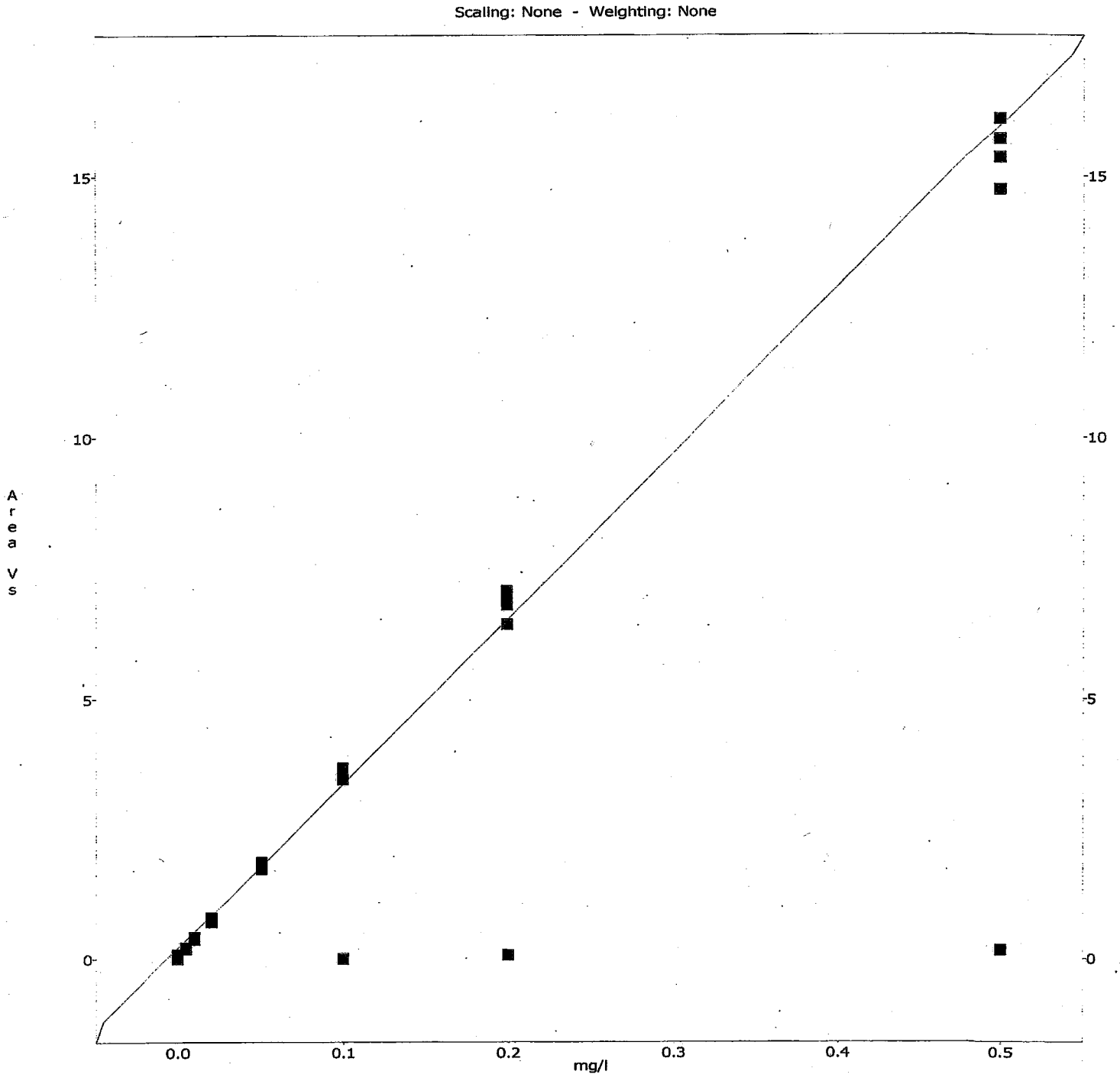
Cup #	Sample ID	Manual Dilution	Sample Type
1	std #1 0.50mg/l	1.0000	CalStd
2	std #2 0.20mg/l	1.0000	CalStd
3	std #3 0.10mg/l	1.0000	CalStd
4	std #4 0.05mg/l	1.0000	CalStd
5	std #5 0.02mg/l	1.0000	CalStd
6	std #6 0.01mg/l	1.0000	CalStd
7	std #7 0.005mg/l	1.0000	CalStd
8	std #8 0.00mg/l	1.0000	CalStd
1	818510_8741	1.0000	Unknown
2	818511_8741	1.0000	Unknown
3	5070832001_8741	1.0000	Unknown
4	5070832002_8741	1.0000	Unknown
5	5070832003_8741	1.0000	Unknown
6	5070979001_8741	1.0000	Unknown
7	5070979002_8741	1.0000	Unknown
8	5070979003_8741	1.0000	Unknown
9	5070979004_8741	1.0000	Unknown
10	5070979005_8741	1.0000	Unknown
11	818512_8741	1.0000	Unknown
12	818513_8741	1.0000	Unknown
13	5070979006_8741	1.0000	Unknown
14	5070848004_8741	1.0000	Unknown
15	5070848005_8741	1.0000	Unknown
16	5070848006_8741	1.0000	Unknown
17	819200_8745	1.0000	Unknown
18	819201_8745	1.0000	Unknown
19	5070843002_8745	1.0000	Unknown
20	819202_8745	1.0000	Unknown
21	819203_8745	1.0000	Unknown
22	5071055005_8745	1.0000	Unknown
23	5070928001_8745	1.0000	Unknown
24	5070931001_8745	1.0000	Unknown
25	5071047001_8745	1.0000	Unknown
26	5071055006_8745	1.0000	Unknown
27	5071047002_8745	1.0000	Unknown
28	5071047003_8745	1.0000	Unknown
29	5071047004_8745	1.0000	Unknown
30	5071050002_8745	1.0000	Unknown
31	818514_8747	1.0000	Unknown
32	818515_8747	1.0000	Unknown
33	5070875017_8747	1.0000	Unknown
34	818516_8747	1.0000	Unknown

Cup #	Sample ID	Manual Dilution	Sample Type	
35	818517_8747	1.0000	Unknown	
36	5070875020_8747	1.0000	Unknown	
37	5070875021_8747	1.0000	Unknown	
38	5070875022_8747	1.0000	Unknown	
39	5070875023_8747	1.0000	Unknown	
40	5070875024_8747	1.0000	Unknown	
41	819344_8748	1.0000	Unknown	
42	819345_8748	1.0000	Unknown	
43	5070657001_8748	1.0000	Unknown	
44	819346_8748	1.0000	Unknown	
45	819347_8748	1.0000	Unknown	
46	10208960001_8748	1.0000	Unknown	
47	10208960002_8748	1.0000	Unknown	
48	10208960003_8748	1.0000	Unknown	

Cyanide

Lvl	Area	mg/l	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	15716480	0.500	15716480	14744944	15359632	16099886	162614	6868380.5	55.3	1.5
2	6887213	0.200	6887213	6428122	6807565	7064624	69666	3017461.0	55.4	-6.0
3	3669619	0.100	3669619	3444567	3511539	3644647	0	1598186.5	56.0	-9.9
4	1863805	0.050	1863805	1733267	1796131	1828374	1757696	52555.0	2.9	-5.1
5	790176	0.020	790176	712835	746637	785178	730707	33793.9	4.5	7.7
6	405539	0.010	405539	371770	387229	413827	372298	19121.1	4.9	37.5
7	211126	0.005	211126	199462	203101	213094	191686	8747.1	4.3	98.4
8	0	0.000	0	0	0	0	78225	34983.3	223.6	

1st Order Poly
Conc = 3.175e-008 Area - 6.623e-003
r = 0.9990



Printed: Monday, October 22, 2012 - 03:17 PM

CYANIDE: EPA 335.4
CYANIDE BUFFER 10774 CYANIDE CARRIER 10780
CHLORAMINE T 10747 PYRIDINE 10789
CAL PREP STD 23582 ICV PREP STD 23596
CALIBRATION STD'S PREPARED PER SOP# S-IN-I-015-rev.9
BY ~~JP 10-23-12~~ DATE 10-23-12
OPERATOR: JP
ACQ. TIME: Oct 22, 2012 14:02:34
DATA FILENAME: C:\OMNION\DATA\102212CN.FDT
METHOD FILENAME:
TRAY FILENAME: C:\OMNION\TRAYS\CYANIDE.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 20

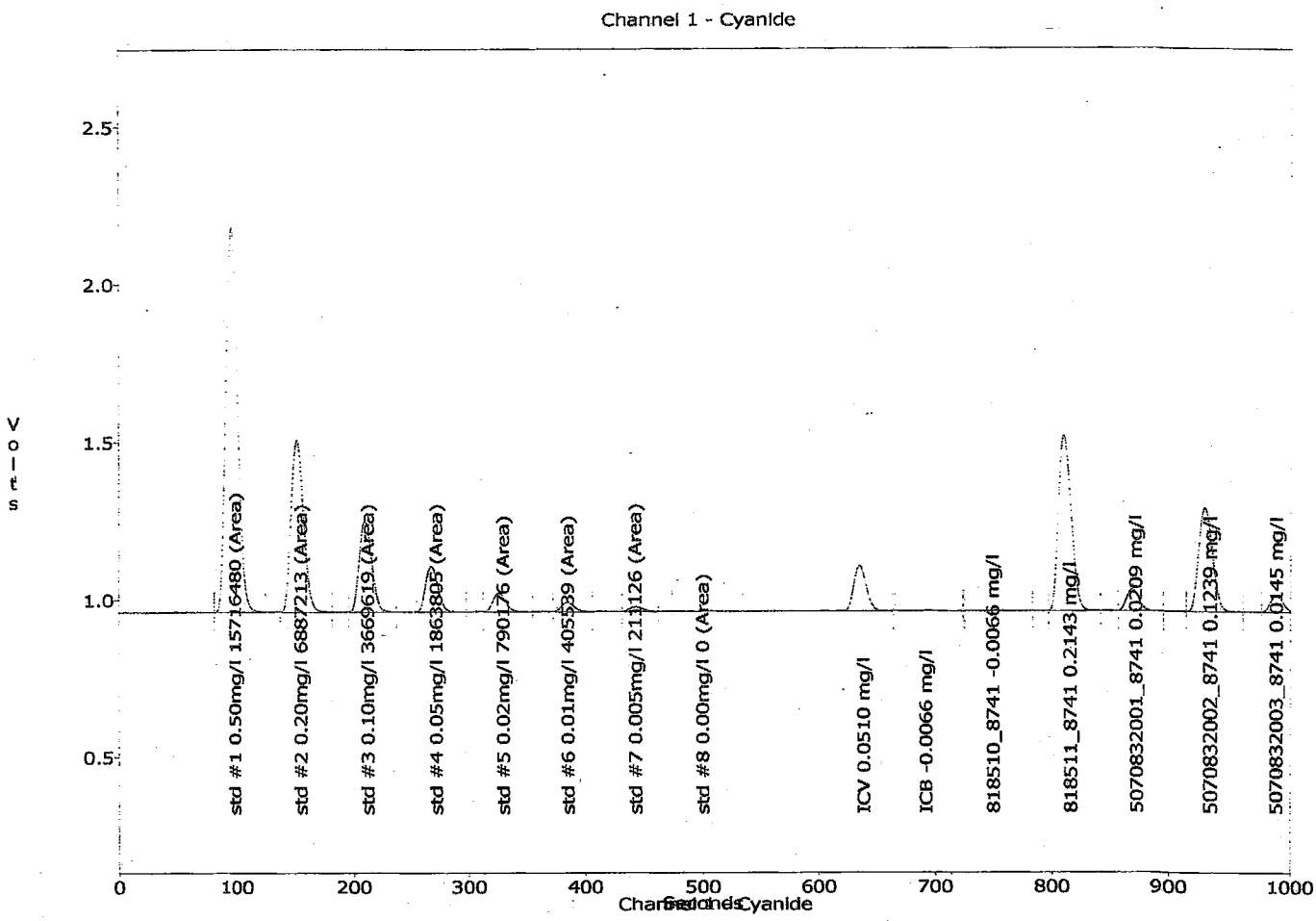
Cup	Sample ID	Sampling Date	Sampling Time	# of Reps	Cyanide (mg/l)	Man Dil Factor
1	818510_8741	22 Oct 2012	14:13:34	1	-0.0066	1.0
2	818511_8741	22 Oct 2012	14:14:33	1	0.2143	1.0
3	5070832001_8741	22 Oct 2012	14:15:31	1	0.0209	1.0
4	5070832002_8741	22 Oct 2012	14:16:29	1	0.1239	1.0
5	5070832003_8741	22 Oct 2012	14:17:28	1	0.0145	1.0
6	5070979001_8741	22 Oct 2012	14:18:26	1	-0.0066	1.0
7	5070979002_8741	22 Oct 2012	14:19:23	1	-0.0066	1.0
8	5070979003_8741	22 Oct 2012	14:20:21	1	-0.0066	1.0
9	5070979004_8741	22 Oct 2012	14:21:18	1	-0.0066	1.0
10	5070979005_8741	22 Oct 2012	14:22:15	1	-0.0066	1.0
11	818512_8741	22 Oct 2012	14:26:25	1	0.2256	1.0
12	818513_8741	22 Oct 2012	14:27:22	1	0.2219	1.0
13	5070979006_8741	22 Oct 2012	14:28:20	1	-0.0066	1.0
14	5070848004_8741	22 Oct 2012	14:29:16	1	-0.0066	1.0
15	5070848005_8741	22 Oct 2012	14:30:12	1	-0.0028	1.0
16	5070848006_8741	22 Oct 2012	14:31:11	1	-0.0066	1.0
17	819200_8745	22 Oct 2012	14:32:09	1	-0.0066	1.0
18	819201_8745	22 Oct 2012	14:33:08	1	0.2188	1.0
19	5070843002_8745	22 Oct 2012	14:34:06	1	0.0082	1.0
20	819202_8745	22 Oct 2012	14:35:04	1	0.2461	1.0

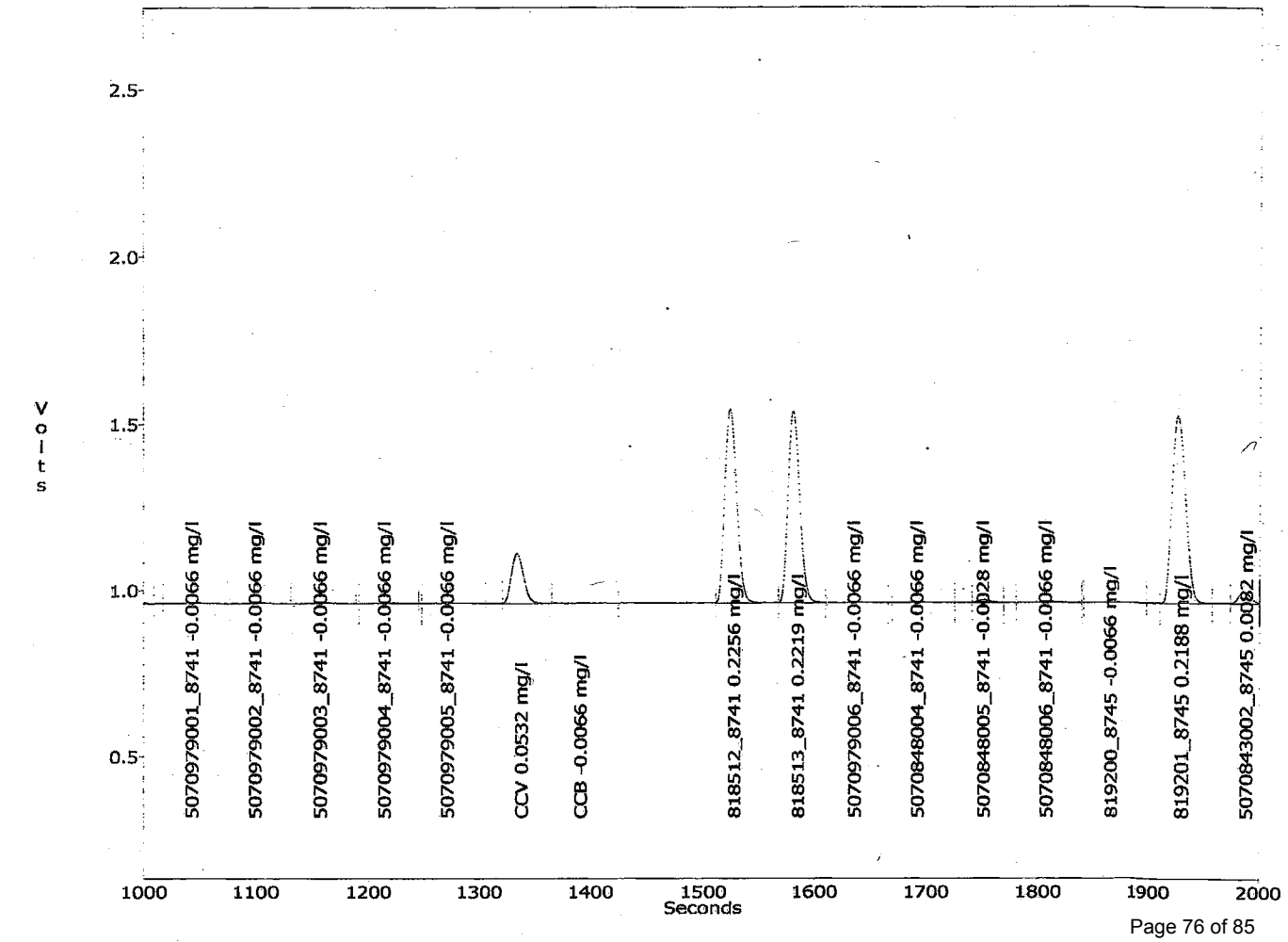
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 21 to 64

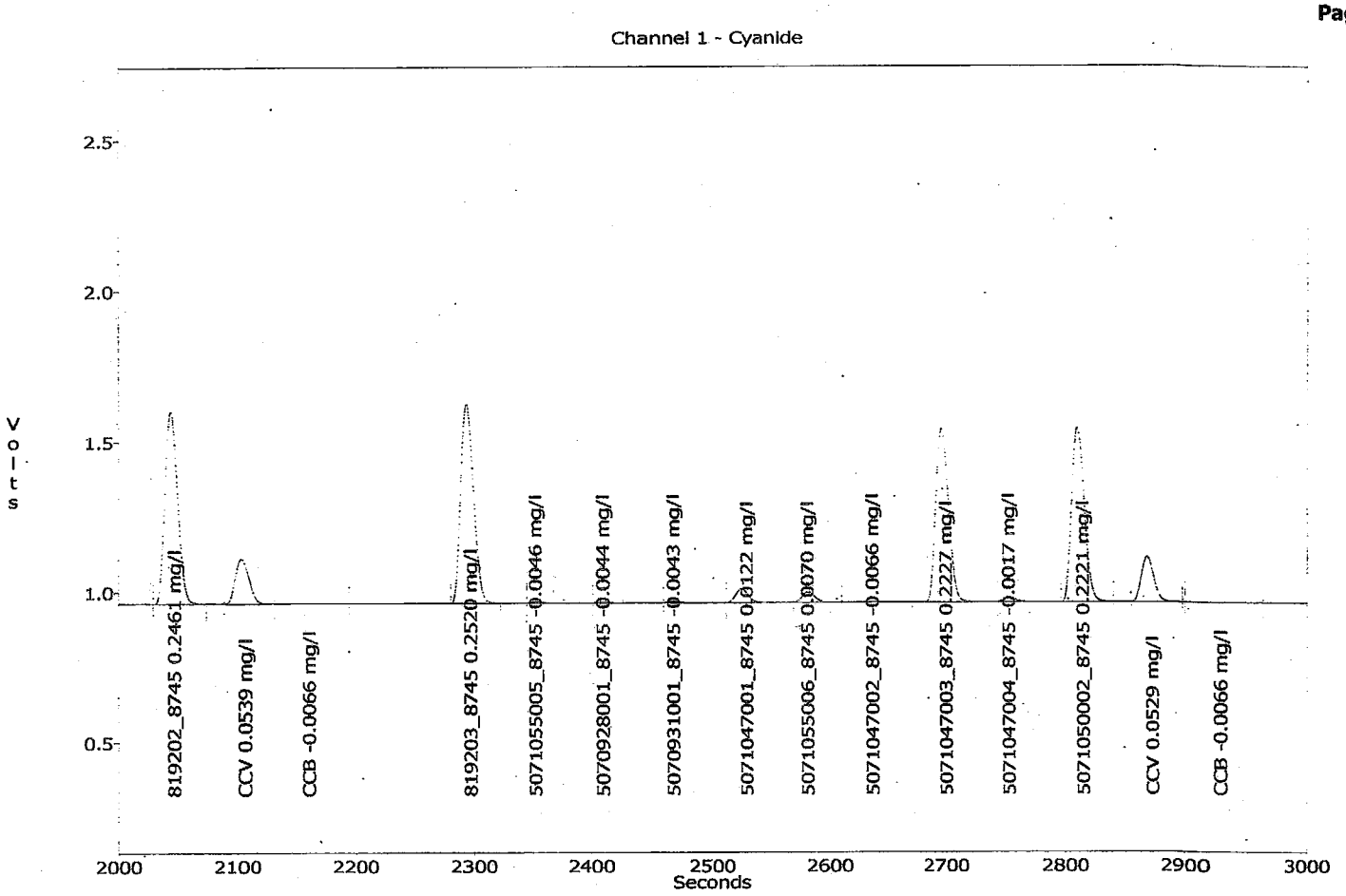
Cup	Sample ID	Sampling Date	Sampling Time	Rep #	Cyanide (mg/l)	Man Dil Factor
21	819203_8745	22 Oct 2012	14:39:15	1	0.2520	1.0
22	5071055005_8745	22 Oct 2012	14:40:13	1	-0.0046	1.0
23	5070928001_8745	22 Oct 2012	14:41:11	1	-0.0044	1.0
24	5070931001_8745	22 Oct 2012	14:42:08	1	-0.0043	1.0
25	5071047001_8745	22 Oct 2012	14:43:05	1	0.0122	1.0
26	5071055006_8745	22 Oct 2012	14:44:03	1	0.0070	1.0
27	5071047002_8745	22 Oct 2012	14:45:00	1	-0.0066	1.0
28	5071047003_8745	22 Oct 2012	14:45:57	1	0.2227	1.0
29	5071047004_8745	22 Oct 2012	14:46:55	1	-0.0017	1.0
30	5071050002_8745	22 Oct 2012	14:47:52	1	0.2221	1.0
31	818514_8747	22 Oct 2012	14:52:04	1	0.2272	1.0
32	818515_8747	22 Oct 2012	14:53:02	1	-0.0037	1.0
33	5070875017_8747	22 Oct 2012	14:54:01	1	-0.0051	1.0
34	818516_8747	22 Oct 2012	14:54:59	1	-0.0042	1.0
35	818517_8747	22 Oct 2012	14:55:58	1	0.0026	1.0
36	5070875020_8747	22 Oct 2012	14:56:56	1	-0.0036	1.0
37	5070875021_8747	22 Oct 2012	14:57:54	1	-0.0014	1.0
38	5070875022_8747	22 Oct 2012	14:58:53	1	0.0003	1.0
39	5070875023_8747	22 Oct 2012	14:59:50	1	0.0017	1.0
40	5070875024_8747	22 Oct 2012	15:00:47	1	-0.0066	1.0
41	819344_8748	22 Oct 2012	15:04:58	1	-0.0066	1.0
42	819345_8748	22 Oct 2012	15:05:55	1	0.2148	1.0
43	5070657001_8748	22 Oct 2012	15:06:53	1	-0.0066	1.0
44	819346_8748	22 Oct 2012	15:07:50	1	0.2254	1.0
45	819347_8748	22 Oct 2012	15:08:47	1	0.2263	1.0
46	10208960001_8748	22 Oct 2012	15:09:47	1	-0.0066	1.0
47	10208960002_8748	22 Oct 2012	15:10:46	1	-0.0066	1.0
48	10208960003_8748	22 Oct 2012	15:11:45	1	-0.0066	1.0

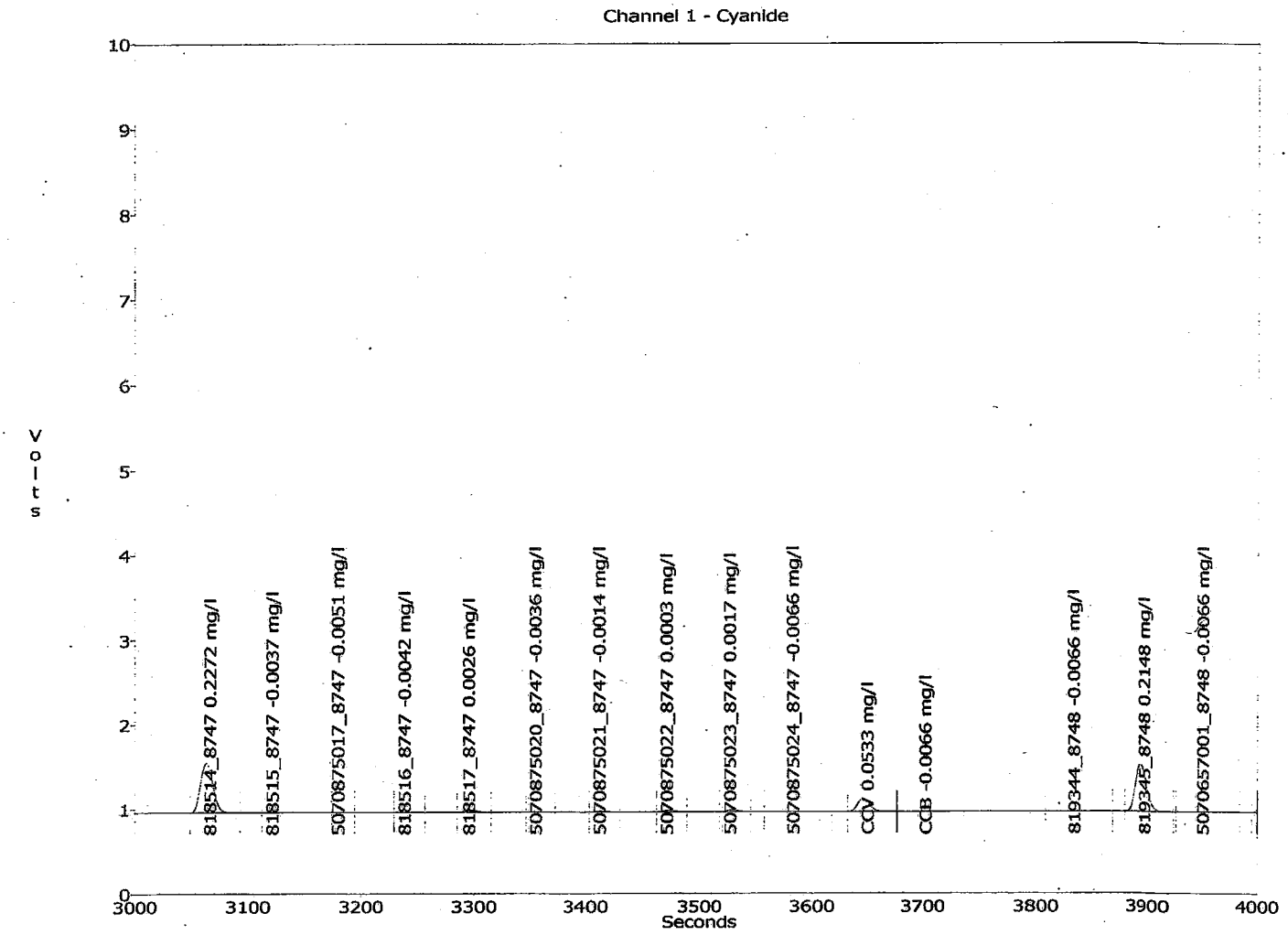
Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

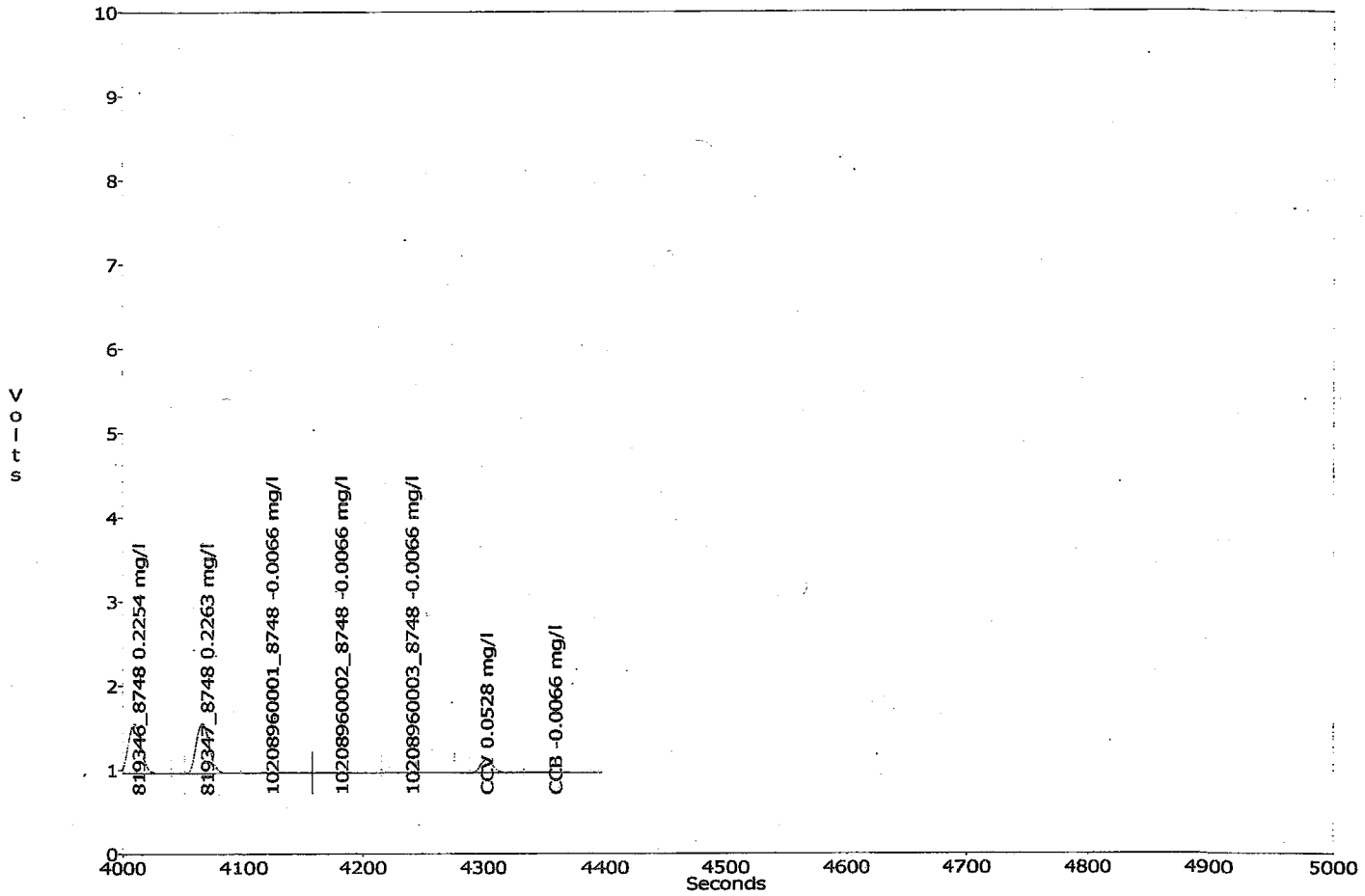
Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	Cyanide (mg/l)	Man Dil Factor
14	CCV	RelChkStd	22 Oct 2012	14:23:15	1	0.0532	1.0
				Known Concentration:		0.0500	
				% Difference:		6.3701	
14	CCV	RelChkStd	22 Oct 2012	14:36:04	1	0.0539	1.0
				Known Concentration:		0.0500	
				% Difference:		7.7177	
14	CCV	RelChkStd	22 Oct 2012	14:48:51	1	0.0529	1.0
				Known Concentration:		0.0500	
				% Difference:		5.8995	
14	CCV	RelChkStd	22 Oct 2012	15:01:46	1	0.0533	1.0
				Known Concentration:		0.0500	
				% Difference:		6.5213	
14	CCV	RelChkStd	22 Oct 2012	15:12:43	1	0.0528	1.0
				Known Concentration:		0.0500	
				% Difference:		5.5382	
15	ICB	AbsChkStd	22 Oct 2012	14:12:36	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
15	CCB	AbsChkStd	22 Oct 2012	14:24:15	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
15	CCB	AbsChkStd	22 Oct 2012	14:37:04	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
15	CCB	AbsChkStd	22 Oct 2012	14:49:51	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
15	CCB	AbsChkStd	22 Oct 2012	15:02:46	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
15	CCB	AbsChkStd	22 Oct 2012	15:13:43	1	-0.0066	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0066	
16	ICV	RelChkStd	22 Oct 2012	14:11:36	1	0.0510	1.0
				Known Concentration:		0.0500	
				% Difference:		2.0458	

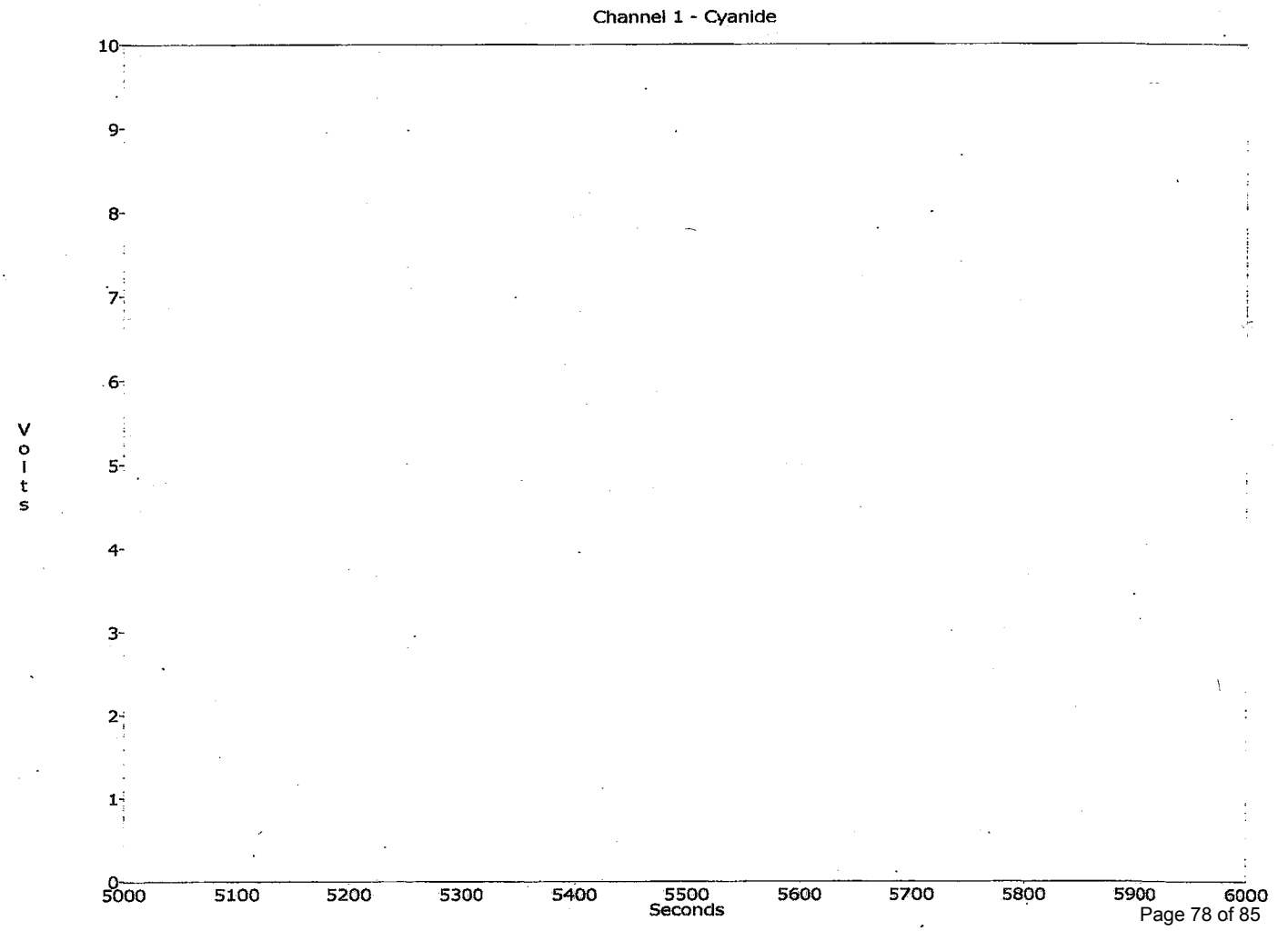

Channel 1 - Cyanide
Volts
2.5
2.0
1.5
1.0
0.5
0
100
200
300
400
500
600
700
800
900
1000
Seconds
std #1 0.50mg/l 1571 6480 (Area)
std #2 0.20mg/l 6887213 (Area)
std #3 0.10mg/l 3669619 (Area)
std #4 0.05mg/l 1863805 (Area)
std #5 0.02mg/l 790176 (Area)
std #6 0.01mg/l 405539 (Area)
std #7 0.005mg/l 211126 (Area)
std #8 0.00mg/l 0 (Area)
ICV 0.0510 mg/l
ICB -0.0066 mg/l
818510_8741 -0.0066 mg/l
818511_8741 0.2143 mg/l
5070832001_8741 0.0209 mg/l
5070832002_8741 0.1239 mg/l
5070832003_8741 0.0145 mg/l


Volts
2.5
2.0
1.5
1.0
0.5
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Seconds
5070979001_8741 -0.0066 mg/l
5070979002_8741 -0.0066 mg/l
5070979003_8741 -0.0066 mg/l
5070979004_8741 -0.0066 mg/l
5070979005_8741 -0.0066 mg/l
CCV 0.0532 mg/l
CCB -0.0066 mg/l
818512_8741 0.2256 mg/l
818513_8741 0.2219 mg/l
5070979006_8741 -0.0066 mg/l
5070848004_8741 -0.0066 mg/l
5070848005_8741 -0.0028 mg/l
5070848006_8741 -0.0066 mg/l
819200_8745 -0.0066 mg/l
819201_8745 0.2188 mg/l
5070843002_8745 0.0082 mg/l


Channel 1 - Cyanide
Volts
Seconds
819202_8745 0.2461 mg/l
CCV 0.0539 mg/l
CCB -0.0066 mg/l
819203_8745 0.2520 mg/l
5071055005_8745 -0.0046 mg/l
5070928001_8745 -0.0044 mg/l
5070931001_8745 -0.0043 mg/l
5071047001_8745 0.8122 mg/l
5071055006_8745 0.0070 mg/l
5071047002_8745 -0.0066 mg/l
5071047003_8745 0.2227 mg/l
5071047004_8745 -0.0017 mg/l
5071050002_8745 0.2221 mg/l
CCV 0.0529 mg/l
CCB -0.0066 mg/l


Channel 1 - Cyanide
Volts
Seconds
818514_8747 0.2272 mg/l
818515_8747 -0.0037 mg/l
5070875017_8747 -0.0051 mg/l
818516_8747 -0.0042 mg/l
818517_8747 0.0026 mg/l
5070875020_8747 -0.0036 mg/l
5070875021_8747 -0.0014 mg/l
5070875022_8747 0.0003 mg/l
5070875023_8747 0.0017 mg/l
5070875024_8747 -0.0066 mg/l
CCV 0.0533 mg/l
CCB -0.0066 mg/l
819344_8748 -0.0066 mg/l
819345_8748 0.2148 mg/l
5070657001_8748 -0.0066 mg/l


Channel 1 - Cyanide
Volts
Seconds
819346_8748 0.2254 mg/l
819347_8748 0.2263 mg/l
10208960001_8748 -0.0066 mg/l
10208960002_8748 -0.0066 mg/l
10208960003_8748 -0.0066 mg/l
CCV 0.0528 mg/l
CCB -0.0066 mg/l


Channel 1 - Cyanide
Volts
Seconds

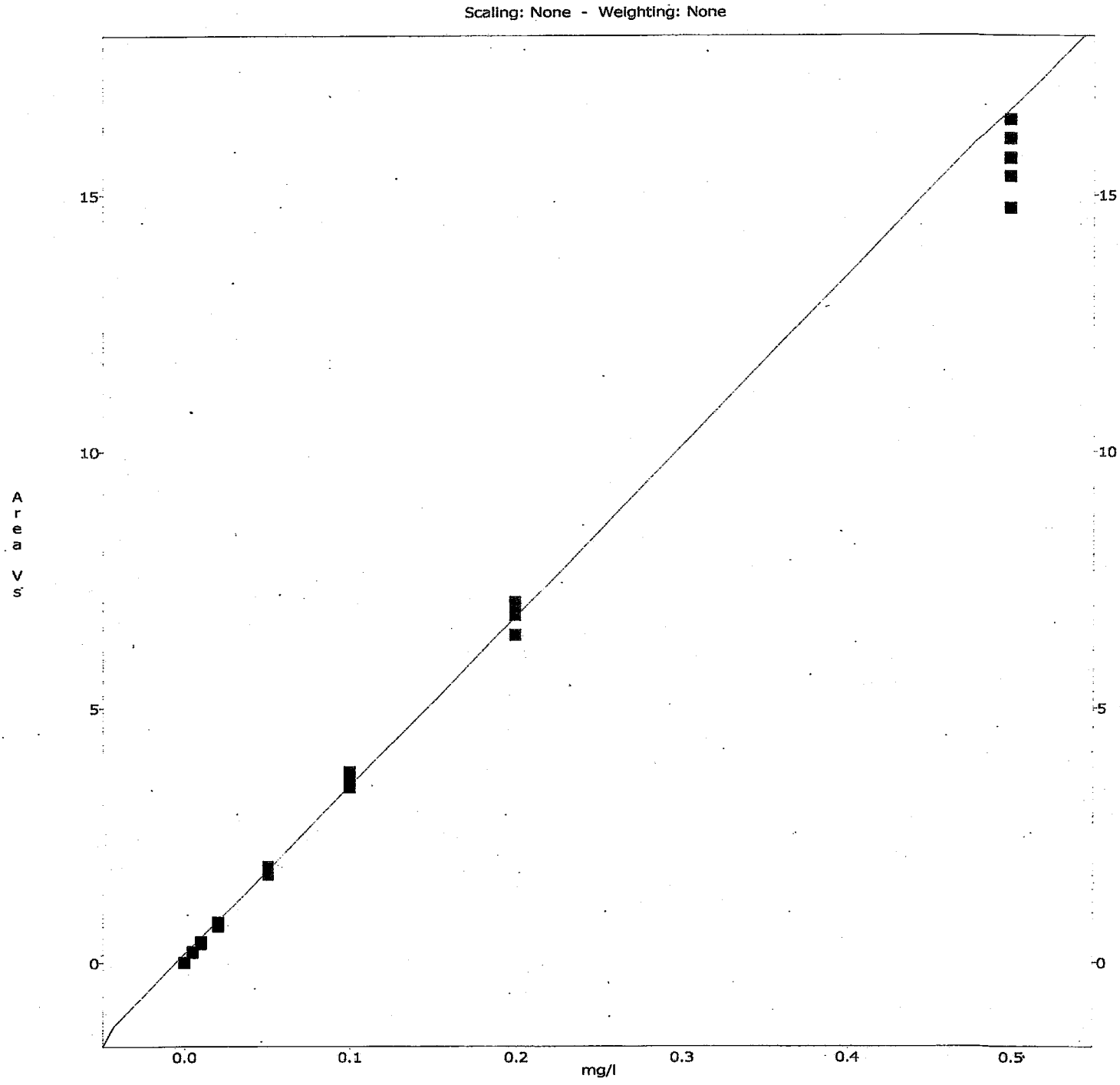
Creator: ilp
Creation Date: Oct 5, 2012 11:54:04
Last Modified: Oct 22, 2012 15:19:05
Description: cyanide

Cup #	Sample ID	Manual Dilution	Sample Type	
1	std #1 0.50mg/l	1.0000	CalStd	
2	std #2 0.20mg/l	1.0000	CalStd	
3	std #3 0.10mg/l	1.0000	CalStd	
4	std #4 0.05mg/l	1.0000	CalStd	
5	std #5 0.02mg/l	1.0000	CalStd	
6	std #6 0.01mg/l	1.0000	CalStd	
7	std #7 0.005mg/l	1.0000	CalStd	
8	std #8 0.00mg/l	1.0000	CalStd	
17	819200_8745	1.0000	Unknown	
18	819201_8745	1.0000	Unknown	
19	5070843002_8745	1.0000	Unknown	
20	819202_8745	1.0000	Unknown	
21	819203_8745	1.0000	Unknown	
22	5071055005_8745	1.0000	Unknown	
23	5070928001_8745	1.0000	Unknown	
24	5070931001_8745	1.0000	Unknown	
25	5071047001_8745	1.0000	Unknown	
26	5071055006_8745	1.0000	Unknown	
27	5071047002_8745	1.0000	Unknown	
28	5071047003_8745	1.0000	Unknown	
29	5071047004_8745	1.0000	Unknown	
30	5071050002_8745	1.0000	Unknown	
31	818514_8747	1.0000	Unknown	
32	818515_8747	1.0000	Unknown	
33	5070875017_8747	1.0000	Unknown	
34	818516_8747	1.0000	Unknown	
35	818517_8747	1.0000	Unknown	
36	5070875020_8747	1.0000	Unknown	
37	5070875021_8747	1.0000	Unknown	
38	5070875022_8747	1.0000	Unknown	
39	5070875023_8747	1.0000	Unknown	
40	5070875024_8747	1.0000	Unknown	

Cyanide

Lvl	Area	mg/l	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	16475002	0.500	16475002	15716480	14744944	15359632	16099888	668323.8	4.3	1.1
2	7048087	0.200	7048087	6887213	6428122	6807565	7064624	258082.9	3.8	-4.3
3	3741786	0.100	3741786	3669619	3444567	3511539	3644647	121345.2	3.4	-8.3
4	1885056	0.050	1885056	1863805	1733267	1796131	1828374	59801.4	3.3	-4.1
5	770778	0.020	770778	790176	712835	746637	785178	31849.3	4.2	8.7
6	406362	0.010	406362	405539	371770	387229	413827	17144.4	4.3	27.9
7	211114	0.005	211114	211126	199462	203101	213094	5946.2	2.9	74.2
8	0	0.000	0	0	0	0	0	0.0	0.0	

1st Order Poly
Conc = 3.032e-008 Area - 5.112e-003
r = 0.9994



Printed: Monday, October 22, 2012 - 04:07 PM

CYANIDE: EPA 335.4

CYANIDE BUFFER 10774 **CYANIDE CARRIER** 10780
CHLORAMINE T 10767 **PYRIDINE** 10789
CAL PREP STD 23582 **ICV PREP STD** 23596
CALIBRATION STD'S PREPARED PER SOP# S-IN-I-015-rev.9
BY: ilp **DATE** 10-23-12

OPERATOR: ilp
ACQ. TIME: Oct 22, 2012 15:23:44
DATA FILENAME: C:\OMNION\DATA\102212CI.FDT
METHOD FILENAME:
TRAY FILENAME: C:\OMNION\TRAYS\CYANIDE.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 20

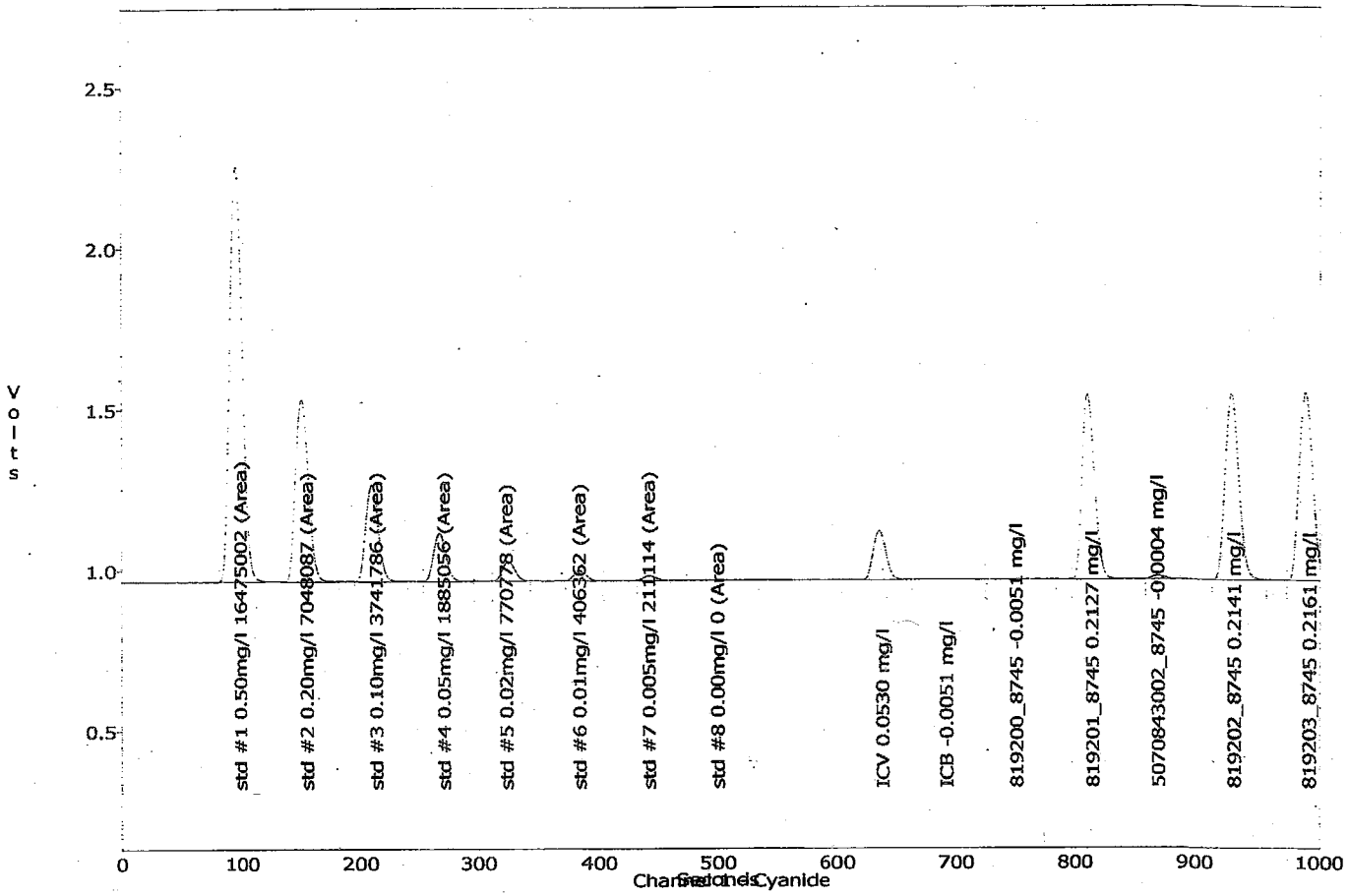
Cup	Sample ID	Sampling Date	Sampling Time	# of Reps	Cyanide (mg/l)	Man Dil Factor
17	819200_8745	22 Oct 2012	15:34:45	1	-0.0051	1.0
18	819201_8745	22 Oct 2012	15:35:43	1	0.2127	1.0
19	5070843002_8745	22 Oct 2012	15:36:41	1	-0.0004	1.0
20	819202_8745	22 Oct 2012	15:37:40	1	0.2141	1.0

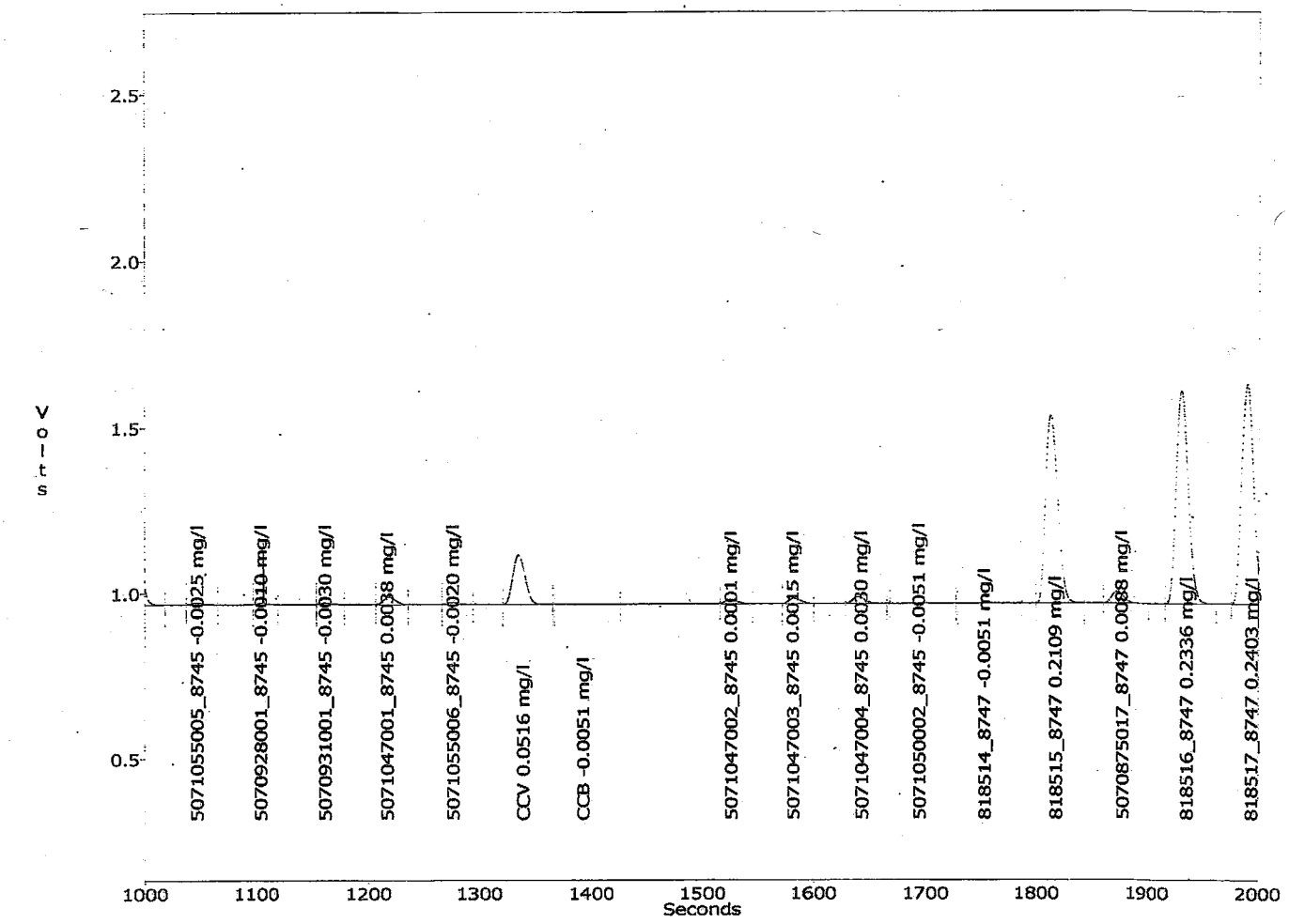
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 21 to 64

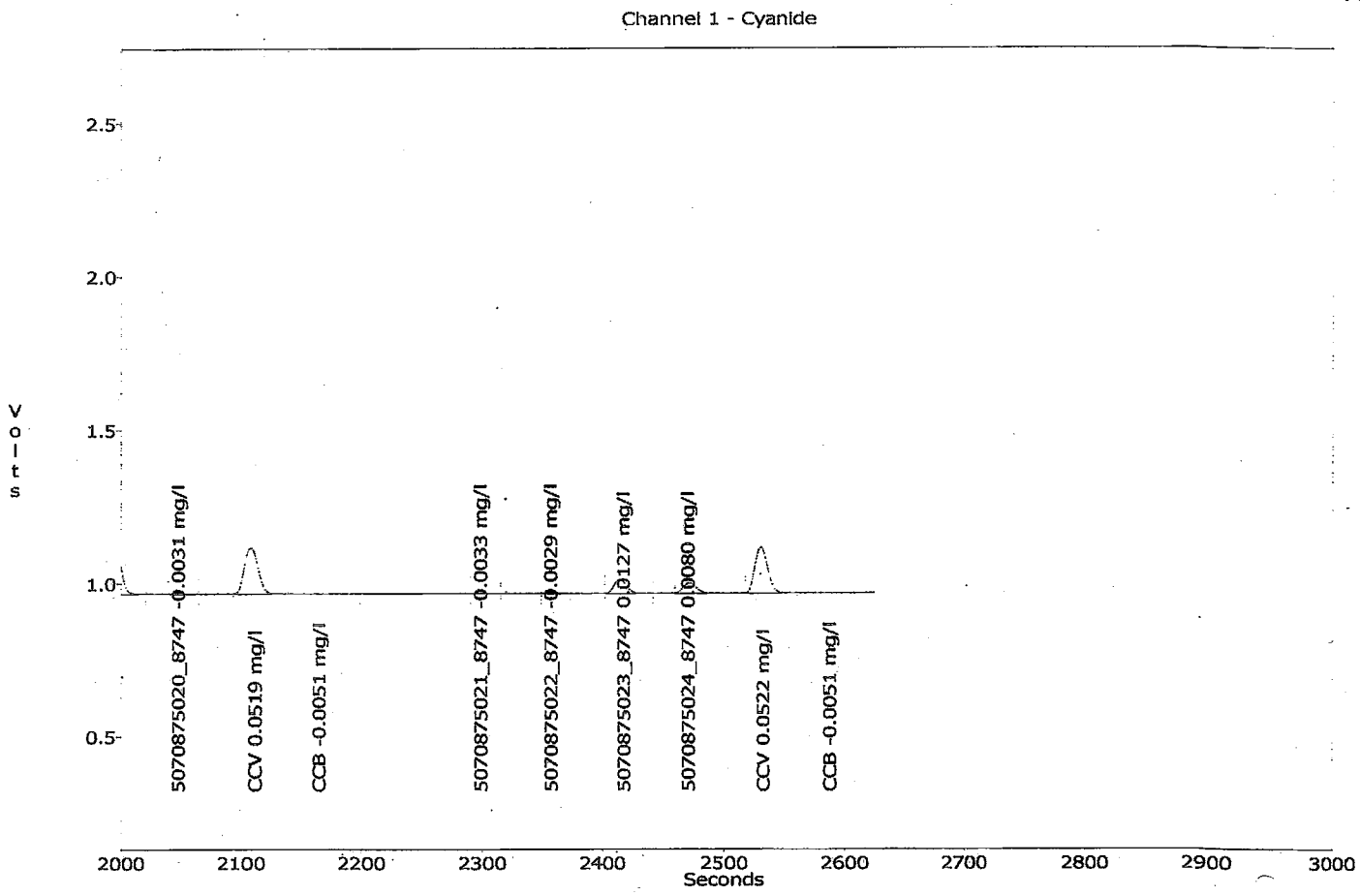
Cup	Sample ID	Sampling Date	Sampling Time	Rep #	Cyanide (mg/l)	Man Dil Factor
21	819203_8745	22 Oct 2012	15:38:38	1	0.2161	1.0
22	5071055005_8745	22 Oct 2012	15:39:37	1	-0.0025	1.0
23	5070928001_8745	22 Oct 2012	15:40:35	1	-0.0010	1.0
24	5070931001_8745	22 Oct 2012	15:41:32	1	-0.0030	1.0
25	5071047001_8745	22 Oct 2012	15:42:30	1	0.0038	1.0
26	5071055006_8745	22 Oct 2012	15:43:27	1	-0.0020	1.0
27	5071047002_8745	22 Oct 2012	15:47:37	1	0.0001	1.0
28	5071047003_8745	22 Oct 2012	15:48:34	1	0.0015	1.0
29	5071047004_8745	22 Oct 2012	15:49:31	1	0.0030	1.0
30	5071050002_8745	22 Oct 2012	15:50:29	1	-0.0051	1.0
31	818514_8747	22 Oct 2012	15:51:27	1	-0.0051	1.0
32	818515_8747	22 Oct 2012	15:52:25	1	0.2109	1.0
33	5070875017_8747	22 Oct 2012	15:53:24	1	0.0088	1.0
34	818516_8747	22 Oct 2012	15:54:22	1	0.2336	1.0
35	818517_8747	22 Oct 2012	15:55:21	1	0.2403	1.0
36	5070875020_8747	22 Oct 2012	15:56:19	1	-0.0031	1.0
37	5070875021_8747	22 Oct 2012	16:00:30	1	-0.0033	1.0
38	5070875022_8747	22 Oct 2012	16:01:28	1	-0.0029	1.0
39	5070875023_8747	22 Oct 2012	16:02:25	1	0.0127	1.0
40	5070875024_8747	22 Oct 2012	16:03:23	1	0.0080	1.0

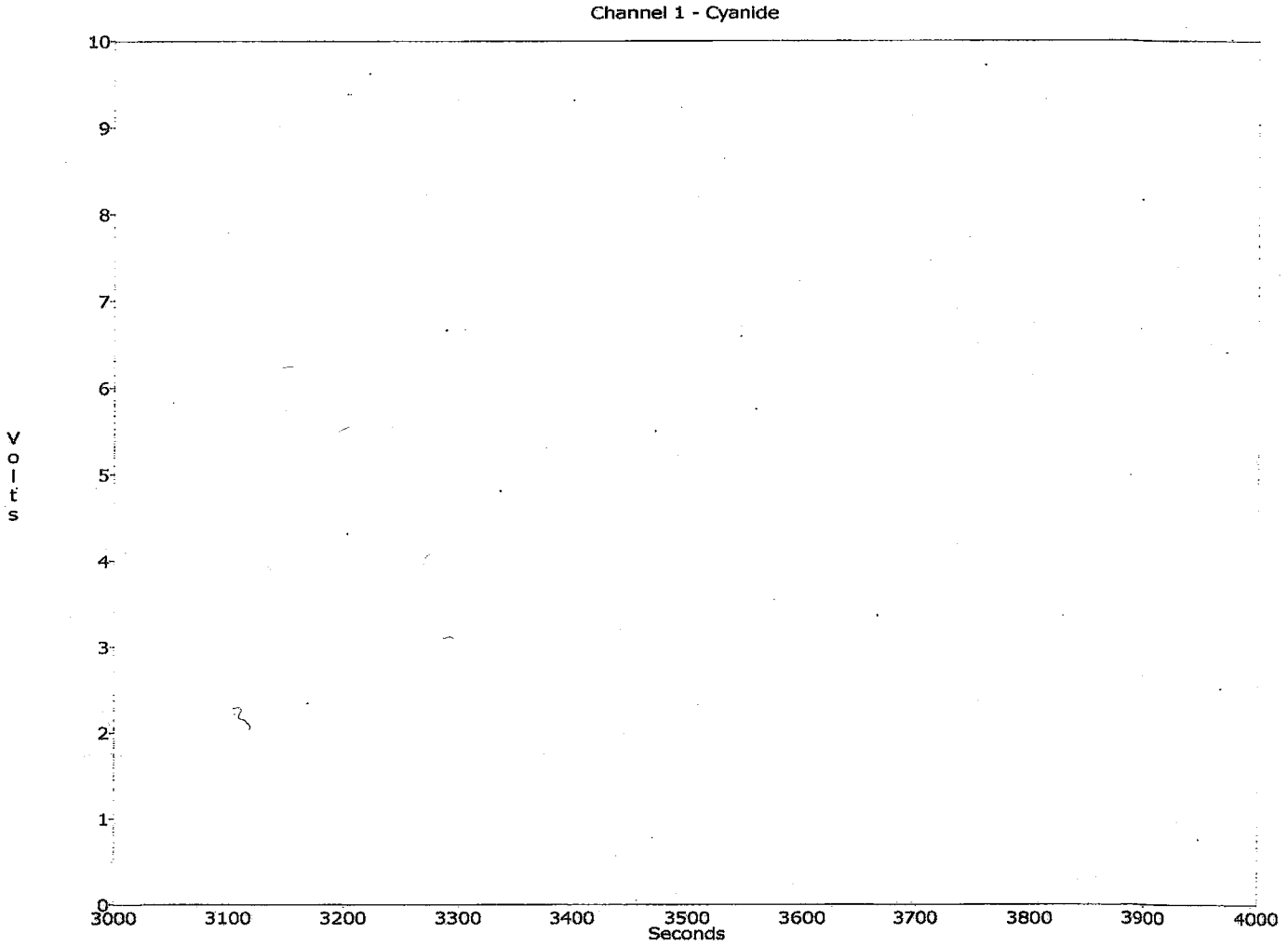
Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	Cyanide (mg/l)	Man Dil Factor
14	CCV	RelChkStd	22 Oct 2012	15:44:26	1	0.0516	1.0
				Known Concentration:		0.0500	
				% Difference:		3.1246	
14	CCV	RelChkStd	22 Oct 2012	15:57:18	1	0.0519	1.0
				Known Concentration:		0.0500	
				% Difference:		3.8263	
14	CCV	RelChkStd	22 Oct 2012	16:04:22	1	0.0522	1.0
				Known Concentration:		0.0500	
				% Difference:		4.3743	
15	ICB	AbsChkStd	22 Oct 2012	15:33:46	1	-0.0051	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0051	
15	CCB	AbsChkStd	22 Oct 2012	15:45:26	1	-0.0051	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0051	
15	CCB	AbsChkStd	22 Oct 2012	15:58:18	1	-0.0051	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0051	
15	CCB	AbsChkStd	22 Oct 2012	16:05:22	1	-0.0051	1.0
				Known Concentration:		0.0000	
				Difference:		-0.0051	
16	ICV	RelChkStd	22 Oct 2012	15:32:47	1	0.0530	1.0
				Known Concentration:		0.0500	
				% Difference:		5.9400	


Channel 1 - Cyanide
Volts
2.5
2.0
1.5
1.0
0.5
std #1 0.50mg/l 1647502 (Area)
std #2 0.20mg/l 704887 (Area)
std #3 0.10mg/l 374786 (Area)
std #4 0.05mg/l 188556 (Area)
std #5 0.02mg/l 77078 (Area)
std #6 0.01mg/l 40662 (Area)
std #7 0.005mg/l 21114 (Area)
std #8 0.00mg/l 0 (Area)
ICV 0.0530 mg/l
ICB -0.0051 mg/l
819200_8745 -0.0051 mg/l
819201_8745 0.2127 mg/l
5070843002_8745 -0.0004 mg/l
819202_8745 0.2141 mg/l
819203_8745 0.2161 mg/l
0
100
200
300
400
500
600
700
800
900
1000
Channel 1 - Cyanide


Volts
2.5
2.0
1.5
1.0
0.5
5071055005_8745 -0.0025 mg/l
5070928001_8745 -0.0010 mg/l
5070931001_8745 -0.0030 mg/l
5071047001_8745 0.0038 mg/l
5071055006_8745 -0.0020 mg/l
CCV 0.0516 mg/l
CCB -0.0051 mg/l
5071047002_8745 0.0001 mg/l
5071047003_8745 0.0015 mg/l
5071047004_8745 0.0030 mg/l
5071050002_8745 -0.0051 mg/l
818514_8747 -0.0051 mg/l
818515_8747 0.2109 mg/l
5070875017_8747 0.0088 mg/l
818516_8747 0.2336 mg/l
818517_8747 0.2403 mg/l
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Seconds


Channel 1 - Cyanide
Volts
2.5
2.0
1.5
1.0
0.5
5070875020_8747 -0.0031 mg/l
CCV 0.0519 mg/l
CCB -0.0051 mg/l
5070875021_8747 -0.0033 mg/l
5070875022_8747 -0.0029 mg/l
5070875023_8747 0.0127 mg/l
5070875024_8747 0.0080 mg/l
CCV 0.0522 mg/l
CCB -0.0051 mg/l
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
Seconds


Channel 1 - Cyanide
Volts
10
9
8
7
6
5
4
3
2
1
0
3000
3100
3200
3300
3400
3500
3600
3700
3800
3900
4000
Seconds

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Rolls Royce Corporation –

Data Review

INDIANAPOLIS, INDIANA

Dissolved Metals and Miscellaneous Analyses

SDG #5070979

Analyses Performed By:
Pace Analytical Services, Inc.
Indianapolis, Indiana

Report #17964R
Review Level: Tier III
Project: IN000848.0002.00004

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #5070979 for samples collected in association with the Rolls Royce Corporation site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis		
						VOC	MET	MISC
5070979	EB-1(101712)-SJ	5070979002	Water	10/17/2012			X	X
	FD-1(101712)-SJ	5070979006	Water	10/17/2012	MW-201B_101712		X	X
	MW-201B_101712	5070979001	Water	10/17/2012			X	X
	MW-202B_101712	5070979003	Water	10/17/2012			X	X
	MW-203B_101712	5070979004	Water	10/17/2012			X	X
	MW-206B_101712	5070979005	Water	10/17/2012			X	X

Notes:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location MW-206B_101712.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 6010/7470 and 9012. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

    U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

    B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

    E The reported value is estimated due to the presence of interference.

    N Spiked sample recovery is not within control limits.

    * Duplicate analysis is not within control limits.

- Validation Qualifiers

    J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

    UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

    UB Analyte considered non-detect at the listed value due to associated blank contamination.

    R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B	Water	180 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to 4°C±2°C.
SW-846 7470	Water	28 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The

CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe), magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table (if applicable).

All CRDL standard recoveries were within control limits.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.1 MS Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis exhibited recoveries within the control limits.

4.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

5. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-201B_101712/ FD-1(101712)-SJ	Selenium (dissolved)	10.0 U	11.2	AC

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

7. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

The serial dilution analysis was not performed on a sample location within this SDG.

8. Method of Standard Additions (MSA)

No samples were analyzed following the method of standard additions.

9. General Assessment – Total vs. Dissolved

The calculated %D between the total and the dissolved sample results were within the control limit.

10. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METAL

METALS; SW-846 6000/7000	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP) Atomic Absorption – Manual Cold Vapor (CV)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X		X	
B. Method Blanks		X		X	
C. Equipment/Field Blanks					X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R					X
Matrix Spike Duplicate (MSD) %R					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (RPD)					X
ICP Serial Dilution					X
Reporting Limit Verification		X		X	
Raw Data		X		X	
Tier III Validation					
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
CRDL Standard		X		X	
ICP Interference Check		X		X	
Transcription/calculation errors present		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%R Percent recovery
RPD Relative percent difference

GENERAL CHEMISTRY ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Cyanide by SW-846 9012	Water	14 days from collection to analysis	Cool to 4°C±2°C; preserved to a pH of greater than 12.
	Soil		Cool to 4°C±2°C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 and all initial calibration verification standard recoveries were within control limits.

All calibration standard recoveries were within the control limit.

4. Matrix Spike (MS)/Laboratory Duplicate Analysis

MS and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

4.3 MS Analysis

All analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS performed on sample locations where the analyte's

concentration detected in the parent sample exceeds the MS concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis exhibited recoveries within the control limits.

4.4 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices and two times the CRDL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 50% for water matrices and 100% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-201B_101712/ FD-1(101712)-SJ	Cyanide	0.020 U	0.020 U	AC

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR GENERAL CHEMISTRY

General Chemistry: SW-846 9012	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Dilution Factor		X		X	
Moisture Content		X		X	
Tier III Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data					
Transcription/calculation errors present		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

VALIDATION PERFORMED BY: Todd Church

SIGNATURE: 

DATE: December 3, 2012

PEER REVIEW: Dennis Capria

DATE: December 4, 2012

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1469558

Section A Required Client Information:

Company: ARCADIS
Address: 132 E. Washington Ste. 600
INDPLS, IN 46204
Email To: Heather.Gastineau-Lyons
Phone: 3172316500 Fax: 3172316514
Requested Due Date/TAT: STD

Section B Required Project Information:

Report To: Heather G-L
Copy To:
Purchase Order No.: IN000297.2012
Project Name: Surface Impoundment
Project Number: IN000297.2012

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Donna Sparker
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: IN

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: Cyanide (Total)	Metals (Dissolved)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-201B	WG	G			10.17.12	13:45		2			X		X				X	X		001
2	EB-1(101712)-SJ	WG	G			10.17.12	12:31		2			X		X				X	X		002
3	MW-202B	WG	G			10.17.12	16:30		2			X		X				X	X		003
4	MW-203B	WG	G			10.17.12	16:35		2			X		X				X	X		004
5	MW-206B	WG	G			10.17.12	17:50		6			X		X				X	X		MS/MSD 005
6	FD-1(101712)-SJ	WG	G			10.17.12	—		2			X		X				X	X		006
7																					
8																					
9																					
10																					
11																					
12																					

5070979

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Level IV Reporting	Sarah Jonker/ARCADIS	10.18.12	0822	Kandy Ek / Pace	10/18/12	0822	0.1	Y	N	Y
Res. Metals = As, Ba, Cd, Cr, Pb, Hg, Ag, Se										
**Refer to included TABLE #										

WI / Client

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sarah Jonker

SIGNATURE of SAMPLER: Sarah Jonker

DATE Signed (MM/DD/YY): 10/18/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical Services, Inc.
1233 Dublin Road
Columbus, OH 43215
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)875-5894

ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-201B **Lab ID: 5070979001** Collected: 10/17/12 13:45 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:45	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:45	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:45	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:45	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:49	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:18	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: EB-1(101712)-SJ **Lab ID: 5070979002** Collected: 10/17/12 12:31 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:47	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:47	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:47	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:47	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:51	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:19	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-202B **Lab ID: 5070979003** Collected: 10/17/12 15:30 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:50	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:50	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:50	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:50	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:53	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:20	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-203B **Lab ID: 5070979004** Collected: 10/17/12 16:35 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:52	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:52	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:52	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:52	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 10:59	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:21	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: MW-206B **Lab ID: 5070979005** Collected: 10/17/12 17:50 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 09:54	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 09:54	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 09:54	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 09:54	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 11:01	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:22	57-12-5	

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ANALYTICAL RESULTS

Project: Surface Impoundment
Pace Project No.: 5070979

Sample: FD-1(101712)-SJ **Lab ID: 5070979006** Collected: 10/17/12 08:00 Received: 10/18/12 08:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/23/12 09:15	10/23/12 10:01	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/23/12 09:15	10/23/12 10:01	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7439-92-1	
Selenium, Dissolved	**11.2**	ug/L	10.0	1	10/23/12 09:15	10/23/12 10:01	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/23/12 09:15	10/23/12 10:01	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND	ug/L	2.0	1	10/24/12 11:50	10/25/12 11:07	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND	mg/L	0.020	1		10/22/12 14:28	57-12-5	

Attachment 3 – STATISTICAL EVALUATION OF BACKGROUND GROUNDWATER QUALITY
Closed Hazardous Waste Surface Impoundment
RACER Trust
Indianapolis, Indiana

This statistical evaluation was conducted in accordance with Appendix H, Section 4.3 of the Permit in order to evaluate background groundwater quality for the Closed Hazardous Waste Surface Impoundment, Revitalizing Auto Communities Environmental Response (RACER) Trust- owned, in Indianapolis, Indiana. The following sections detail the statistical evaluation.

Exploratory Data Analysis

Exploratory data analysis (EDA) techniques were employed to ensure that observations that comprise each dataset (i.e., background and compliance wells) are representative of single populations and to determine if constituents exhibit temporal trends. Statistical evaluations were limited for most indicator parameters by the high percentage of non-detects (NDs) in the data; these limitations are noted in the following sections discussing the EDA techniques and associated results.

Data Processing

Annual groundwater monitoring is ongoing for three downgradient compliance monitoring wells (MW-201B, MW-202B and MW-203B) and one upgradient monitoring well (MW-206B). Analytical results from each well for nine indicator parameters (dissolved metals [arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium] and total cyanide) are tabulated in **Table 1**. The most recent sixteen (16) valid observations from each well are considered for this evaluation, as specified in the Permit.

Samples taken prior to November 2006 include four (4) replicates for each well/analyte/event. In these cases, the following processing rules were used to generate a single composite result:

1. Where all replicates are ND, the maximum reporting limit is used.
2. Where replicates include one detect and multiple NDs, the detect is used.
3. Where replicates include one ND and multiple detects, the Kaplan-Meier mean is used.
4. Where replicates include all detects, the arithmetic mean is used.

Table 2 provides a summary of processed results for the upgradient background well, MW-206B.

Reporting limits for several samples from MW-206B were re-evaluated and updated by Pace Analytical Services, Inc. (letter dated April 28, 2006). These values are indicated with an asterisk (*) in **Table 1** and **Table 2**.

Probability Plots and Goodness-of-Fit Testing

Probability plots are graphics used to inspect for goodness-of-fit (GOF) to probability distributions and the presence of multiple populations and/or potential outliers. As described in Appendix H, Section 4.3.1.2 of the Permit, a probability plot (formatted as a quantile-quantile [Q-Q] plot) was generated for barium in monitoring well MW-206B (**Figure 1**). Datasets for the remaining indicator parameters did not contain sufficient detects to allow for GOF evaluations with statistical tests or probability plots. As shown in

Figure 1, barium likely follows a normal distribution and no potential outliers are present. Statistical GOF testing confirms that barium concentrations are normally distributed, based on the Shapiro-Wilk test at an alpha level of 0.05. ProUCL Version 4.1.00 statistical software from USEPA was used to test the data sets for compatibility with the normal distributions. Consistent with USEPA guidance (2010), the Shapiro Wilk test was applied for n≤50 at a 95 percent confidence level (α = 0.05). For left-censored data sets (i.e., frequency of detection less than 100 percent), GOF testing was performed on detects only (for data sets with at least five detects). These GOF results were used to select the appropriate method for calculating background screening levels (BSLs).

Box Plots

Box plots provide a side-by-side graphical comparison of analytical results for the three downgradient compliance monitoring wells (MW-201B, MW-202B and MW-203B) and one upgradient monitoring well (MW-206B). Box plots were prepared for each indicator parameter in accordance with Appendix H, Section 4.3.1.3 of the Permit and are presented in **Figures 2-1** through **2-9**. The high percentage of NDs is notable for each parameter. Cyanide, lead, mercury, and silver were not detected in any monitoring well. With the exception of cadmium, the remaining indicator parameters were detected at higher concentrations in the background monitoring well MW-206B than the three downgradient compliance monitoring wells.

Trend Analysis

Trend analysis is used to reveal patterns in the data, such as periodic fluctuations (seasonality) or consistent increasing or decreasing trends. A trend analysis was conducted in accordance with Appendix H, Section 4.3.1.4 of the Permit for both compliance and background monitoring wells. Two tests were used to evaluate increasing or decreasing trends at an alpha level of 0.05: Mann-Kendall Test and Sen's Slope Estimator. Both of these tests require a minimum of four detects. The results are presented in **Figure 3**. The minimum number of detects was sufficient to conduct a trend analysis only for barium in MW-206B. Between 1 and 3 detects were observed at MW-206B for arsenic, chromium, and selenium. Results were all ND for cadmium, cyanide, lead, mercury, and silver.

Both the Mann-Kendall and Sen's Slope tests indicate the lack of a discernable temporal trend for the full dataset (November 2004 to October 2012). The p-value for the Mann-Kendall test is 0.28 (i.e., greater than 0.05) and the median slope estimate is essentially 0 mg/L per day. Although there is no statistical evidence of an increasing or decreasing trend for the full dataset, it should be noted that six (6) of the seven (7) detected observations occurred in spring (the spring sampling events). This result suggests there is likely seasonal variability in barium concentrations in monitoring well MW-206B due to fluctuations in the groundwater elevation. However, there are insufficient detects from fall sampling events to conduct a statistical test for seasonality. A trend analysis performed on only the spring results suggests that barium concentrations have not exhibited a positive trend (Mann-Kendall p=0.50) with concentrations decreasing at a rate of 1.4×10^{-6} mg/L per day or approximately 0.49 µg/L per year since 2004. The slope estimate indicates a relatively small decrease, and the 95% upper confidence limit for the median slope equal to 7.8 µg/L per year (**Figure 3b**); despite these observations, no conclusive increasing or decreasing trend is shown for the spring only results.

Statistical Analysis of Background Data

Analytical data from compliance monitoring wells were compared to background groundwater quality. Concentrations of indicator parameters (dissolved metals [arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium] and cyanide) in upgradient monitoring well MW-206B were used to

establish background groundwater quality. There are two conventional approaches for conducting comparisons of compliance data to background data: 1) establish BSLs for point-by-point comparisons (determining if one or more observations from a compliance well exceeds the BSL); and 2) apply hypothesis tests to determine if the overall distributions are the same. This statistical analysis of background was conducted in accordance with Appendix H, Section 4.3.2 of the Permit as summarized below.

Calculation of Background Screening Levels

BSLs were calculated for each indicator parameter in accordance with Appendix H, Section 4.3.2.3 of the Permit. Analytical results from upgradient background well MW-206B were used in this calculation. The desired statistic to represent the BSL is a non-parametric one-sided 95 percent confidence interval for the 99th percentile (95/99 upper tolerance limit [UTL]). The high frequency of NDs precluded calculation of the 95/99 UTL for most datasets. In these cases the BSL was based conservatively on the maximum detected concentration or the maximum reporting limit. The final BSL values are presented in **Table 3**.

Barium was the only dataset containing sufficient detects to calculate a BSL. In accordance with the BSL selection criteria, because this dataset followed a normal distribution and was mildly skewed (σ[ln detects] = 0.13), the non-parametric Kaplan-Meier 95/99 UTL was used to represent the BSL. Arsenic, chromium, and selenium were detected in at least one but fewer than five groundwater samples from MW-206B. The BSL for these parameters was based on the maximum detected concentration. Cadmium, cyanide, lead, mercury, and silver were not detected in any groundwater samples from MW-206B and as such a plausible upper bound concentration could not be established. For these metals, the maximum reporting limit was used to represent the BSL.

The final BSLs were compared to each discrete observation from the three compliance wells from the October 2012 sampling event. As presented in **Table 3**, none of the indicator parameters were detected during the October 2012 sampling event within the parent samples. One field duplicate sample was taken at monitoring well MW-201B during the October 2012 sampling event. The duplicate sample indicated a detection of 0.0112 mg/L for selenium. This duplicate result is slightly below the maximum concentration of selenium (0.0114 mg/L) detected in the background well MW-206B. For each parameter, the reporting limits for these NDs were lower than the corresponding BSLs.

Hypothesis Testing

Hypothesis testing was not warranted because the point-by-point comparisons did not identify any exceedances of BSLs for the compliance wells. Furthermore, hypothesis testing is not possible on this dataset due to an insufficient number of detects.

References

USEPA. 2010. ProUCL Version 4.1.00 Technical Guide (Draft). Office of Research and Development, Washington, DC. May. EPA/600/R-07/041.

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-201B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-201B (051607)	05/16/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-201B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-201B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (10202010)	10/20/10	0.0063	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (053111)	05/31/11	<0.0100	0.011 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-201B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-201B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020
	MW-201B (101712) FD	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	0.0112	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	0.0103	<0.0100	<0.0100
	MW-202B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-202B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-202B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0359	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-202B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-202B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (112309)	11/23/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (112309)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (10202010)	10/20/10	<0.0050	0.110	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (053111)	05/31/11	<0.0100	0.035 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-202B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-202B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/09/05	<0.0100	<0.0500	0.00132	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/09/05	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (A)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (B)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (C)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (D)	11/10/05	<0.0100	<0.100	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-203B (A)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (B)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (C)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-203B (D)	05/17/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.05	<0.0200
	MW-203B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (051607)	05/16/07	<0.0100	<0.100	<0.00500	0.0147	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (111507)	11/15/07	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (051408)	05/14/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-203B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-203B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (10202010)	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (10202010) FD	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (053111)	05/31/11	<0.0100	0.030 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-203B (053111) FD	05/31/11	<0.0100	0.032 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0500	<0.010
	MW-203B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-203B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Concentrations are in mg/L

TABLE 1

GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (A)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	11/11/04	<0.0100	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	05/09/05	<0.0100	0.0989	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/09/05	<0.0100	0.0942	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/09/05	<0.0100	0.0967	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/09/05	0.0162	<0.0500	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (A)	11/10/05	<0.0100	0.0839	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (B)	11/10/05	<0.0100	0.0802	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (C)	11/10/05	<0.0100	0.0804	<0.00500	<0.0100	<0.00500	<0.00020	0.0114	<0.0100	<0.0100
	MW-206B (D)	11/10/05	<0.0100	0.0793	<0.00500	<0.0100	<0.00500	<0.00020	<0.0100	<0.0100	<0.0100
	MW-206B (A)	05/17/06	<0.0100	0.1	<0.00500	0.0266	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (B)	05/17/06	<0.0100	0.0986	<0.00500	0.055	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (C)	05/17/06	<0.0100	0.0966	<0.00500	0.0176	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (D)	05/17/06	<0.0100	<0.100	<0.00500	0.014	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (110806)	11/08/06	<0.0100	<0.100	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0200
	MW-206B (051607)	05/16/07	<0.0100	0.112	<0.00500	0.0111	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (111507)	11/15/07	<0.0100	<0.100	<0.00500	0.076	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (051408)	05/14/08	<0.0100	0.114	<0.00500	<0.0100	<0.0100	<0.00200	<0.0100	<0.0500	<0.0100
	MW-206B (110608)	11/06/08	<0.0100	<0.100	<0.00500	<0.0100	<0.0050	<0.00200	<0.0100	<0.0500	<0.0050
	MW-206B (051409)	05/14/09	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (112309)	11/23/09	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B(060410)	06/04/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (10202010)	10/20/10	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (053111)	05/31/11	<0.0100	0.090 J	<0.0020	<0.0050	<0.0030	<0.00020	<0.0050	<0.0050	<0.010
	MW-206B (102011)	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (102011) FD	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	MW-206B (101712)	10/17/12	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020

Notes: * Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)
Table includes results for most recent 16 valid sample observations.

Concentrations are in mg/L

TABLE 2

UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	11/11/2004	<0.0100	<0.0500	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	5/9/2005	0.0162	0.096	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	11/10/2005	<0.0100	0.081	<0.0050	<0.0100	<0.0050	<0.0002	0.0114	<0.0100	<0.0100
	5/17/2006	<0.0100	0.0982	<0.0050	0.0283	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	11/8/2006	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0200
	5/16/2007	<0.0100	0.112	<0.0050	0.0111	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/15/2007	<0.0100	<0.100	<0.0050	0.076	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	5/14/2008	<0.0100	0.114	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.0100
	11/6/2008	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.0050
	5/14/2009	<0.0100	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	11/23/2009	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	6/4/2010	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	10/20/2010	<0.0050	<0.100	<0.0050	<0.0100	<0.0050	<0.0020	<0.0100	<0.0500	<0.010
	5/31/2011	<0.0100	0.090 J	<0.0020	<0.0050	<0.0030	<0.0002	<0.0050	<0.0050	<0.010
	10/20/2011	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010
	10/17/2012	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.020
Estimated Quantitation Limit		**0.0100**	**0.100**	**0.0050**	**0.0100**	**0.0100**	**0.0020**	**0.0100**	**0.0500**	**0.0200**

Notes: * Re-evaluation of Reporting limits provided by Pace Analytical Services, Inc. (letter dated April 28, 2006)

Concentrations are in mg/L

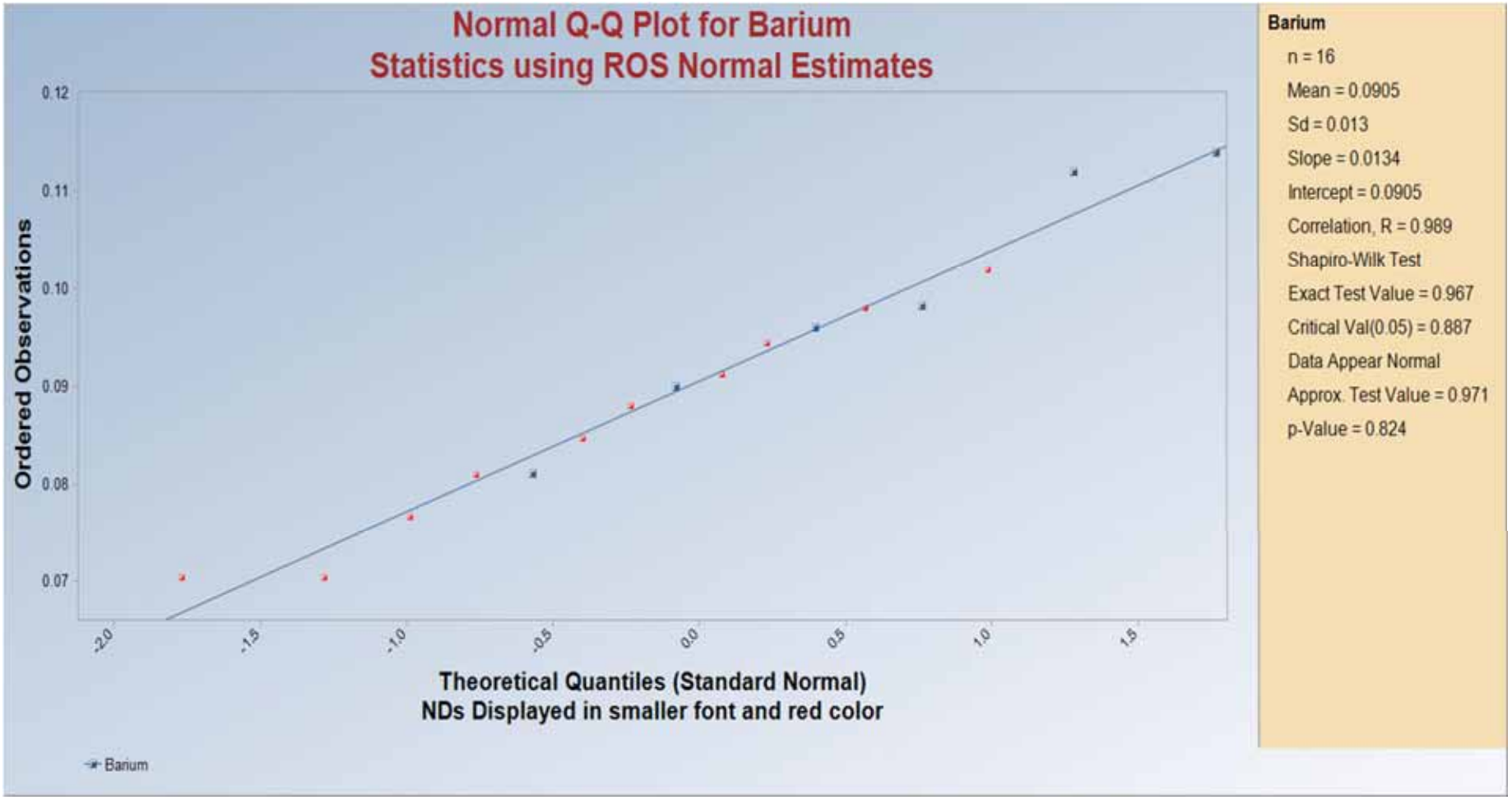
TABLE 3

BACKGROUND SCREENING LEVELS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
RACER Trust
INDIANAPOLIS, INDIANA
INR000021436

Analyte	Background Wells (MW-206B)					Compliance Wells (MW-201B, -202B, -203B)			
	Detects / N	Maximum (mg/L)	95/99 UTL (mg/L)	Method	BSL (mg/L) [1]	Maximum (mg/L)	Well	2012 Sampling Dates	> BSL ?
Arsenic	1 / 16	0.0162	NA	NA	0.02	< 0.01	All 3 wells	10/17/12	No
Barium	6 / 16	0.114	0.128	Kaplan-Meier [2]	0.13	< 0.1	All 3 wells	10/17/12	No
Cadmium	0 / 16	< 0.005	NA	NA	0.005	< 0.005	All 3 wells	10/17/12	No
Chromium	3 / 16	0.076	NA	NA	0.08	< 0.01	All 3 wells	10/17/12	No
Lead	0 / 16	< 0.01	NA	NA	0.01	< 0.01	All 3 wells	10/17/12	No
Mercury	0 / 16	< 0.002	NA	NA	0.002	< 0.002	All 3 wells	10/17/12	No
Selenium	1 / 16	0.0114	NA	NA	0.01	< 0.01 [3]	All 3 wells	10/17/12	No
Silver	0 / 16	< 0.05	NA	NA	0.05	< 0.05	All 3 wells	10/17/12	No
Cyanide	0 / 16	< 0.02	NA	NA	0.02	< 0.02	All 3 wells	10/17/12	No

Abbreviations:
< = nondetect, value equal to estimated quantitation limit (EQL)
95/99 UTL = upper tolerance limit based on upper 95 percent confidence interval for 99th percentile
BSL = background screening level
N = sample size

Notes:
[1] If detects = 0, the maximum reporting limit of nondetects is used as the BSL. If detects < 5, BSL = maximum detect. If detects ≥ 5, BSL= 95/99 UTL. BSL calculated with the most recent 16 samples only.
[2] Data are left censored with n=16 and detects = 6, normally distributed with mild skew (standard deviation of log of detects ≤ 1), which supports use of Kaplan-Meier 95/99 UTL instead of a Poisson UTL.

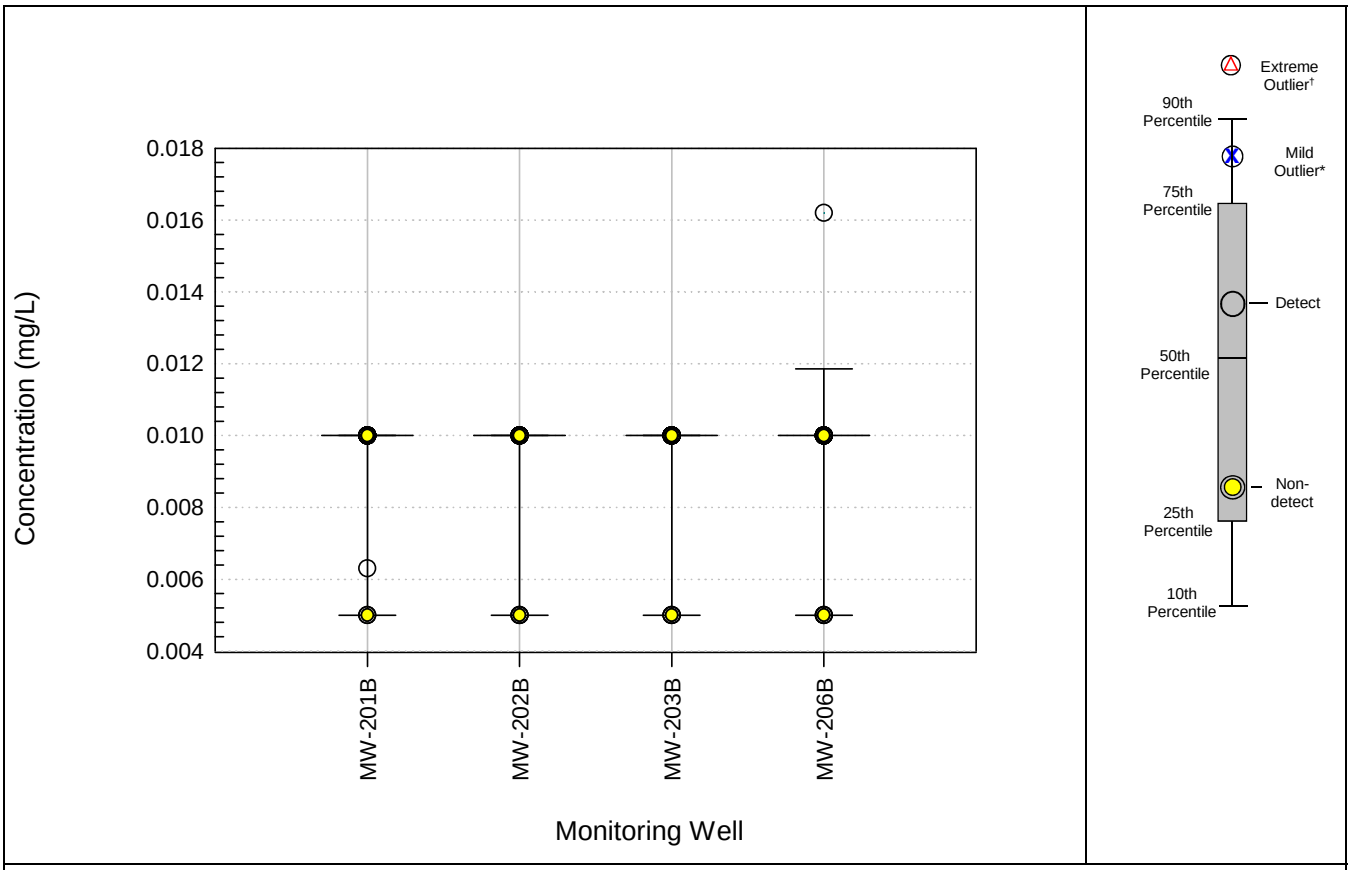


ARCADIS

Normal Q-Q Plot – Barium in Monitoring Well 206B

Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 1



ARCADIS

Box and Whisker Plot
Arsenic
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-1

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	15	1	16	0.0050	0.010	0.0063	0.0063	0.0063	0.0063	NA	0.010	0.010	0.010
MW-202B	0	16	0	16	0.0050	0.010	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-203B	0	16	0	16	0.0050	0.010	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-206B	0	15	1	16	0.0050	0.010	0.016	0.016	0.016	0.016	NA	0.010	0.010	0.010

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

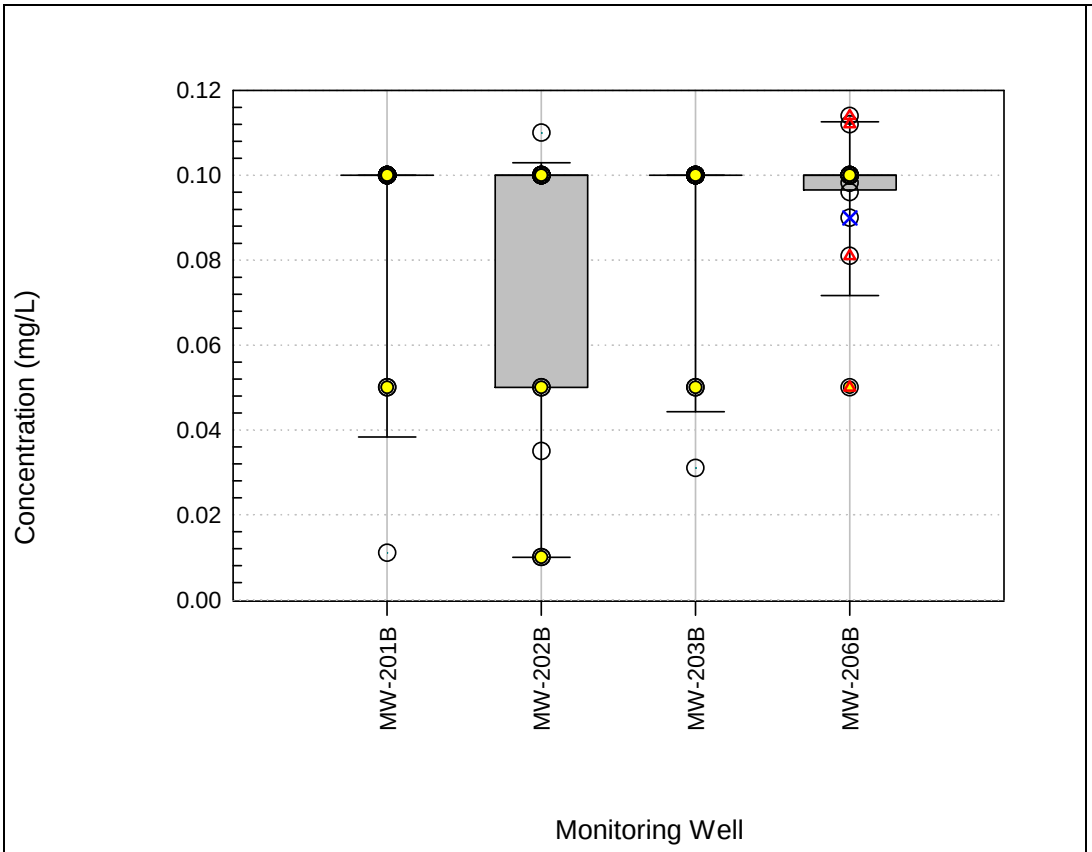
NA = value not applicable due to frequency of detection

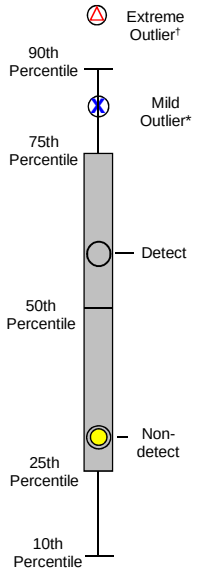
ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.





ARCADIS

Box and Whisker Plot
Barium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-2

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	15	1	16	0.050	0.10	0.011	0.011	0.011	0.011	NA	0.10	0.10	0.10
MW-202B	0	14	2	16	0.010	0.10	0.035	0.11	0.073	0.072	0.053	0.050	0.10	0.10
MW-203B	0	15	1	16	0.050	0.10	0.031	0.031	0.031	0.031	NA	0.10	0.10	0.10
MW-206B	0	10	6	16	0.050	0.10	0.081	0.11	0.099	0.097	0.013	0.097	0.10	0.10

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

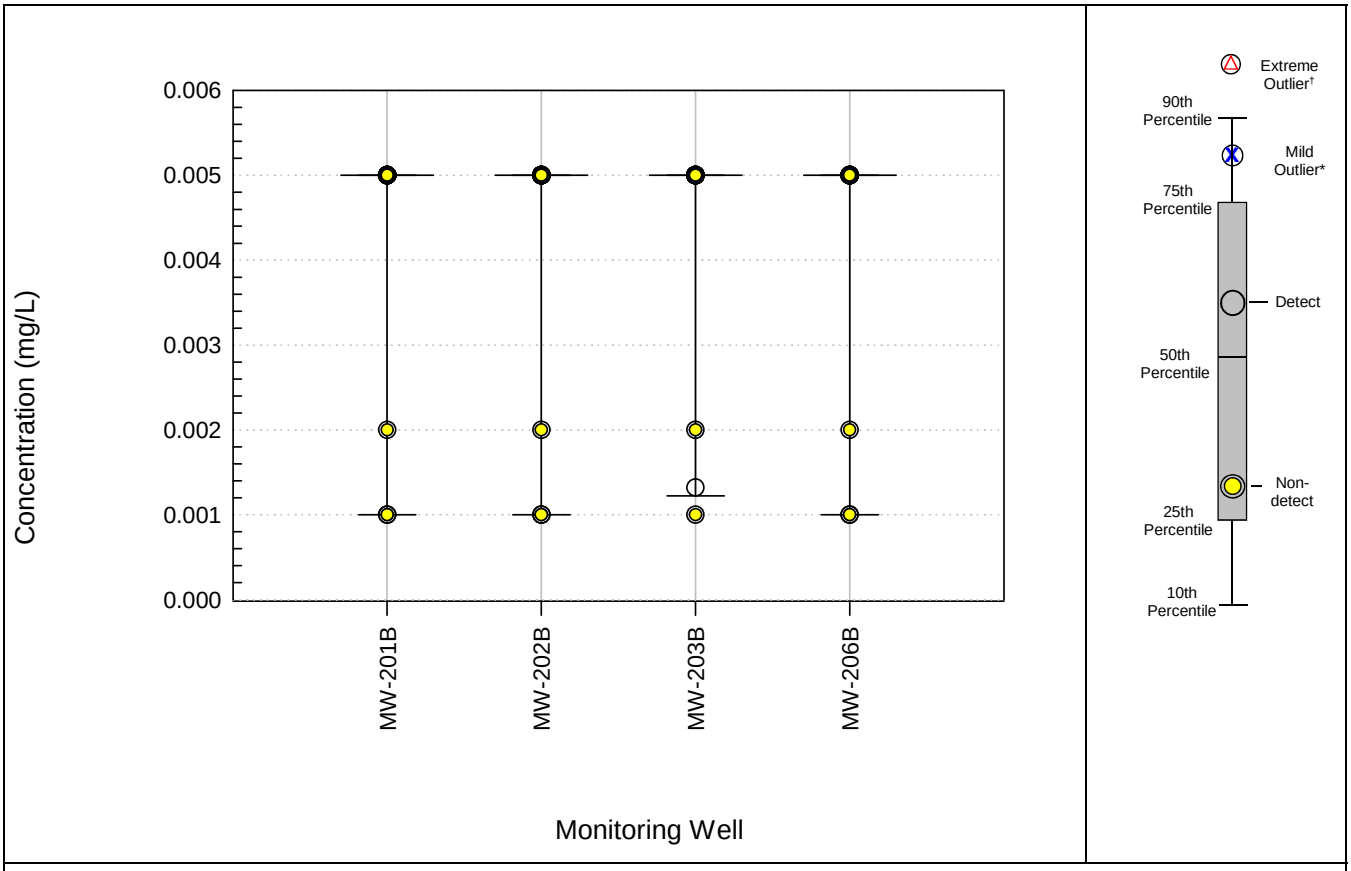
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Cadmium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-3

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0010	0.0050	ND	ND	ND	ND	ND	0.0050	0.0050	0.0050
MW-202B	0	16	0	16	0.0010	0.0050	ND	ND	ND	ND	ND	0.0050	0.0050	0.0050
MW-203B	0	15	1	16	0.0010	0.0050	0.0013	0.0013	0.0013	0.0013	NA	0.0050	0.0050	0.0050
MW-206B	0	16	0	16	0.0010	0.0050	ND	ND	ND	ND	ND	0.0050	0.0050	0.0050

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

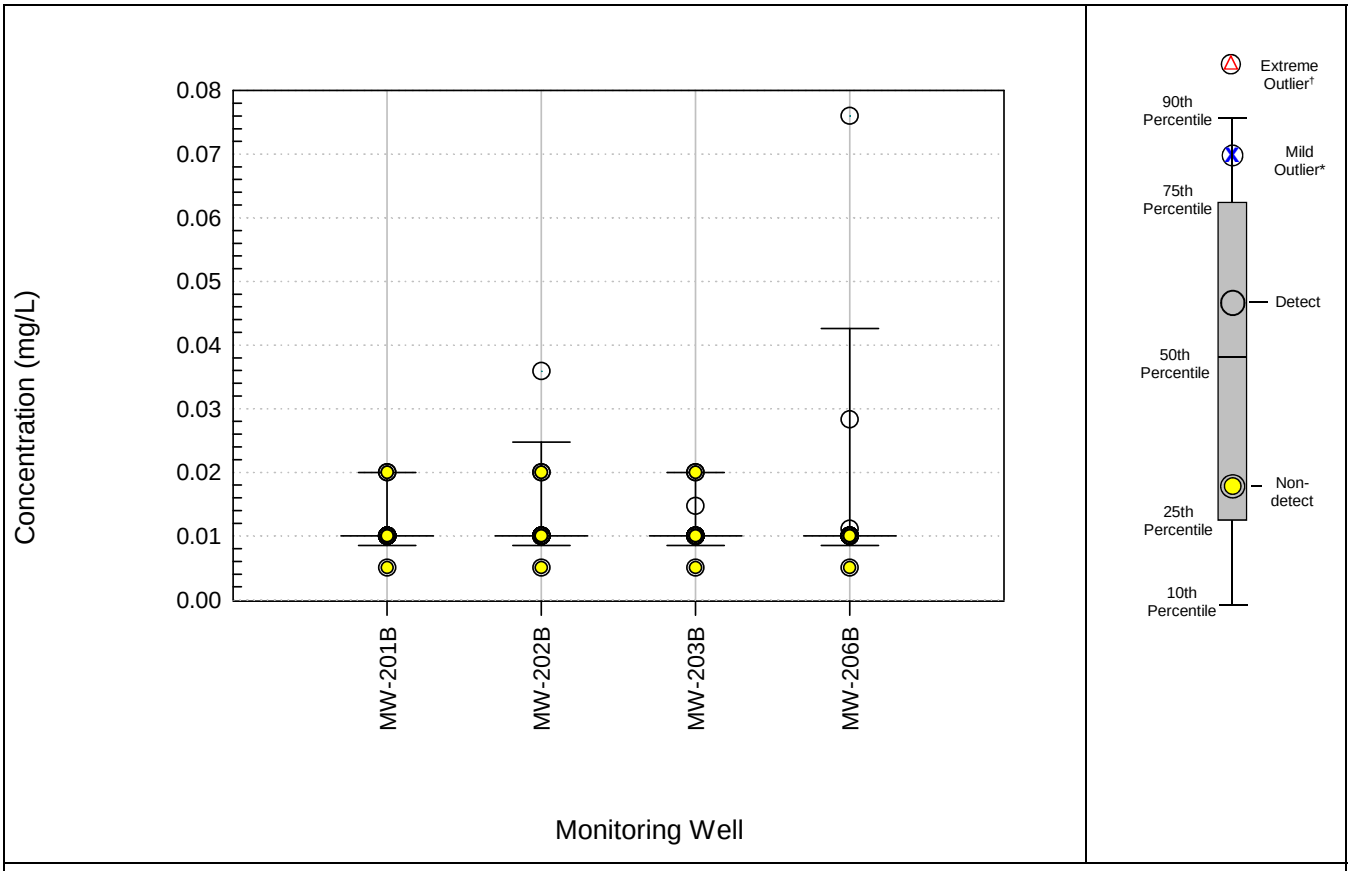
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Chromium

Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-4

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0050	0.020	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-202B	0	15	1	16	0.0050	0.020	0.036	0.036	0.036	0.036	NA	0.010	0.010	0.010
MW-203B	0	15	1	16	0.0050	0.020	0.015	0.015	0.015	0.015	NA	0.010	0.010	0.010
MW-206B	0	13	3	16	0.0050	0.010	0.011	0.076	0.038	0.028	0.034	0.010	0.010	0.010

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

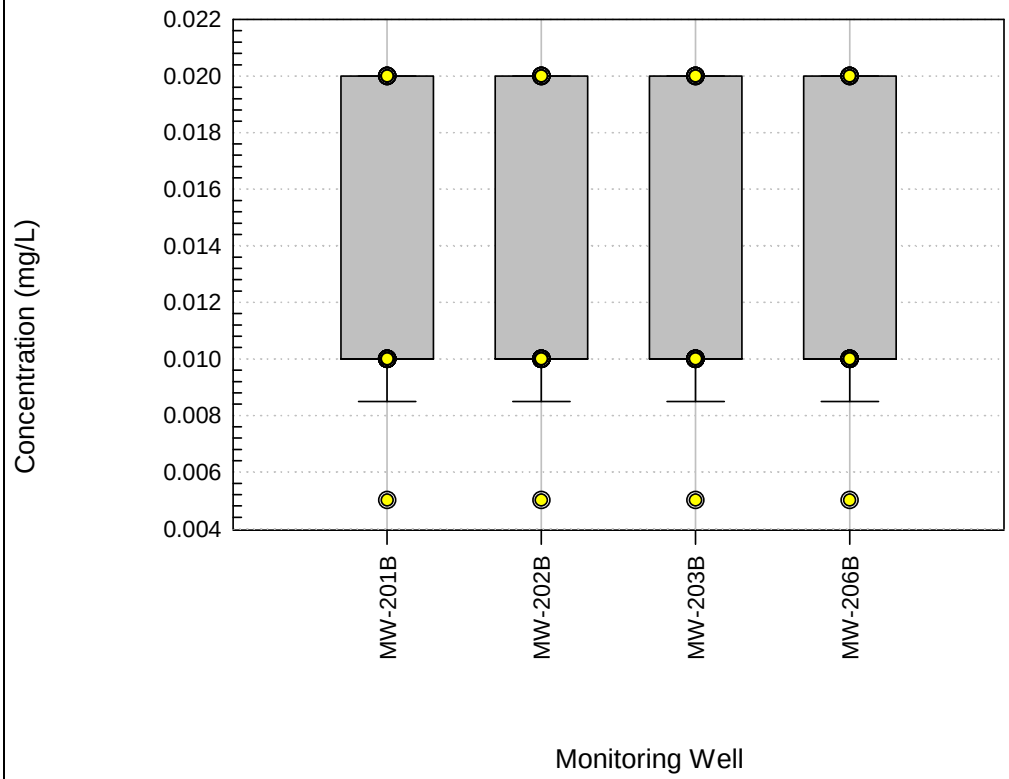
NA = value not applicable due to frequency of detection

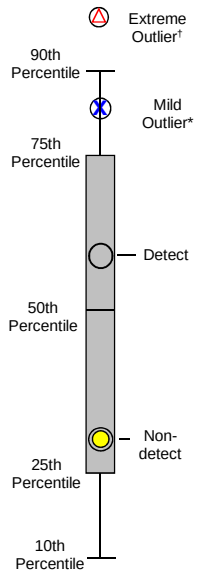
ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.





ARCADIS

Box and Whisker Plot
Cyanide
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-5

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0050	0.020	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-202B	0	16	0	16	0.0050	0.020	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-203B	0	16	0	16	0.0050	0.020	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-206B	0	16	0	16	0.0050	0.020	ND	ND	ND	ND	ND	0.010	0.010	0.020

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

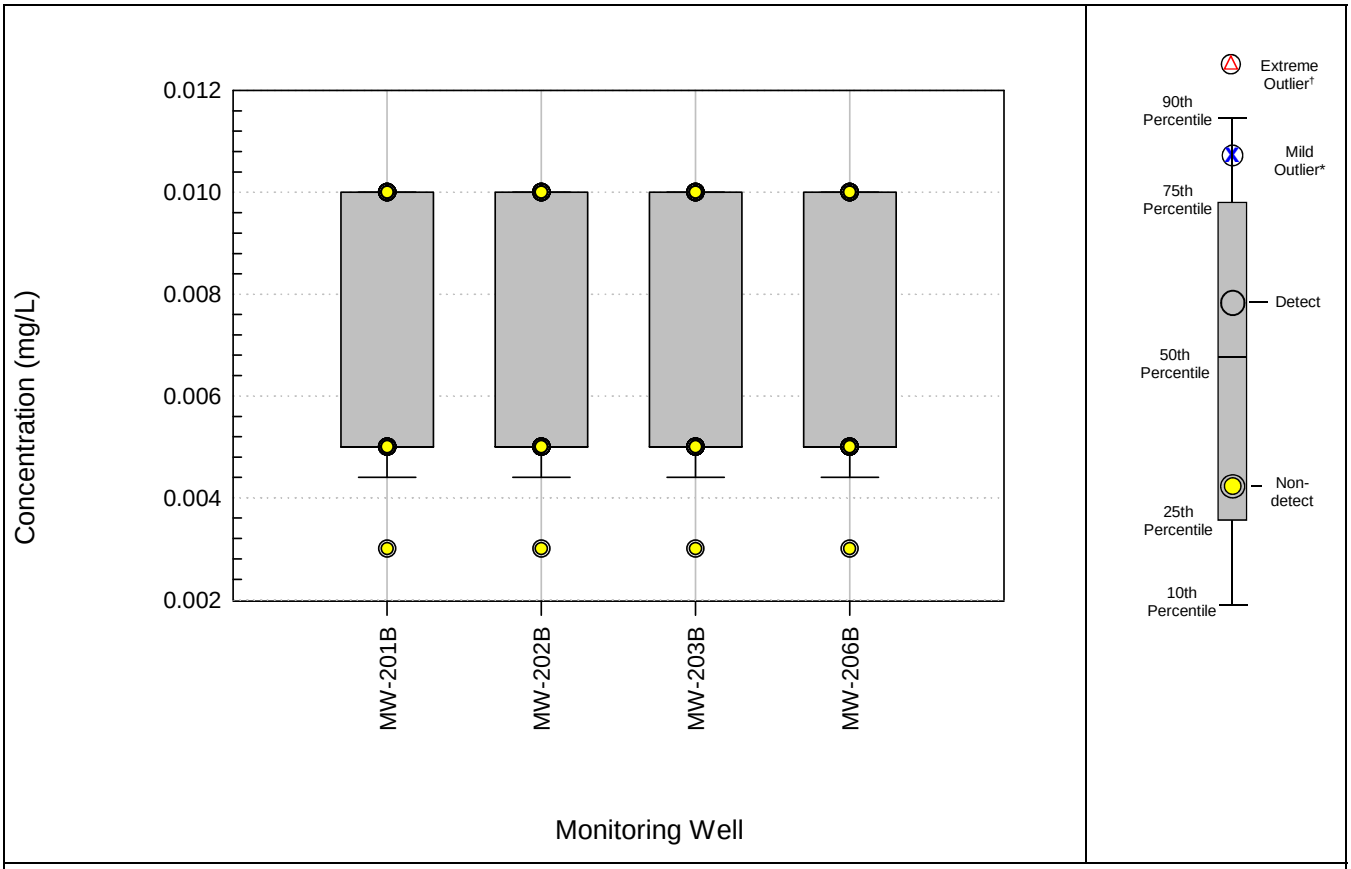
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Lead
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-6

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0030	0.010	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-202B	0	16	0	16	0.0030	0.010	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-203B	0	16	0	16	0.0030	0.010	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-206B	0	16	0	16	0.0030	0.010	ND	ND	ND	ND	ND	0.0050	0.0050	0.010

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

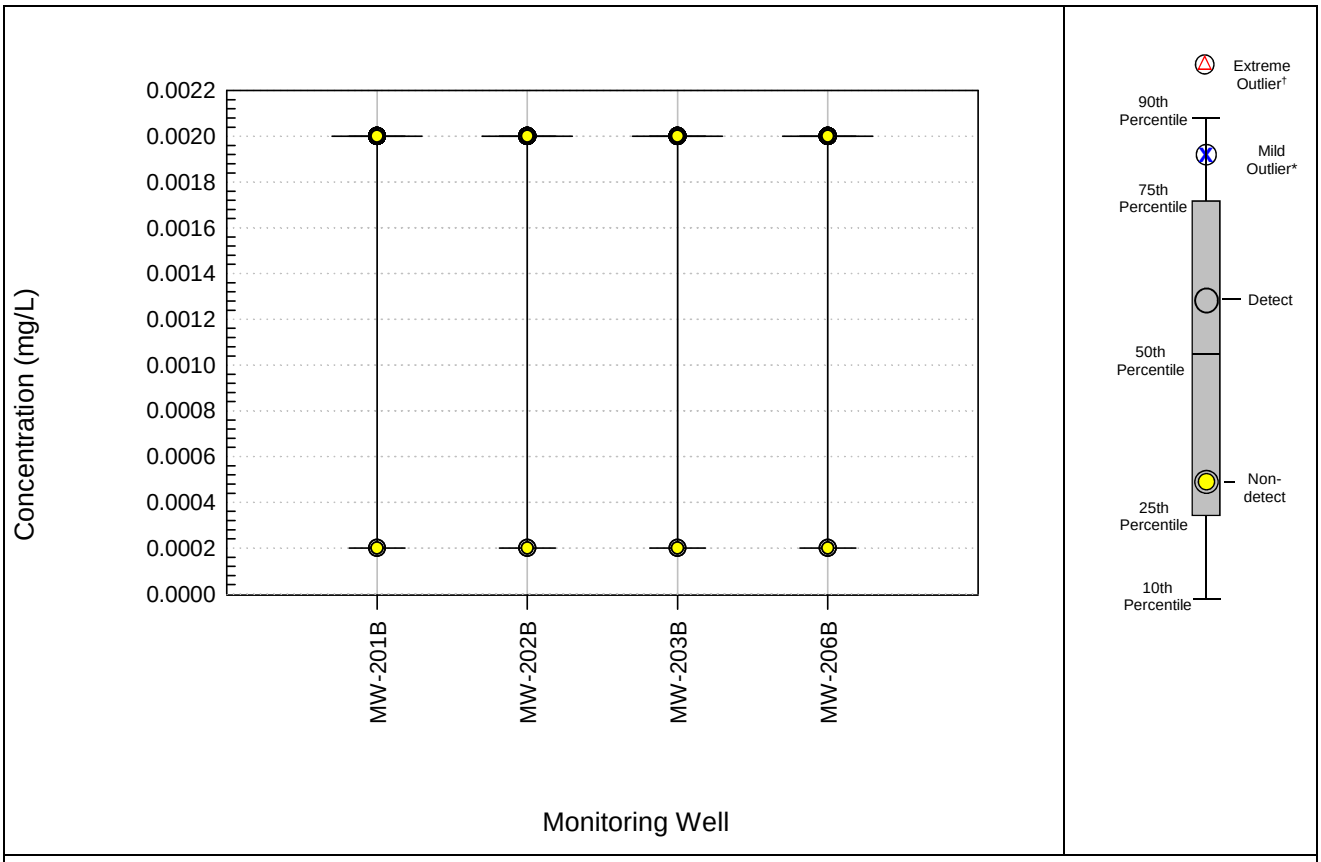
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Mercury
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-7

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.00020	0.0020	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-202B	0	16	0	16	0.00020	0.0020	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-203B	0	16	0	16	0.00020	0.0020	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-206B	0	16	0	16	0.00020	0.0020	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

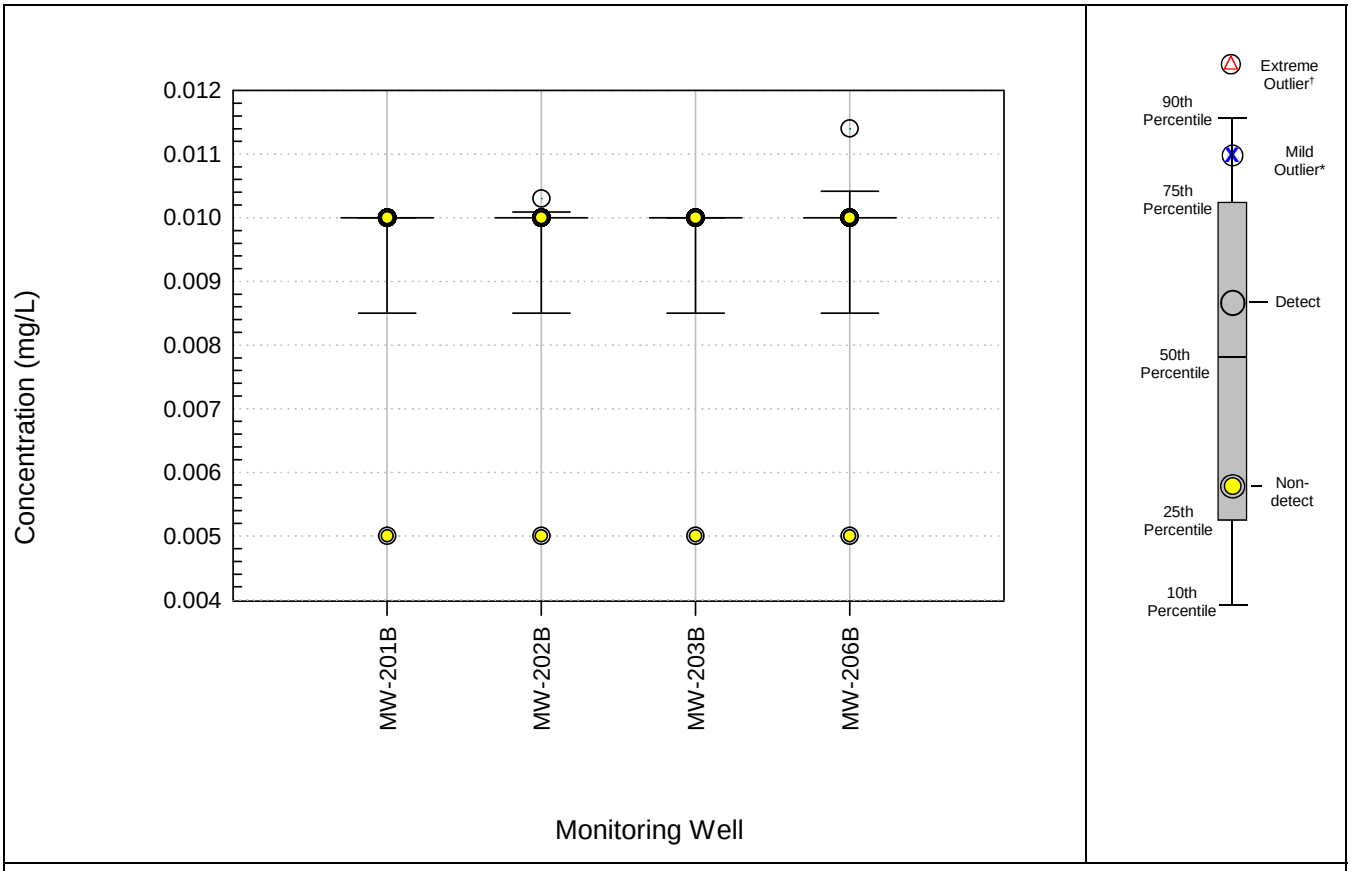
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Selenium
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-8

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0050	0.010	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-202B	0	15	1	16	0.0050	0.010	0.010	0.010	0.010	0.010	NA	0.010	0.010	0.010
MW-203B	0	16	0	16	0.0050	0.010	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-206B	0	15	1	16	0.0050	0.010	0.011	0.011	0.011	0.011	NA	0.010	0.010	0.010

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

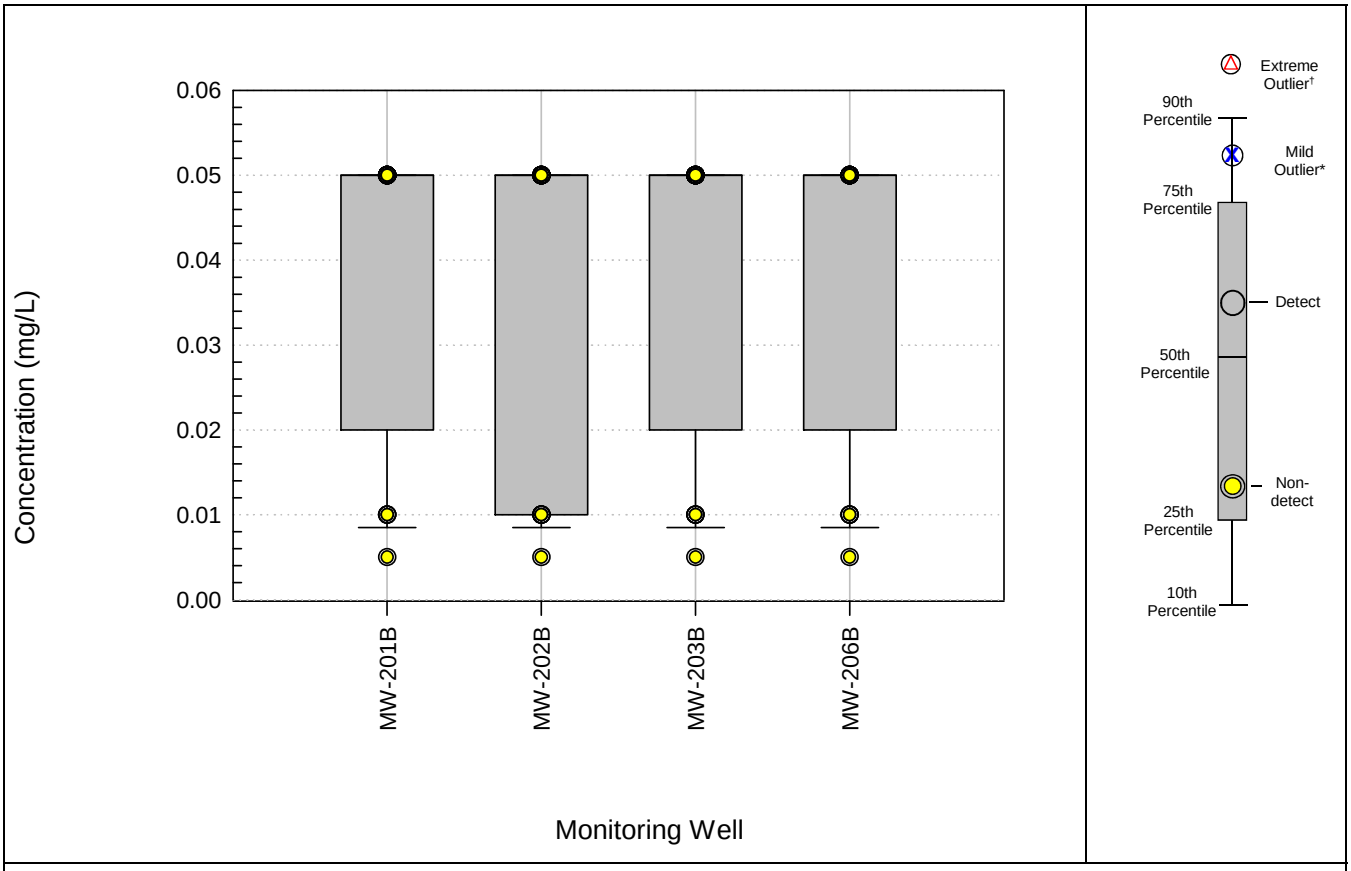
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



ARCADIS

Box and Whisker Plot
Silver
Closed Hazardous Waste Surface Impoundment, Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 2-9

Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	0	16	0	16	0.0050	0.050	ND	ND	ND	ND	ND	0.030	0.050	0.050
MW-202B	0	16	0	16	0.0050	0.050	ND	ND	ND	ND	ND	0.010	0.050	0.050
MW-203B	0	16	0	16	0.0050	0.050	ND	ND	ND	ND	ND	0.030	0.050	0.050
MW-206B	0	16	0	16	0.0050	0.050	ND	ND	ND	ND	ND	0.030	0.050	0.050

Notes:

† Result value is < 25th percentile - 3*IQR or > 75th percentile + 3*IQR

* Result value is < 25th percentile - 1.5*IQR or > 75th percentile + 1.5*IQR

-- = no data

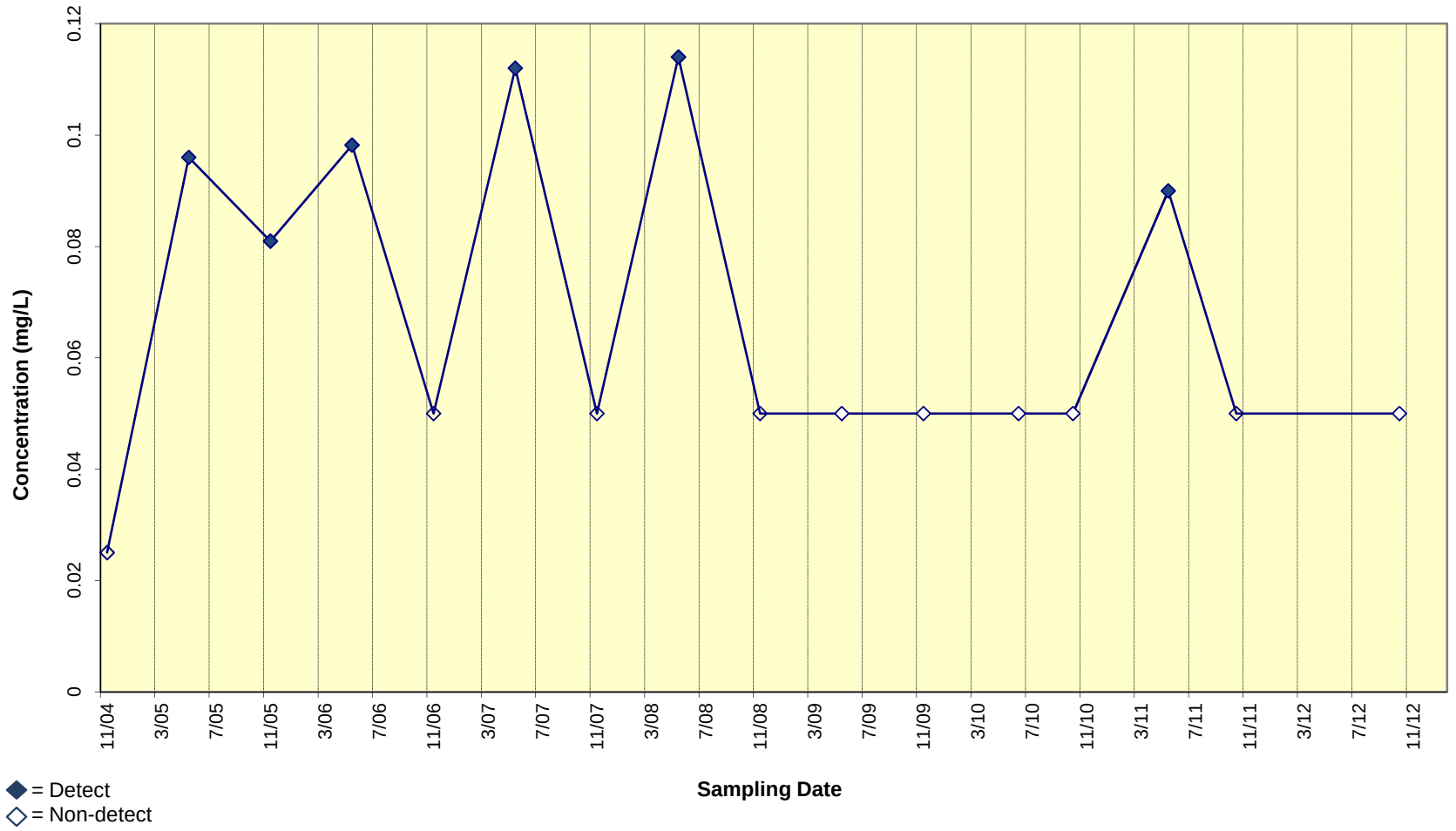
NA = value not applicable due to frequency of detection

ND = non-detect

IQR = interquartile range equals the 3rd quartile (75th percentile) - 1st quartile (25th percentile)

Reporting limit is used for non-detects unless otherwise noted.

Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.



Results of Mann-Kendall Test for Trend: **No Significant Trend**

p value = 0.282 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope: **No trend**

Median Slope Estimate = 0.0E+00 mg/L/day

95% Confidence Interval = -2.0E-05 to 0.0E+00 mg/L/day

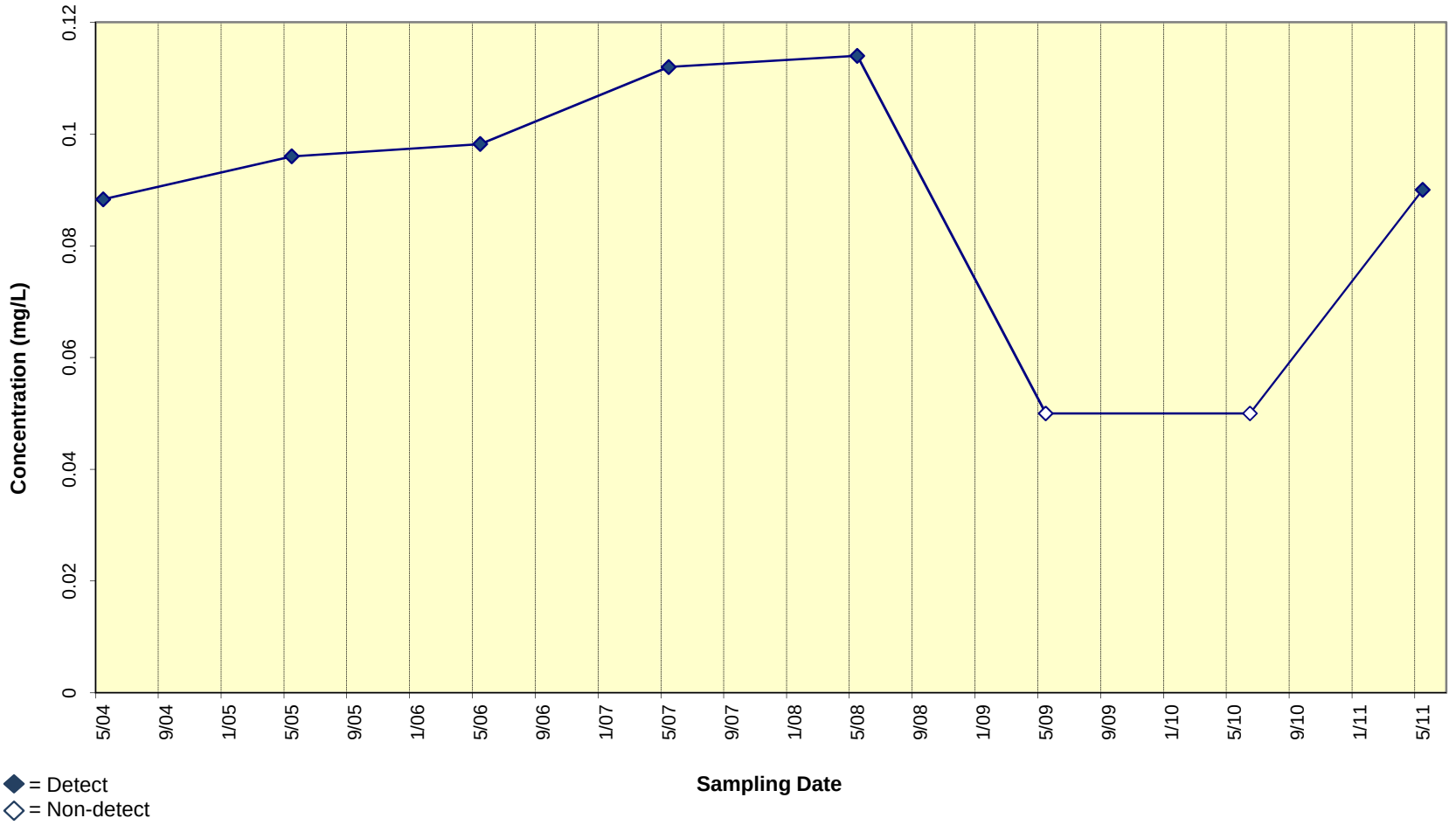
mg/L - milligrams per liter

ARCADIS

Concentration vs. Time Plot – Barium in Monitoring Well 206B

Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 3



Results of Mann-Kendall Test for Trend: **No Significant Trend**

p value = 0.500 Note: p value < 0.05 indicates a statistically significant trend (95% confidence level).

Results of Sen's Estimator of Slope: **No Significant Trend**

Median Slope Estimate = -0.49 mg/L per year

95% Confidence Interval = -11.86 to 7.81 mg/L per year

mg/L - milligrams per liter

ARCADIS

Concentration vs. Time Plot – Barium in Monitoring Well 206B

Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division - Plant 5
Indianapolis, Indiana

Figure 3b