



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

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ENVIRONMENT

Subject:

Groundwater Data Statistical Evaluation – Second Half 2011, Closed Hazardous Waste Surface Impoundment, GM Former AGT Division – INR000021436, 2701 West Raymond Street, Indianapolis, IN

Date:
January 20, 2012

Dear Commissioner:

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

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, ARCADIS respectfully submits this Groundwater Sampling Results and Statistical Analysis Report 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 2011 and is being submitted within sixty (60) days of the final laboratory report which was received by ARCADIS on November 22, 2011. Signed Certifications by RACER Trust and ARCADIS are attached as per the Permit. The following sections provide details of the groundwater monitoring.

Email:
heather.gastineau@arcadis-us.com

Our ref:
IN000297.2011.00100

Groundwater Gauging

All monitoring wells at the Site were gauged on October 20, 2011. The locations of the monitoring wells are presented on Drawing 1. Upon the data collection, rise rate was calculated and was significantly lower than what is typical of the Site. On November 4, 2011, the monitoring wells were regauged at the Site and in almost all monitoring wells the depth to water was approximately one foot higher when compared to the October 20, 2011 data. The depth to water data from the November 4, 2011 gauging event was used to calculate the rise rate, which was found to be consistent with historical data.

Subsequently, all ARCADIS water level indicators were evaluated for equipment performance. One water level indicator was found to short circuit and inconsistently

Imagine the result

detect depth to water. This water level indicator was used at the site on October 20, 2011. The depth to water data from the October 20, 2011 event will not be used for evaluation.

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 November 4, 2011 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 7.8 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 3.7 feet higher than the groundwater elevations in the internal monitoring wells. Therefore, an inward hydraulic gradient was observed during the second half of 2011. 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 20, 2011 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 deploying the bladder pump and prior to purging the monitoring wells for sample collection. It should be noted that after deployment of the bladder pump and associated tubing, depth to water data for monitoring wells MW-201B, MW-202B, and MW-203B were approximately one foot higher than when the initial depth to water data was collected. This increase was not observed in monitoring well MW-206B. As noted above, the depth to water data collected on October 20, 2011 was inconsistent (possibly due to a short-circuiting water level indicator) however, the depth to water measurements collected during purging were consistent and showed no drawdown.

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. The depth to groundwater was also measured during the purging of the monitoring wells and remained stable during purging. Groundwater was purged until the field parameters reached stabilized measurements as specified in the Permit. Approximately 17 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 shipped 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 outlined in the Permit (Appendix H-Sampling and Analysis Plan). Pace Analytical's reporting limit for cyanide was lower than the Estimated Quantitation Limit (EQL) outlined in the Permit (Appendix H – Sampling and Analysis Plan).

Groundwater analytical results for the monitoring wells are presented in Table 1. Groundwater field data sheets from the sampling event are provided in Attachment 1. The laboratory analytical reports 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., May 2004 to November 2011) for each indicator parameter, as summarized in Table 2.

The reporting limits provided by Pace Analytical were lower than what was specified in the approved Permit for the site (see above reference under section 'Groundwater Monitoring') for cyanide. The statistical evaluation for this report was completed using Pace Analytical's lower reporting limits. This has not had an impact on the results of the statistical evaluation; however, if this situation occurs in subsequent sampling events, it is recommended that the statistical evaluation utilize the reporting

limits outlined in the Permit when the laboratory's reporting limits are lower than the EQL.

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 seven 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 quantitation limits for all indicator parameters. 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 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 spring 2011 monitoring event in May 2012. If you have any questions or comments regarding the enclosed Groundwater Sampling Results and Statistical Analysis Report, please contact Mr. Robert Hare at 419.277.0815 or either of the undersigned.

Sincerely,

ARCADIS U.S., Inc.



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



Sarah Fisher, C.H.M.M
Senior Scientist

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 November 4, 2011 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
U.S. EPA T.D. Number

GM Former AGT Division
Site Name



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

1-20-12

Date

TABLE 1

**GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

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FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
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INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

TABLE 1

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CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

TABLE 1

**GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (A)	05/25/04	<0.0100	0.0885	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/25/04	<0.0100	0.0884	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/25/04	<0.0100	0.0875	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/25/04	<0.0100	0.0889	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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-203B (102011) FD	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010	

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.

TABLE 2

**UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	5/25/2004	<0.0100	0.0883	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	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	

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)

TABLE 3

**BACKGROUND SCREENING LEVELS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
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	2011 Sampling Dates	> BSL ?
Arsenic	1 / 16	0.016	NA	NA	0.02	< 0.01	All 3 wells	10/20/11	No
Barium	7 / 16	0.114	0.127	Kaplan-Meier ²	0.13	< 0.1	All 3 wells	10/20/11	No
Cadmium	0 / 16	< 0.005	NA	NA	0.005	< 0.005	All 3 wells	10/20/11	No
Chromium	3 / 16	0.076	NA	NA	0.08	< 0.01	All 3 wells	10/20/11	No
Lead	0 / 16	< 0.01	NA	NA	0.01	< 0.01	All 3 wells	10/20/11	No
Mercury	0 / 16	< 0.002	NA	NA	0.002	< 0.002	All 3 wells	10/20/11	No
Selenium	1 / 16	0.0114	NA	NA	0.01	< 0.01	All 3 wells	10/20/11	No
Silver	0 / 16	< 0.05	NA	NA	0.05	< 0.05	All 3 wells	10/20/11	No
Cyanide	0 / 16	< 0.02	NA	NA	0.02	< 0.01	All 3 wells	10/20/11	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 = 7, 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.

RAYMOND STREET

PW5-1

OVERHEAD ELECTRICAL POLE AND TRANSFORMER

ELECTRICAL CONTROL BUILDING

DISCHARGE BUILDING

DEWATERING PIPE DOES NOT INTERSECT SEWER

STORM STRUCTURE

90 degree ELLIPTICAL STORM

CONCRETE CULVERT

MW-208B

MW-208A

MW-201A

EW-201

M-2

EW-202

MW-202C

MW-202B

MW-202A

GAS VENT

EXTRACTION WELL DEWATERING PIPING

FUEL STORAGE

STORM STRUCTURE

MW-207B

MW-207A

GAS VENT

M-3

EW-209

M-4

EW-203

MW-200C

MW-206A

M-7

MW-206B

EW-208

M-5

M-6

EW-204

MW-203B

MW-203C

MW-203A

4 INCH DEWATERING PIPE

4 INCH STORM SEWER

EW-207

MW-205A

EW-206

M-8

MW-204A

FENCE

CONCRETE CULVERT

RIPRAP

MW-204B

SEWER DOES NOT INTERSECT DEWATERING PIPE

5MW-0601-L
5MW-0601-ML

NOTE: PIPING AND BUILDING LOCATIONS ARE APPROXIMATE.

LEGEND

- MW-206B EXISTING HYDRAULIC MONITORING WELL
- EW-208 EXISTING EXTRACTION WELL
- 5MW-0601-L ROLLS-ROYCE CORPORATION WELL
- ELECTRICAL CONTROL BOX
- SURVEY MONUMENT
- SLURRY WALL
- PROPERTY BOUNDARY

Scale

180 0 180

Approximate Scale In Feet

RACER Trust
INDIANAPOLIS, INDIANA

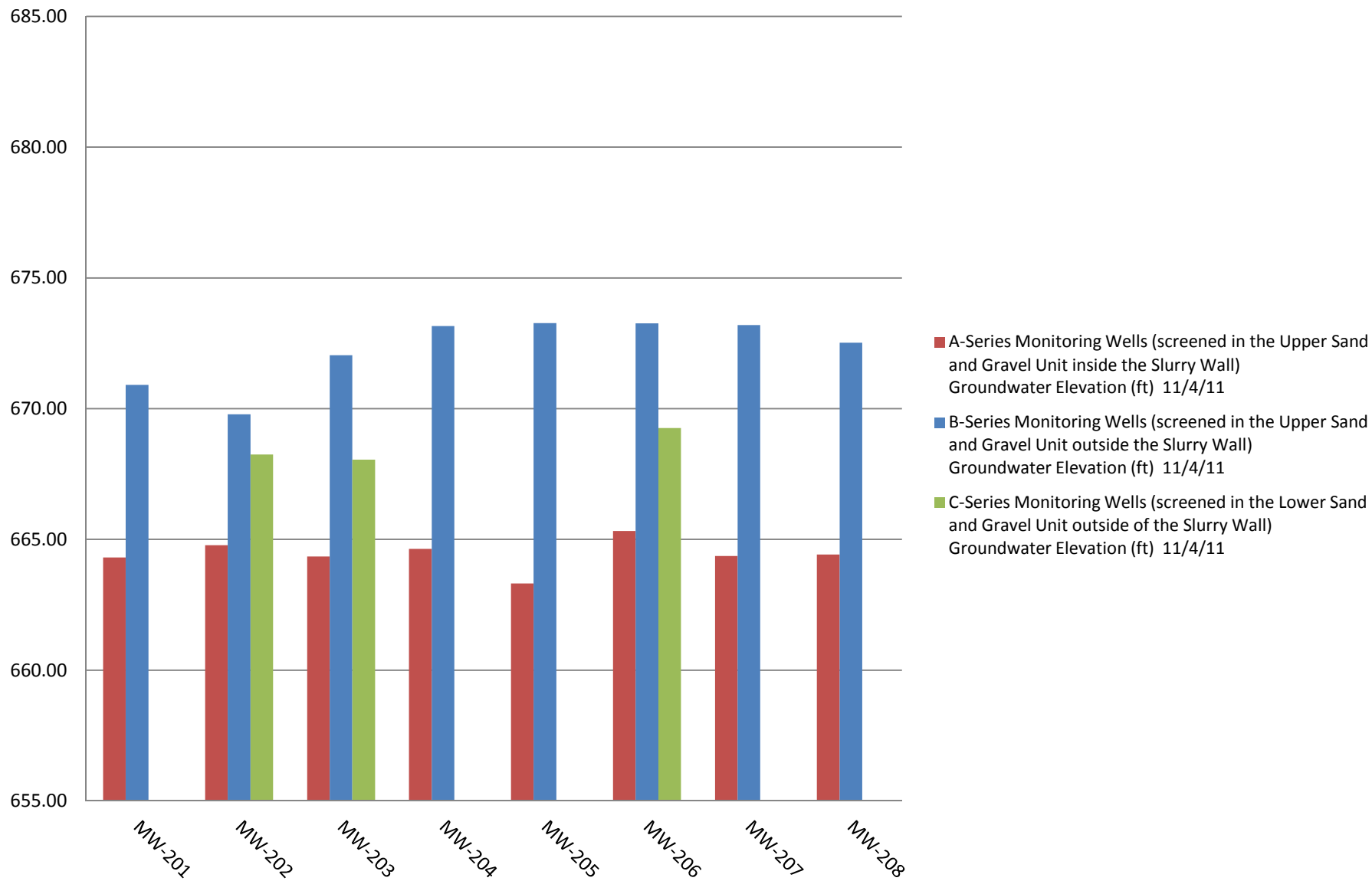
SITE MAP

DRAWING
1

CITY: Indianapolis DIV: GROUP: SER: DB: HGL: PM: C: Cosgrove, TM: (C)4
 C:\Documents and Settings\jgastineau\My Documents\Projects\161 half 2011\Surface Impairment Site Map_110720.dwg LAYOUT: 1 SAVER: 7/21/2011 8:25 PM ACADWATER: 17.05 (LMS TECH) PAGESETUP: - CTB PLOTTED: 7/21/2011 8:25 PM BY: GASTINEAU, LYONS, HEATHER
 XREFS: IMAGES: PROJECTNAME: Surface Impairment
 ARCADIS Color Logo.jpg
 Pages from Site Map Surface Impairment - test.jpg

MW-118

Drawing 2. Surface Impoundment November 4, 2011 Groundwater Elevations



MW-201B

WELL PURGING FIELD INFORMATION FORM

JOB# 1M2917-2011

SITE/PROJECT NAME: AGT Surface Impoundment

WELL# MW-201B

PURGE DATE (MM DD YY) 10/20/11, SAMPLE DATE (MM DD YY) 10/20/11, WATER VOL. IN CASING (LITRES/GALLONS) 231, ACTUAL VOLUME PURGED (LITRES/GALLONS) 264

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

PURGING DEVICE [A] A - SUBMERSIBLE PUMP, D - GAS LIFT PUMP, G - BAILER, X- PURGING OTHER (SPECIFY). SAMPLING DEVICE [C] C - BLADDER PUMP, F - DIPPER BOTTLE, X- SAMPLING OTHER (SPECIFY). PURGING DEVICE [B] B - STAINLESS STEEL, D - PVC, X- PURGING OTHER (SPECIFY). SAMPLING DEVICE [E] E - POLYETHYLENE, X- SAMPLING OTHER (SPECIFY). PURGING DEVICE [E] A - TEFLON, D - POLYPROPYLENE, F - SILICONE, X- PURGING OTHER (SPECIFY). SAMPLING DEVICE [E] B - TYGON, G - COMBINATION, X- PURGING OTHER (SPECIFY). C - ROPE, X- SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45 [A] A - IN-LINE DISPOSABLE, B - PRESSURE, C - VACUUM

FIELD MEASUREMENTS

WELL ELEVATION 693.06 (m/ft), GROUNDWATER ELEVATION 669.62 (m/ft), DEPTH TO WATER 23.44 (m/ft), WELL DEPTH 37.62 (m/ft), pH 7.9 (std), TURBIDITY 0 (ntu), CONDUCTIVITY 393 (um/cm AT 25°C), ORP 21 (mV), DO 2.02 (mg/L), SAMPLE TEMPERATURE 18.5 (°C)

FIELD COMMENTS

SAMPLE APPEARANCE: clear, ODOR: NA, COLOR: clear, TURBIDITY: clear. WEATHER CONDITIONS: WIND SPEED, DIRECTION, PRECIPITATION Y/N, OUTLOOK. SPECIFIC COMMENTS: sampled @ 1610

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS. DATE 10/20/11, PRINT Tim [Name], SIGNATURE [Signature]

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

Figure 2: Well Purging Field Information Form. Resubmitted August 2006

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Rock Trust - AGT SI
 Ref. No.: 11800237, 2011

Date: 10/20/11
 Personnel: TP

Monitoring Well Data:

Well No.: 11W-2013
 Measurement Point: Top - 65.01
 Constructed Well Depth (ft): 38.51
 Measured Well Depth (ft): 37.65
 Depth of Sediment (ft): 0.86

Screen Length (ft): 10.4
 Depth to Pump Intake (ft)⁽¹⁾: 32.41
 Well Diameter, D (in): 2.10
 Well Screen Volume, V_s (mL)⁽²⁾: 1.62 gal
 Initial Depth to Water (ft): 25.44

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level ⁽³⁾ (ft)	pH	Temperature °C	Conductivity $\frac{\mu\text{mS/cm}}{\text{25 } ^\circ\text{C}}$	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V _p (mL) gal	No. of Well Screen Volumes Purged ⁽⁴⁾
1342	400	22.21	0.00	7.95	18.44	181.0	-9	2.09	18.73	0.53	0.32
1347	400	22.21	0.00	7.94	18.58	79.0	-12	2.31	6.70	0.53	0.32
1352	400	22.21	0.00	7.95	18.34	78.0	-24	2.08	6.43	0.53	0.32
1357	400	22.21	0.00	7.95	18.44	79.8	-25	2.01	2.64	0.53	0.32
1402	400	22.21	0.00	7.94	18.52	79.6	-17	2.00	1.20	0.53	0.32
1407	400	22.21	0.00	7.96	18.59	79.9	-21	2.02	0.58	0.53	0.32

Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length, $V_s = p \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- Purging will continue until stabilization is achieved or until 3 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 stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged = V_p / V_s .

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

MW-202B

WELL PURGING FIELD INFORMATION FORM		JOB# <u>11M292-2011</u>	
SITE/PROJECT NAME: <u>AGT Surface Impoundment</u>		WELL# <u>MW-202B</u>	
<u>10/20/11</u> PURGE DATE (MM DD YY)	<u>10/20/11</u> SAMPLE DATE (MM DD YY)	<u>230</u> WATER VOL. IN CASING (LITRES/GALLONS)	<u>454</u> ACTUAL VOLUME PURGED (LITRES/GALLONS)
PURGING EQUIPMENT.....DEDICATED Y <input checked="" type="radio"/> N (CIRCLE ONE)		SAMPLING EQUIPMENT.....DEDICATED Y <input checked="" type="radio"/> N (CIRCLE ONE)	
PURGING DEVICE <input checked="" type="checkbox"/> A	A - SUBMERSIBLE PUMP	D - GAS LIFT PUMP	G - BAILER
SAMPLING DEVICE <input checked="" type="checkbox"/> C	B - PERISTALTIC PUMP	E - PURGE PUMP	H - WATERRA®
PURGING DEVICE <input checked="" type="checkbox"/> B	C) BLADDER PUMP	F - DIPPER BOTTLE	X- _____ PURGING OTHER (SPECIFY)
SAMPLING DEVICE <input checked="" type="checkbox"/> E	A - TEFLON	D - PVC	X- _____ SAMPLING OTHER (SPECIFY)
PURGING DEVICE <input checked="" type="checkbox"/> E	B - STAINLESS STEEL	B POLYETHYLENE	X- _____ PURGING OTHER (SPECIFY)
SAMPLING DEVICE <input checked="" type="checkbox"/> E	C - POLYPROPYLENE	X- _____ SAMPLING OTHER (SPECIFY)	X- _____ PURGING OTHER (SPECIFY)
PURGING DEVICE <input checked="" type="checkbox"/> E	A - TEFLON	D - POLYPROPYLENE	F - SILICONE
SAMPLING DEVICE <input checked="" type="checkbox"/> E	B - TYGON	C POLYETHYLENE	G - COMBINATION
	C - ROPE	X- _____ (SPECIFY)	TEFLON/POLYPROPYLENE
			X- _____ SAMPLING OTHER (SPECIFY)
FILTERING DEVICES 0.45	<input checked="" type="checkbox"/> A IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM
FIELD MEASUREMENTS			
WELL ELEVATION <u>691.43</u> (m/ft)	GROUNDWATER ELEVATION <u>668.09</u> (m/ft)		
DEPTH TO WATER <u>23.34</u> (m/ft)	WELL DEPTH <u>37.45</u> (m/ft)		
pH <u>7.8</u> (std)	TURBIDITY <u>4</u> (ntu)	CONDUCTIVITY <u>637</u> (µm/cm) AT 25°C	ORP <u>-76</u> (mV)
			DO <u>2.13</u> (mg/L)
			SAMPLE TEMPERATURE <u>16.8</u> (°C)
FIELD COMMENTS			
SAMPLE APPEARANCE: <u>Clear</u>	ODOR: <u>NA</u>	COLOR: <u>Clear</u>	TURBIDITY: <u>clear</u>
WEATHER CONDITIONS: WIND SPEED _____ DIRECTION _____	PRECIPITATION Y/N OUTLOOK _____		
SPECIFIC COMMENTS <u>Sampled @ 1510</u>			
I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS			
<u>10/20/11</u> DATE	<u>Tim Weber</u> PRINT	<u>[Signature]</u> SIGNATURE	

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

Figure 2: Well Purging Field Information Form. Resubmitted August 2006

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Racer Trout - A-01 S1
 Ref. No.: 1000297.2011

Date: 10/20/11
 Personnel: TP

Monitoring Well Data:

Well No.: MW-2002B
 Measurement Point: T0C-641.43
 Constructed Well Depth (ft): 37.71 ft
 Measured Well Depth (ft): 37.43
 Depth of Sediment (ft): 0.28

Screen Length (ft): 10.0 ft
 Depth to Pump Intake (ft)⁽¹⁾: 32.4 ft
 Well Diameter, D (in): 2.0 in
 Well Screen Volume, V_s (gal)⁽²⁾: 4.54
 Initial Depth to Water (ft): 23.3 ft

Sample 510

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level ⁽³⁾ (ft)	pH	Temperature °C	Conductivity (µmS/cm) (2.54 cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V _p (mL) Gallons	No. of Well Screen Volumes Purged ⁽⁴⁾
1400	400	22.25*	0.00	7.82	17.11	632.4	54	3.41	313.6	0.53	0.32
1405	400	22.25	0.00	7.80	17.03	632.4	79	2.85	164.2	0.53	0.32
1410	400	22.25	0.00	7.72	17.14	632.4	-2	2.65	85.39	0.53	0.32
1415	400	22.25	0.00	7.80	17.14	640.9	-16	2.55	57.20	0.53	0.32
1420	400	22.25	0.00	7.72	17.02	642.1	-32	2.68	29.44	0.53	0.32
1425	400	22.25	0.00	7.73	17.02	642.5	-43	2.63	15.51	0.53	0.32
1430	400	22.25	0.00	7.83	17.02	641.2	-50	2.24	17.20	0.53	0.32
1435	400	22.25	0.00	7.82	17.10	642.5	-54	2.24	14.92	0.53	0.32
1440	400	22.25	0.00	7.83	17.16	642.7	-62	2.19	13.25	0.53	0.32
1445	400	22.25	0.00	7.83	17.03	641.4	-64	2.16	8.65	0.53	0.32
1450	400	22.25	0.00	7.83	17.00	640.6	-68	2.14	10.08	0.53	0.32
1455	400	22.25	0.00	7.83	16.84	632.0	-69	2.12	7.65	0.53	0.32
1500	400	22.25	0.00	7.83	16.72	636.6	-71	2.12	6.617	0.53	0.32
1505	400	22.25	0.00	7.82	16.44	636.8	-71	3.11	5.802	0.53	0.32
1510	400	22.25	0.00	7.83	16.80	637.3	-76	2.13	4.710	0.53	0.32

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, $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
 (3) The drawdown from the initial water level should not exceed 0.3 ft.
 (4) Purging will continue until stabilization is achieved or until 3 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 stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .

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

Figure 3: Monitoring Well Record for Low-Flow Purging.

MW-203B

WELL PURGING FIELD INFORMATION FORM

JOB# 11/297-2011

SITE/PROJECT NAME: AGT Surface Impoundment

WELL# MW-203B

PURGE DATE 10/20/11, SAMPLE DATE 10/20/11, WATER VOL. IN CASING 204, ACTUAL VOLUME PURGED 238

PURGING AND SAMPLING EQUIPMENT: PURGING EQUIPMENT DEDICATED Y (N), SAMPLING EQUIPMENT DEDICATED Y (N)

PURGING DEVICE: A - SUBMERSIBLE PUMP, B - PERISTALTIC PUMP, C - BLADDER PUMP, D - GAS LIFT PUMP, E - PURGE PUMP, F - DIPPER BOTTLE, G - BAILER, H - WATERRA, PURGING OTHER (SPECIFY), SAMPLING DEVICE: C - POLYPROPYLENE, E - POLYETHYLENE, PURGING OTHER (SPECIFY), SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45: A - IN-LINE DISPOSABLE, B - PRESSURE, C - VACUUM

FIELD MEASUREMENTS: WELL ELEVATION 691.65, GROUNDWATER ELEVATION 670.07, DEPTH TO WATER 215.8, WELL DEPTH 34.10, PH 7.2, TURBIDITY 2, CONDUCTIVITY 1903, ORP 56, DO 1.34, SAMPLE TEMPERATURE 13.5

FIELD COMMENTS: SAMPLE APPEARANCE: Clear, ODOR: NA, COLOR: Clear, TURBIDITY: Clear, WEATHER CONDITIONS: WIND SPEED, DIRECTION, PRECIPITATION Y/N, OUTLOOK

SPECIFIC COMMENTS: Sampled @ 1320, #MS/MSD

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS. DATE 10/20/11, PRINT J.M. Porter, SIGNATURE

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

Figure 2: Well Purging Field Information Form. Resubmitted August 2006

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Racer Trust - A&T S1
 Ref. No.: FW000794.2011

Date: 10/20/11
 Personnel: [Signature]

Monitoring Well Data:

Well No.: MW-203B
 Measurement Point: TOC - 691.65 ft.
 Constructed Well Depth (ft): 34.30 ft
 Measured Well Depth (ft): 34.13 ft
 Depth of Sediment (ft): 0.17 ft

Screen Length (ft): 10
 Depth to Pump Intake (ft)⁽¹⁾: 29.10
 Well Diameter, D (in): 2.12
 Well Screen Volume, V_s (ml)⁽²⁾: 1.94
 Initial Depth to Water (ft): 21.58

sampled @ 1320
MS/MCD

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level ⁽³⁾ (ft)	pH	Temperature °C	Conductivity (µmS/cm) (system)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V _p (ml)	No. of Well Screen Volumes Purged ⁽⁴⁾
1245	400	20.63	0.00	7.22	14.08	895.0	40	8.55	93.27	0.53	0.32
1250	400	20.63	0.00	7.22	13.97	891.5	41	8.05	63.90	0.53	0.32
1255	400	20.63	0.00	7.21	13.67	897.7	45	1.50	32.49	0.53	0.32
1300	400	20.63	0.00	7.21	13.64	901.5	64	1.77	16.38	0.53	0.32
1305	400	20.63	0.00	7.21	13.65	904.4	67	1.66	17.830	0.53	0.32
1310	400	20.63	0.00	7.20	13.66	902.4	59	1.43	5.897	0.53	0.32
1315	400	20.63	0.00	7.21	13.64	903.3	46	1.34	2.450	0.53	0.32

Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length, $V_s = \pi(D/2)^2 \cdot (5') \cdot (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- Purging will continue until stabilization is achieved or until 3 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 stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .

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

Figure 3: Monitoring Well Record for Low-Flow Purging.

MW-206B

WELL PURGING FIELD INFORMATION FORM
SITE/PROJECT NAME: AGT Surface Impoundment JOB# 11W297-2011
WELL# MW-206B

10/20/11 PURGE DATE (MM DD YY) 10/20/11 SAMPLE DATE (MM DD YY) 268 WATER VOL. IN CASING (LITRES/GALLONS) 4.23 ACTUAL VOLUME PURGED (LITRES/GALLONS)

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

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

FIELD MEASUREMENTS
WELL ELEVATION 693.46 (m/ft) GROUNDWATER ELEVATION 672.31 (m/ft)
DEPTH TO WATER 211.6 (m/ft) WELL DEPTH 375.9 (m/ft)
PH 7.1 (std) TURBIDITY 4 (ntu) CONDUCTIVITY 144 (µm/cm) AT 25°C ORP 28 (mV) DO 0.40 (mg/L) SAMPLE TEMPERATURE 14.5 (°C)

FIELD COMMENTS
SAMPLE APPEARANCE: Clear ODOR: NA COLOR: Clear TURBIDITY: clear
WEATHER CONDITIONS: WIND SPEED _____ DIRECTION _____ PRECIPITATION Y/N OUTLOOK _____
SPECIFIC COMMENTS: Sampled @ 1200 EB-1, FD-1

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS
10/20/11 DATE J. M. Porter PRINT [Signature] SIGNATURE

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

17300 (2) PART C FMG-06-4-01
Revision 3, October 29, 2002

Figure 2: Well Purging Field Information Form.
Resubmitted August 2006

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: AGTS 1 / River Trust
 Ref. No.: IN 005877.2011

Date: 10/20/11
 Personnel: [Signature]

Monitoring Well Data:

Well No.: Mw-206B
 Measurement Point: T0C-64346
 Constructed Well Depth (ft): 37.43
 Measured Well Depth (ft): 37.59 ft
 Depth of Sediment (ft): 0.14

Sampled @ 1000
 Screen Length (ft): 10 ft
 Depth to Pump Intake (ft)⁽¹⁾: 32 ft
 Well Diameter, D (in): 2 in
 Well Screen Volume, V_s (ft³)⁽²⁾: 7.63 gal 2.59 gal
 Initial Depth to Water (ft): 21.15 ft

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level ⁽³⁾ (ft)	pH	Temperature °C	Conductivity (mS/cm) (25°C)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Volume Purged, V _p (gal) ⁽⁴⁾	No. of Well Screen Volumes Purged ⁽⁵⁾
115	400	21.14	-0.01	7.09	14.64	949.6	88	0.62	51.43	0.53	0.32
120	400	21.14	-0.01	7.10	14.53	941.9	61	0.70	30.47	0.53	0.32
125	400	21.14	-0.01	7.12	14.48	938.5	52	0.68	20.17	0.53	0.32
130	400	21.14	-0.01	7.12	14.48	934.3	41	0.76	13.61	0.53	0.32
135	400	21.14	-0.01	7.12	14.43	940.0	27	0.67	9.05	0.53	0.32
140	400	21.14	-0.01	7.11	14.54	942.5	35	0.54	7.70	0.53	0.32
145	400	21.14	-0.01	7.13	14.64	945.8	31	0.46	6.457	0.53	0.32
150	400	21.14	-0.01	7.12	14.56	945.9	33	0.44	6.105	0.53	0.32
155	400	21.14	-0.01	7.12	14.52	944.5	28	0.40	4.801	0.53	0.32

Notes:

- 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.
- The well screen volume will be based on a 5-foot screen length, $V_s = \pi(D/2)^2(5 \times 12) \times (2.54)^3$
- The drawdown from the initial water level should not exceed 0.3 ft.
- Purging will continue until stabilization is achieved or until 3 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 stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .

Figure 3: Monitoring Well Record for Low-Flow Purging.
 Resubmitted August 2006

November 04, 2011

Ms. Sarah Fisher
Arcadis U.S., Inc.
251 E. Ohio Street
Suite 800
Indianapolis, IN 46204

RE: Project: Racer Surface Impoundment
Pace Project No.: 5054003

Dear Ms. Fisher:

Enclosed are the analytical results for sample(s) received by the laboratory on October 20, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,



Donna Spyker

donna.spyker@pacelabs.com
Project Manager

Illinois Certification #: 100418

Indiana Certification #: C-49-06

Kansas Certification #: E-10247

Kentucky Certification #: 0042

Louisiana/NELAC Certification #: 04076

Ohio VAP: CL0065

West Virginia Certification #: 330

Enclosures



REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5054003001	MW-206B(102011)	Water	10/20/11 12:00	10/20/11 17:14
5054003002	FD-1(102011)-TP	Water	10/20/11 08:00	10/20/11 17:14
5054003003	EB-1(102011)-TP	Water	10/20/11 12:00	10/20/11 17:14
5054003004	MW-203B(102011)	Water	10/20/11 13:20	10/20/11 17:14
5054003005	MW-202B(102011)	Water	10/20/11 15:10	10/20/11 17:14
5054003006	MW-201B(102011)	Water	10/20/11 16:10	10/20/11 17:14

REPORT OF LABORATORY ANALYSIS

Page 2 of 14

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SAMPLE ANALYTE COUNT

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5054003001	MW-206B(102011)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5054003002	FD-1(102011)-TP	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5054003003	EB-1(102011)-TP	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5054003004	MW-203B(102011)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5054003005	MW-202B(102011)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1
5054003006	MW-201B(102011)	EPA 6010	FRW	7
		EPA 7470	LLB	1
		EPA 9012	ILP	1

REPORT OF LABORATORY ANALYSIS

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: MW-206B(102011)		Lab ID: 5054003001	Collected: 10/20/11 12:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 10:00	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 10:00	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 10:00	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 10:00	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:38	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:16	57-12-5	

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: FD-1(102011)-TP		Lab ID: 5054003002	Collected: 10/20/11 08:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:37	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:37	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:37	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:37	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:40	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:17	57-12-5	

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: EB-1(102011)-TP		Lab ID: 5054003003	Collected: 10/20/11 12:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:39	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:39	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:39	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:39	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:46	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:18	57-12-5	

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: MW-203B(102011)		Lab ID: 5054003004	Collected: 10/20/11 13:20	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:41	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:41	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:41	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:41	7440-47-3	
Lead, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:41	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:41	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:41	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:48	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:19	57-12-5	

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: MW-202B(102011)		Lab ID: 5054003005	Collected: 10/20/11 15:10	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:56	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:56	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:56	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:56	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:55	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:22	57-12-5	

ANALYTICAL RESULTS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

Sample: MW-201B(102011)		Lab ID: 5054003006	Collected: 10/20/11 16:10	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:58	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:58	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:58	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:58	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:58	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:58	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:58	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:57	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:26	57-12-5	

QUALITY CONTROL DATA

Project: Racer Surface Impoundment
Pace Project No.: 5054003

QC Batch: MPRP/8173 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

METHOD BLANK: 642716 Matrix: Water
Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	10.0	10/31/11 09:31	
Barium, Dissolved	ug/L	ND	100	10/31/11 09:31	
Cadmium, Dissolved	ug/L	ND	5.0	10/31/11 09:31	
Chromium, Dissolved	ug/L	ND	10.0	10/31/11 09:31	
Lead, Dissolved	ug/L	ND	5.0	10/31/11 09:31	
Selenium, Dissolved	ug/L	ND	10.0	10/31/11 09:31	
Silver, Dissolved	ug/L	ND	50.0	10/31/11 09:31	

LABORATORY CONTROL SAMPLE: 642717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1000	969	97	80-120	
Barium, Dissolved	ug/L	1000	976	98	80-120	
Cadmium, Dissolved	ug/L	1000	970	97	80-120	
Chromium, Dissolved	ug/L	1000	940	94	80-120	
Lead, Dissolved	ug/L	1000	965	97	80-120	
Selenium, Dissolved	ug/L	1000	971	97	80-120	
Silver, Dissolved	ug/L	500	480	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 642718 642719

Parameter	Units	5054003004 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Conc.	Spike Conc.	MSD Conc.						
Arsenic, Dissolved	ug/L	ND	1000	1000	1010	1020	101	102	75-125	1	20	
Barium, Dissolved	ug/L	ND	1000	1000	1010	1020	95	96	75-125	.7	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1010	100	101	75-125	.4	20	
Chromium, Dissolved	ug/L	ND	1000	1000	902	901	90	90	75-125	.1	20	
Lead, Dissolved	ug/L	ND	1000	1000	956	958	96	96	75-125	.2	20	
Selenium, Dissolved	ug/L	ND	1000	1000	1020	1080	102	108	75-125	5	20	
Silver, Dissolved	ug/L	ND	500	500	483	484	96	97	75-125	.3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 642720 642721

Parameter	Units	5054039014 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Conc.	Spike Conc.	MSD Conc.						
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1040	102	104	75-125	2	20	
Barium, Dissolved	ug/L	ND	1000	1000	1060	1070	96	97	75-125	.7	20	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1030	102	103	75-125	.3	20	

Date: 11/04/2011 03:13 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Racer Surface Impoundment

Pace Project No.: 5054003

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 642720 642721											
Parameter	Units	5054039014 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Chromium, Dissolved	ug/L	ND	1000	1000	919	916	92	91	75-125	.4	20
Lead, Dissolved	ug/L	ND	1000	1000	974	975	97	98	75-125	.09	20
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1100	103	109	75-125	5	20
Silver, Dissolved	ug/L	ND	500	500	486	481	97	96	75-125	1	20

QUALITY CONTROL DATA

Project: Racer Surface Impoundment

Pace Project No.: 5054003

QC Batch: MERP/3499

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury Dissolved

Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

METHOD BLANK: 643349

Matrix: Water

Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	2.0	11/03/11 11:34	

LABORATORY CONTROL SAMPLE: 643350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 643351 643352

Parameter	Units	5054003004		5054003003		5054003005		5054003006		% Rec Limits	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Mercury, Dissolved	ug/L	ND	5	5	5.1	5.2	102	105	75-125	3	20	

QUALITY CONTROL DATA

Project: Racer Surface Impoundment
Pace Project No.: 5054003

QC Batch: WETA/7035 Analysis Method: EPA 9012
QC Batch Method: EPA 9012 Analysis Description: 9012 Cyanide, Total
Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

METHOD BLANK: 640938 Matrix: Water
Associated Lab Samples: 5054003001, 5054003002, 5054003003, 5054003004, 5054003005, 5054003006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.010	10/27/11 13:07	

LABORATORY CONTROL SAMPLE: 640939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.19	93	90-110	

MATRIX SPIKE SAMPLE: 640940

Parameter	Units	5053920001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	ND	.2	0.17	84	90-110	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 640941 640942

Parameter	Units	5054003004 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	0.18	0.19	92	97	90-110	5	20	

QUALIFIERS

Project: Racer Surface Impoundment

Pace Project No.: 5054003

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.

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.

BATCH QUALIFIERS

Batch: ICP/7775

[1] Associated ICB failed high for Selenium, but the samples are ND. Results not affected by high bias. FRW 10-31-11

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

CHAIN-OF-CUSTODY / Analytical Request Document

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



www.pacelabs.com

Section A
 Required Client Information:
 Company: **ARCADIS**
 Address: **251 Echo St. Ste. 800**
INDPLS, IN 46204
 Email To: **TKolb@arcadis-us.com**
 Phone: **317-231-6500** Fax: **317-231-6504**
 Requested Due Date/TAT: **STD**

Section B
 Required Project Information:
 Report To: **Tom Kolb**
 Copy To: **Heather Gashneer-Cyons**
 Purchase Order No.: **IN000297.2011**
 Project Name: **Raker Surface Impoundment**
 Project Number: **IN000297.2011**

Section C
 Invoice Information:
 Attention: **13X**
 Company Name: **REGULATORY AGENCY**
 Address: **GROUND WATER DRINKING WATER**
UST RCRA OTHER
 Pace Quote Reference: **1N**
 Pace Project Manager: **1N**
 Site Location STATE: **1N**

Page: **1** of **1**
1523246

ITEM #	Section D Required Client Information		COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)		MATRIX CODE (see valid codes to left)		SAMPLE TEMP AT COLLECTION		PRESERVATIVES		Analysis Test ↑ Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.					
	Matrix Codes MATRIX / CODE	Drinking Water DW	Water WT	Waste Water WW	Product P	Oil OL	Soil/Solid SL	Wipe WP	Air AR	Tissue TS	Other OT	DATE					TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE
1	MW-206B (10/2011)																				
2	FD-1 (10/2011) - TP																				
3	ER-1 (10/2011) - TP																				
4	MW-203B (10/2011)																				
5	NW-202B (10/2011)																				
6	MW-201B (10/2011)																				
7	for 30m																				
8	10/21/11																				
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS
 Level III Reporting
 Use list Metals - arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium.
 Refer to included TABLES

RELINQUISHED BY / AFFILIATION
 T-ARCADIS

DATE
 10/21/11

TIME
 17:14

ACCEPTED BY / AFFILIATION
 Mania Bermejo / Pace

DATE
 10/20/11

TIME
 17:14

SAMPLE CONDITIONS
 Y N

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **JIM Parter**
 SIGNATURE of SAMPLER: **JEP**
 DATE Signed (MM/DD/YYYY): **10/20/11**

ORIGINAL
 Client w/ice

Sample Condition Upon Receipt

Face Analytical

Client Name: Arcadis Project # 6054603

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 5.9°C

Ice Visible in Sample Containers: yes no

(Corrected, if applicable)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: MB 10/20/11

Comments:

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

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: *[Signature]*

Date: 10/21/11

Sample Container Count



CLIENT: Arcadis

COC PAGE 1 of 1
 COC ID# 1523246

Project # 6054403

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

Container Codes	AF	Air Filter	BP1N	BP1S	BP1U	BP1Z	BP2A	BP2O	BP2Z	BP3A	BP3C	BP3Z	DG9P	DG9S	DG9T	DG9U	JGFU	U	VG9H	VG9T	VG9U	VSG	WGFX	ZPLC	
DG9H	40mL HCL amber vial																								
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic																				
WG FU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic																				
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac																				
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic																				
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic																				
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac																				
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	BP3A	250mL NaOH, Asc Acid plastic																				
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic																				
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic																				
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes																				
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial																				
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial																				

ICP Metals 6010B

Project Number 5054003

Initials/ Date Compiled FR 11-1-11

Section 1: Prep and Analytical Information

- * ~~Metals Digestion Logs~~ none
- * ~~Instrument Run Logs~~

50ICP3 Run Log

Analytical Run: 103111a3.txt

Method: EPA 6010B

Date	Time	Sample ID	Dil	Notes:	Batch
10/31/11	07:19:07	CAL BLANK	1	#23419	
10/31/11	07:21:15	MIX 1	1	#23421	
10/31/11	07:23:18	MIX 2	1	#23422	
10/31/11	07:25:22	MIX 3	1	#23423	
10/31/11	07:27:26	MIX 4	1	#23424	
10/31/11	07:29:31	MIX 5	1	#23425	
10/31/11	07:31:35	MIX 6	1	#23426	
10/31/11	07:33:46	MIX 7	1	#23427	
10/31/11	07:35:55	ICVCCV	1	#23428	
10/31/11	07:37:49	ICBCCB	1	#23419	
10/31/11	07:39:56	CRDL	1	#23423	
10/31/11	07:42:02	ICSA	1	#23433	
10/31/11	07:44:25	ICSAB	1	#23430	
10/31/11	07:46:39	641896	1		7773
10/31/11	07:48:46	641897	1		7773
10/31/11	07:50:39	5054116001	1		7773
10/31/11	07:52:45	5054116002	1		7773
10/31/11	07:54:55	5054116004	1		7773
10/31/11	07:57:08	5054117001	1		7773
10/31/11	07:59:20	641898	1		7773
10/31/11	08:01:32	641899	1		7773
10/31/2011	8:03:44	5054117001 PDS	1		
10/31/2011	8:05:54	5054117001 x5	5		
10/31/2011	8:07:58	ICVCCV	1		
10/31/2011	8:09:51	ICBCCB	1		
10/31/2011	8:12:00	5054117003	1		7773
10/31/2011	8:14:09	5054117005	1		7773
10/31/2011	8:16:15	5054117006	1		7773
10/31/2011	8:18:27	5054117008	1		7773
10/31/2011	8:20:35	5054117009	1		7773
10/31/2011	8:22:45	5054117010	1		7773
10/31/2011	8:24:57	5054117011	1		7773
10/31/2011	8:27:01	5054158001	1		7773
10/31/2011	8:29:11	5054162002	1		7773
10/31/2011	8:31:19	5054162003	1		7773
10/31/2011	8:33:30	ICVCCV	1		
10/31/2011	8:35:24	ICBCCB	1		
10/31/2011	8:37:31	CRDL	1		
10/31/2011	8:39:39	5054162004	1		7773
10/31/2011	8:41:54	5054184003	1		7773
10/31/2011	8:44:11	5054184004	1		7773
10/31/2011	8:46:24	5054184005	1		7773
10/31/2011	8:48:36	5054184006	1		7773
10/31/2011	8:50:47	5054184007	1		7773

50ICP3 Run Log

Analytical Run: 103111a3.txt

Method: EPA 6010B

Date	Time	Sample ID	Dil	Notes:	Batch
10/31/2011	8:53:03	642171	1		7774
10/31/2011	8:55:10	642172	1		7774
10/31/2011	8:57:04	5054161001	1		7774
10/31/2011	8:59:26	642173	1		7774
10/31/2011	9:01:45	ICVCCV	1		
10/31/2011	9:03:38	ICBCCB	1		
10/31/2011	9:05:47	642174	1		7774
10/31/2011	9:08:04	5054161001 PDS	1		
10/31/2011	9:10:20	5054161001 x5	5		
10/31/2011	9:27:57	5054161002	1		7774
10/31/2011	9:31:22	642716	1		7775
10/31/2011	9:33:29	642717	1		7775
10/31/2011	9:35:24	5054003001 nr	1		
10/31/2011	9:37:36	5054003002	1		7775
10/31/2011	9:39:47	5054003003	1		7775
10/31/2011	9:41:54	5054003004	1		7775
10/31/2011	9:44:07	ICVCCV	1		
10/31/2011	9:47:00	ICBCCB	1		
10/31/2011	9:49:06	CRDL	1		
10/31/2011	9:51:14	642718	1		7775
10/31/2011	9:53:13	642719	1		7775
10/31/2011	9:56:32	5054003005	1		7775
10/31/2011	9:58:38	5054003006	1		7775
10/31/2011	10:00:47	5054003001	1		7775
10/31/2011	10:03:00	5054184001	1		7775
10/31/2011	10:05:11	5054184002	1		7775
10/31/2011	10:07:22	5054039012	1		7775
10/31/2011	10:09:33	5054039013	1		7775
10/31/2011	10:11:40	5054039014	1		7775
10/31/2011	10:13:52	ICVCCV	1		
10/31/2011	10:16:34	ICBCCB	1		
10/31/2011	10:18:42	642720	1		7775
10/31/2011	10:20:41	642721	1		7775
10/31/2011	10:22:40	5054039015	1		7775
10/31/2011	10:24:47	5054162001	1		7775
10/31/2011	10:26:58	642473	1		7776
10/31/2011	10:29:05	642474	1		7776
10/31/2011	10:30:58	5054143022	1		7776
10/31/2011	10:33:08	5054143023	1		7776
10/31/2011	10:35:22	5054143024	1		7776
10/31/2011	10:37:34	5054143025	1		7776
10/31/2011	10:39:49	ICVCCV	1		
10/31/2011	10:44:06	ICBCCB	1		
10/31/2011	10:46:13	CRDL	1		
10/31/2011	10:48:22	5054143026	1		7776
10/31/2011	10:50:34	5054241016	1		7776

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: 540P3 10-31-11

ICAL 4: _____

ICAL 2: _____

ICAL 5: _____

ICAL 3: _____

ICAL 6: _____

Sample Name: Cal Blank Acquired: 10/31/2011 7:19:07 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0001	.0083	.0000	-.0001	.0189	.0004
Stddev	.0012	.0008	.0001	.0003	.0020	.0006
%RSD	821.6	9.665	137.0	205.5	10.40	140.5
#1	-.0007	.0089	.0000	-.0004	.0175	.0000
#2	.0010	.0078	.0001	.0001	.0203	.0008

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_3600)	(Y_3600)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0092	.0001	.0001	-.0004	.1370	.0005
Stddev	.0006	.0000	.0000	.0005	.0004	.0007
%RSD	6.554	26.33	17.00	121.0	.2605	142.4
#1	.0087	.0001	.0001	-.0001	.1373	.0010
#2	.0096	.0001	.0001	-.0007	.1368	.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_2243)	(Y_2243)	(Y_2243)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0017	.0006	.0035	.0009	-.0001	.0002
Stddev	.0003	.0004	.0006	.0002	.0001	.0002
%RSD	20.09	60.81	16.88	17.54	81.88	73.11
#1	-.0019	.0003	.0030	.0008	.0000	.0003
#2	-.0014	.0008	.0039	.0010	-.0002	.0001

Sample Name: Cal Blank Acquired: 10/31/2011 7:19:07 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 Comment:

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	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0001	.0002	.0243	.0001	-.0032	.0000
Stddev	.0000	.0000	.0004	.0000	.0016	.0000
%RSD	19.63	3.058	1.522	22.96	50.55	141.4
#1	-.0001	.0002	.0240	.0001	-.0044	.0000
#2	-.0001	.0002	.0245	.0001	-.0021	-.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	-.0007	.0001	-.0043
Stddev	.0002	.0000	.0001
%RSD	29.87	17.62	1.992
#1	-.0009	.0001	-.0043
#2	-.0006	.0001	-.0042

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	8449.4	5262.5	24890.
Stddev	26.1	9.3	52.
%RSD	.30879	.17597	.20841
#1	8431.0	5269.1	24927.
#2	8467.9	5256.0	24854.

Sample Name: mix 1 Acquired: 10/31/2011 7:21:15 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	9.817	2.832	22.04	1.174	.1397	1.464
Stddev	.016	.000	.02	.002	.0003	.005
%RSD	.1575	.0069	.0797	.1329	.1869	.3760
#1	9.827	2.831	22.03	1.173	.1399	1.460
#2	9.806	2.832	22.05	1.175	.1395	1.468
Int. Std.	Y_2243	Y_3600				
Line	224.306 (450)	360.073 (94)				
Units	Cts/S	Cts/S				
Avg	8523.2	5244.9				
Stddev	5.4	13.9				
%RSD	.06308	.26489				
#1	8527.0	5235.1				
#2	8519.4	5254.7				

Sample Name: mix 2 Acquired: 10/31/2011 7:23:18 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 Comment:

Elem	Ba4554	Co2286	Cu3247	Fe2714	V_2924
Line	455.403 { 74}	228.616 {447}	324.754 {104}	271.441 {124}	292.464 {115}
IS Ref	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.75	.5341	3.973	9.389	1.506
Stddev	.00	.0005	.026	.064	.009
%RSD	.0366	.0854	.6562	.6789	.5963
#1	11.75	.5338	3.955	9.344	1.499
#2	11.74	.5344	3.992	9.434	1.512
Int. Std.	Y_2243	Y_3600			
Line	224.306 {450}	360.073 { 94}			
Units	Cts/S	Cts/S			
Avg	8437.3	5190.7			
Stddev	9.5	51.4			
%RSD	.11205	.99103			
#1	8430.6	5227.1			
#2	8444.0	5154.3			

Sample Name: mix 3 Acquired: 10/31/2011 7:25:22 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.4111	.7471	3.454
Stddev	.0010	.0022	.014
%RSD	.2383	.2959	.4021

#1	.4118	.7487	3.444
#2	.4104	.7456	3.463

Int. Std.	Y_2243	Y_3600
Line	224.306 (450)	360.073 (94)
Units	Cts/S	Cts/S
Avg	8502.6	5207.7
Stddev	25.6	17.7
%RSD	.30138	.34046

#1	8484.5	5220.3
#2	8520.7	5195.2

Sample Name: mix 4 Acquired: 10/31/2011 7:27:26 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3710)	(Y_2243)	(Y_3710)
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.093	55.83	1.837	.5053	.3517	.7538
Stddev	.019	.05	.004	.0011	.0006	.0011
%RSD	.4623	.0976	.1965	.2151	.1726	.1462
#1	4.080	55.87	1.840	.5045	.3521	.7546
#2	4.107	55.79	1.835	.5060	.3513	.7531
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	8429.6	5168.5	24627.			
Stddev	42.6	14.4	45.			
%RSD	.50522	.27910	.18301			
#1	8399.5	5178.7	24659.			
#2	8459.8	5158.3	24595.			

Sample Name: mix 5 Acquired: 10/31/2011 7:29:31 Type: Cal
 Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	1.245	3.775	.2223	.2787
Stddev	.011	.050	.0008	.0004
%RSD	.8804	1.332	.3633	.1285
#1	1.237	3.739	.2228	.2790
#2	1.253	3.810	.2217	.2785

Int. Std.	Y_2243	Y_3600
Line	224.306 {450}	360.073 { 94}
Units	Cts/S	Cts/S
Avg	8458.6	5227.2
Stddev	3.3	49.1
%RSD	.03893	.93885

#1	8456.3	5261.9
#2	8460.9	5192.5

Sample Name: mix 6 Acquired: 10/31/2011 7:31:35 Type: Cal
Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3372
Line	189.989 (477)	337.280 (100)
IS Ref	(Y_2243)	(Y_3600)
Units	Cts/S	Cts/S
Avg	.9920	75.98
Stddev	.0001	.05
%RSD	.0146	.0662

#1	.9919	75.95
#2	.9921	76.02

Int. Std.	Y_2243	Y_3600
Line	224.306 (450)	360.073 (94)
Units	Cts/S	Cts/S
Avg	8531.7	5204.0
Stddev	8.8	10.7
%RSD	.10353	.20493

#1	8538.0	5196.5
#2	8525.5	5211.6

Sample Name: mix 7 Acquired: 10/31/2011 7:33:46 Type: Cal
Method: 50ICP3 method build(v11) Mode: IR Corr. Factor: 1.000000
User: frw 6010 B: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280
Line	328.068 {103}
IS Ref	(Y_3600)
Units	Cts/S
Avg	5.487
Stddev	.029
%RSD	.5224

#1	5.467
#2	5.507

Int. Std.	Y_3600
Line	360.073 {94}
Units	Cts/S
Avg	5188.0
Stddev	16.0
%RSD	.30853

#1	5199.3
#2	5176.7

Sample Name: ICVCCV Acquired: 10/31/2011 7:35:55 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	495.5	9660.	988.9	1011.	1015.	1031.
Stddev	5.7	60.	6.0	13.	1.	3.
%RSD	1.156	.6218	.6040	1.272	.0592	.2928

#1	491.4	9618.	993.1	1002.	1014.	1029.
#2	499.5	9703.	984.6	1020.	1015.	1033.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9750.	990.8	979.6	987.4	994.2	9937.
Stddev	80.	1.2	1.4	7.5	7.6	99.
%RSD	.8247	.1187	.1450	.7592	.7609	.9945

#1	9693.	991.6	980.6	982.1	988.9	9867.
#2	9807.	990.0	978.6	992.7	999.6	10010.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 7:35:55 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	9880.	9826.	995.6	1000.	987.1	988.1
Stddev	16.	91.	8.7	6.	.9	4.3
%RSD	.1597	.9306	.8747	.5807	.0938	.4307

#1	9891.	9761.	989.5	1004.	987.7	991.1
#2	9869.	9890.	1002.	996.1	986.4	985.1

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	969.8	984.6	5110.	1012.	1023.	950.3
Stddev	2.4	2.2	41.	1.	8.	.9
%RSD	.2517	.2252	.7975	.1446	.7477	.0962

#1	971.5	986.2	5081.	1013.	1017.	950.9
#2	968.0	983.0	5139.	1011.	1028.	949.6

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 7:35:55 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	1000.	1005.	9939.
Stddev	8.	3.	5.
%RSD	.7964	.2808	.0460

#1	994.5	1007.	9942.
#2	1006.	1003.	9936.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass

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	8534.9	5196.7	24587.
Stddev	34.1	36.3	102.
%RSD	.39926	.69828	.41495

#1	8510.8	5222.4	24659.
#2	8559.0	5171.1	24515.

Sample Name: ICBCCB Acquired: 10/31/2011 7:37:49 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-0523	-3179	4.520	3.329	.1320	.1669
Stddev	.0782	3.446	2.394	1.091	.0716	.0242
%RSD	149.7	1084.	52.96	32.76	54.28	14.48

#1	-1076	-2.754	2.827	4.100	.0813	.1839
#2	.0030	2.118	6.213	2.558	.1826	.1498

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	3.478	.1399	.3981	.3849	1.849	-14.50
Stddev	.324	.0372	.0027	.1547	.239	12.51
%RSD	9.305	26.60	.6668	40.18	12.91	86.25

#1	3.707	.1662	.3963	.4942	1.680	-23.34
#2	3.249	.1136	.4000	.2755	2.018	-5.657

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICBCCB Acquired: 10/31/2011 7:37:49 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	42.06	-5.997	.3168	6.082	.2263	-1.245
Stddev	3.92	3.146	.0618	1.068	.0091	.688
%RSD	9.309	52.46	19.51	17.56	4.040	55.28

#1	39.29	-3.773	.3605	5.327	2.198	-7581
#2	44.82	-8.222	.2731	6.837	.2327	-1.731

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	.8099	F 15.61	.1549	.8983	.7894	-1.199
Stddev	.9083	4.20	4.709	.1615	.1687	.493
%RSD	112.1	26.92	3039.	17.98	21.37	41.11

#1	.1676	12.64	-3.175	.7841	6701	-1.548
#2	1.452	18.58	3.485	1.013	9087	-8508

Check ? High Limit Low Limit
 Chk Pass Chk Fail 10.00
 10.00 -10.00

↓
 value LRL of 40ppb for soils.
 Associated sample w/ RL of 10ppb s.e. ND.
 for 10-31-11

Sample Name: ICBCCB Acquired: 10/31/2011 7:37:49 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.5786	.4094	13.70
Stddev	.7928	.0370	7.40
%RSD	137.0	9.035	53.98

#1	.0180	.4355	18.93
#2	1.139	.3832	8.471

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8529.2	5232.5	24742.
Stddev	.1	32.0	111.
%RSD	.00134	.61091	.45033

#1	8529.1	5255.1	24821.
#2	8529.3	5209.9	24663.

Sample Name: CRDL Acquired: 10/31/2011 7:39:56 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	10.55	196.8	9.891	150.1	2.950	10.20
Stddev	.05	3.1	.394	.3	.197	.01
%RSD	.5068	1.576	3.987	.1999	6.694	.0670

#1	10.51	194.6	9.613	149.9	2.810	10.21
#2	10.58	199.0	10.17	150.3	3.089	10.20

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	525.0	1.094	19.82	19.98	11.71	105.2
Stddev	4.2	.075	.05	.10	.72	4.5
%RSD	.8055	6.849	.2532	.4811	6.130	4.277

#1	528.0	1.041	19.86	20.04	12.22	102.1
#2	522.0	1.147	19.79	19.91	11.20	108.4

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/31/2011 7:39:56 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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.	487.2	10.34	28.81	39.98	6.755
Stddev	30.	1.4	.15	.53	.32	1.589
%RSD	.5959	.2848	1.441	1.830	.8038	23.53

#1	4984.	488.2	10.45	28.44	40.20	5.631
#2	4942.	486.2	10.24	29.18	39.75	7.879

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	10.67	10.33	-.2415	71.96	20.83	19.05
Stddev	2.92	.58	1.479	1.40	.01	.94
%RSD	27.37	5.619	612.3	1.939	.0445	4.936

#1	12.73	10.74	-1.287	70.97	20.83	18.39
#2	8.603	9.924	.8042	72.95	20.84	19.72

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: CRDL Acquired: 10/31/2011 7:39:56 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	30.10	43.22	1993.
Stddev	.68	.38	1.
%RSD	2.249	.8755	.0304

#1	30.58	42.95	1992.
#2	29.62	43.49	1993.

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	8537.4	5214.0	24801.
Stddev	23.5	15.1	121.
%RSD	.27495	.28960	.48587

#1	8554.0	5203.3	24715.
#2	8520.8	5224.6	24886.

Sample Name: ICSA Acquired: 10/31/2011 7:42:02 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	2702	482500.	12.80	57.70	1.054	-1.245
Stddev	1945	5384.	1.14	.97	.050	.0789
%RSD	72.00	1.116	8.939	1.673	4.758	63.34

#1	1326	478600.	11.99	57.02	1.089	-0.687
#2	4077	486300.	13.61	58.38	1.018	-1.803

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	433500.	F 2.108	-4.149	2.358	-4.190	183300.
Stddev	2577.	.022	.134	.018	.220	1198.
%RSD	5946	1.051	3.219	.7577	5.254	.6536

#1	431600.	2.093	-4.055	2.345	-4.034	182500.
#2	435300.	2.124	-4.244	2.371	-4.345	184200.

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		2.000				
Low Limit		-2.000				

Sample Name: ICSA Acquired: 10/31/2011 7:42:02 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	-238.7	489700.	8.894	-1.373	-3.533	1.479
Stddev	18.1	1655.	.004	.902	265	.086
%RSD	7.575	.3380	.0501	65.69	7.491	5.833

#1	-251.5	488500.	8.897	-2.011	-3.346	1.418
#2	-226.0	490800.	8.891	-7.354	-3.720	1.540

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	-4.949	9.793	-1.648	-1.697	-0.571	2.541
Stddev	3.473	.443	.635	1.484	.0288	.132
%RSD	70.18	4.525	38.53	87.44	50.42	5.189

#1	-2.493	9.480	-1.199	-2.747	-.0775	2.448
#2	-7.405	10.11	-2.097	-6.479	-.0368	2.634

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 10/31/2011 7:42:02 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	14.60	-7.824	32.69
Stddev	.88	.271	4.40
%RSD	6.059	3.469	13.45

#1	15.23	-7.632	29.58
#2	13.98	-8.016	35.80

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	7683.4	4938.7	23897.
Stddev	9.5	16.7	14.
%RSD	.12354	.33864	.05812

#1	7690.1	4950.5	23907.
#2	7676.7	4926.9	23887.

Sample Name: ICSAB Acquired: 10/31/2011 7:44:25 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	256.3	466700.	508.7	543.7	519.7	501.0
Stddev	1.6	1845.	2.0	2.4	3.1	3.0
%RSD	.6328	.3953	.3883	.4426	.5949	.6055

#1	257.4	468100.	507.3	545.4	521.9	503.2
#2	255.1	465400.	510.1	542.0	517.5	498.9

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	420400.	519.5	454.1	451.3	505.2	176700.
Stddev	50.	.5	.3	2.6	4.6	939.
%RSD	.0120	.0912	.0585	.5721	.9019	.5311

#1	420400.	519.2	454.3	453.1	508.4	177400.
#2	420300.	519.8	453.9	449.5	501.9	176000.

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/31/2011 7:44:25 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	-167.7	472300.	469.3	478.0	447.9	461.8
Stddev	18.6	1356.	2.7	.2	1.0	1.3
%RSD	11.08	.2870	.5718	.0487	.2328	.2735

#1	-154.6	473200.	471.2	478.2	447.2	462.7
#2	-180.9	471300.	467.4	477.8	448.7	461.0

Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Ti1908
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	504.8	490.5	2418.	475.4	484.5	439.2
Stddev	4.1	1.5	16.	.3	2.8	1.2
%RSD	.8193	.3071	.6680	.0642	.5738	.2776

#1	507.7	489.4	2429.	475.2	486.4	440.1
#2	501.8	491.6	2406.	475.6	482.5	438.3

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSAB Acquired: 10/31/2011 7:44:25 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	487.1	452.7	60.53
Stddev	1.9	.2	7.08
%RSD	.3964	.0371	11.70

#1	488.4	452.8	65.54
#2	485.7	452.6	55.53

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	7701.7	4960.1	23781.
Stddev	13.9	30.6	36.
%RSD	.18046	.61768	.15122

#1	7711.6	4938.4	23755.
#2	7691.9	4981.8	23806.

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: ICVCCV Acquired: 10/31/2011 9:01:45 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	527.1	1035.0	1017.	1072.	1081.	1098.
Stddev	4.8	58.	4.	9.	4.	5.
%RSD	.9184	.5611	.3476	.8293	.3529	.4514
#1	523.6	1031.0	1019.	1065.	1078.	1094.
#2	530.5	1040.0	1014.	1078.	1084.	1101.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1044.0	1007.	991.9	1050.	1061.	1056.0
Stddev	65.	1.	1.9	8.	9.	50.
%RSD	.6213	.0903	.1875	.7608	.8938	.4736
#1	1040.0	1006.	990.6	1045.	1055.	1053.0
#2	1049.0	1008.	993.2	1056.	1068.	1060.0

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 9:01:45 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	9929.	10390.	1053.	1022.	1004.	1007.
Stddev	63.	47.	7.	2.	3.	3.
%RSD	.6302	.4535	.7025	.1953	.2996	.3320
#1	9885.	10360.	1048.	1020.	1002.	1005.
#2	9974.	10430.	1059.	1023.	1006.	1010.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	997.7	1019.	F 5540.	1024.	1071.	966.0
Stddev	2.0	1.	48.	2.	8.	.4
%RSD	.2019	.0623	.8739	.2119	.7072	.0465
#1	996.3	1018.	5506.	1023.	1065.	966.3
#2	999.1	1019.	5574.	1026.	1076.	965.6

Check ? Value Range
 Chk Pass Chk Pass Chk Fail 5000.0% Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 9:01:45 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	1054.	1031.	10070.
Stddev	7.	1.	78.
%RSD	.6523	.1314	.7718
#1	1049.	1030.	10010.
#2	1059.	1032.	10120.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass

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	8476.7	4975.6	24977.
Stddev	3.7	16.4	60.
%RSD	.04402	.33041	.24164
#1	8479.4	4987.3	25020.
#2	8474.1	4964.0	24934.

Sample Name: ICBCCB Acquired: 10/31/2011 9:03:38 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.6918	6.106	4.337	5.137	.2904	.1892
Stddev	.4214	.081	.372	.612	.1169	.0590
%RSD	60.92	1.328	8.576	11.92	40.25	31.19

#1	.3938	6.048	4.600	4.704	.2078	.2309
#2	.9897	6.163	4.074	5.570	.3731	.1475

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	31.00	.2456	5.142	.9125	2.269	.7478
Stddev	1.56	.1940	.2965	.0594	.290	5.837
%RSD	5.050	78.98	57.67	6.510	12.78	780.6

#1	32.11	.1084	.7239	.9545	2.474	4.875
#2	29.89	.3828	.3045	.8704	2.064	-3.380

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICBCCB Acquired: 10/31/2011 9:03:38 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	60.52	3.767	4363	7.780	.3344	-4.172
Stddev	2.56	.670	.0765	1.023	.5539	.3342
%RSD	4.229	17.78	17.54	13.15	165.6	80.10

#1	58.71	3.293	4905	7.057	-.0572	-.6535
#2	62.32	4.241	.3822	8.504	.7261	-.1809

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	1.975	F 18.88	4.799	4.138	.5244	-.1872
Stddev	1.127	.55	2.101	.3731	.0843	.9228
%RSD	57.07	2.900	43.78	90.16	16.07	492.9

#1	1.178	19.27	6.284	.1500	.4648	.4653
#2	2.773	18.50	3.313	.6776	.5840	-.8397

Check ? High Limit Low Limit
 Chk Pass Chk Fail 10.00 Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICBCCB Acquired: 10/31/2011 9:03:38 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.3859	.3612	17.85
Stddev	1.163	.0140	3.53
%RSD	301.5	3.883	19.78

#1	-4368	.3711	20.35
#2	1.209	.3513	15.35

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8514.1	5023.6	25081.
Stddev	28.9	13.7	78.
%RSD	.33987	.27187	.31028

#1	8493.7	5033.3	25136.
#2	8534.6	5014.0	25026.

Sample Name: 642716 Acquired: 10/31/2011 9:31:22 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.2059	9.047	.3241	1.559	-.0581	-.0287
Stddev	.1807	.046	1.493	.041	.2385	.0764
%RSD	87.77	.5095	460.7	2.648	410.1	265.8
#1	.3337	9.080	-.7317	1.529	-.2268	.0253
#2	.0781	9.015	1.380	1.588	.1105	-.0827

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	40.18	.2010	.1740	-.0889	1.357	13.60
Stddev	1.69	.1553	.0900	.6108	.364	4.09
%RSD	4.196	77.27	51.69	686.7	26.83	30.11
#1	41.37	.3108	.1104	-.5208	1.099	16.49
#2	38.99	.0912	.2376	.3429	1.614	10.70

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642716 Acquired: 10/31/2011 9:31:22 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	38.15	10.61	.7980	-.2879	.1489	-1.515
Stddev	3.47	2.28	.0663	.1098	.4145	.694
%RSD	9.084	21.50	8.308	38.14	278.4	45.78
#1	40.60	12.23	.8449	-.3655	-.1442	-2.006
#2	35.70	9.001	.7511	-.2102	.4420	-1.025

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	1.180	-1.284	1.825	-6.100	1.085	-1.123
Stddev	.210	1.762	2.680	1.251	.258	1.901
%RSD	17.77	137.3	146.9	205.0	23.77	169.2
#1	1.032	-2.530	-.0703	-1.494	.9023	.2207
#2	1.328	-.0374	3.720	.2744	1.267	-2.467

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642716 Acquired: 10/31/2011 9:31:22 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.2362	.9762	8.726
Stddev	.1090	.1318	13.01
%RSD	46.14	13.51	149.1
#1	.3133	1.069	17.93
#2	.1591	.8830	-.4750

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8517.0	5222.2	24386.
Stddev	33.2	43.8	252.
%RSD	.38951	.83940	1.0327
#1	8493.5	5253.2	24584.
#2	8540.4	5191.2	24207.

Sample Name: 642717 Acquired: 10/31/2011 9:33:29 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	480.5	9356.	968.6	980.9	975.9	977.6
Stddev	1.7	32.	8.5	2.0	3.2	1.9
%RSD	.3513	.3436	.8770	.1993	.3238	.1990
#1	479.3	9333.	974.6	979.5	978.1	979.0
#2	481.7	9379.	962.6	982.3	973.6	976.2

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9506.	970.4	959.8	940.5	942.7	9646.
Stddev	9.	.1	.3	.1	2.0	11.
%RSD	.0983	.0065	.0273	.0149	.2142	.1095
#1	9512.	970.5	960.0	940.6	941.3	9639.
#2	9499.	970.4	959.6	940.4	944.1	9653.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642717 Acquired: 10/31/2011 9:33:29 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	9799.	9625.	951.7	980.8	966.3	965.4
Stddev	10.	6.	.5	1.7	1.6	1.
%RSD	.1018	.0595	.0497	.1727	.1634	.0092
#1	9791.	9621.	952.1	982.0	965.1	965.4
#2	9806.	9629.	951.4	979.6	967.4	965.5

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Sb2088	Se1960	Si2881	Sn1899	Ti3372	Ti1908
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	955.5	971.2	4985.	995.5	978.5	934.9
Stddev	1.1	7.3	12.	.6	.7	2.6
%RSD	.1122	.7486	.2398	.0564	.0694	.2764
#1	954.8	976.3	4976.	995.1	978.0	936.7
#2	956.3	966.0	4993.	995.9	979.0	933.1

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642717 Acquired: 10/31/2011 9:33:29 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	956.5	978.4	9836.
Stddev	.4	2.8	14.
%RSD	.0423	.2815	.1459
#1	956.2	976.5	9846.
#2	956.8	980.4	9826.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8463.0	5246.4	24525.
Stddev	12.5	6.4	18.
%RSD	.14803	.12198	.07294
#1	8454.1	5250.9	24538.
#2	8471.8	5241.9	24513.

Sample Name: 5054003002 Acquired: 10/31/2011 9:37:36 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-2114	.5845	1.562	347.1	93.83	.0361
Stddev	.1469	.2784	.308	4.8	.65	.0816
%RSD	69.50	47.63	19.71	1.375	.6946	225.7
#1	-.1075	.7814	1.344	350.4	93.37	-.0938
#2	-.3153	.3877	1.779	343.7	94.29	-.0215
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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	109500.	4.082	.7705	1.540	2.482	28.82
Stddev	739.	.2657	.1042	.066	.275	2.63
%RSD	.6748	65.10	13.52	4.273	11.09	9.119
#1	110000.	.2203	.8441	1.586	2.677	30.68
#2	109000.	.5961	.6968	1.493	2.288	26.96
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003002 Acquired: 10/31/2011 9:37:36 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	3362.	34970.	6.872	-6.063	6.512	-.7852
Stddev	30.	394.	.023	.1902	.114	.5252
%RSD	.8925	1.126	.3335	31.36	1.757	66.89
#1	3383.	35250.	6.888	-7.408	6.431	-1.157
#2	3341.	34690.	6.856	-4.719	6.593	-4.139
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	-.0130	5.232	6226.	.5904	-1.146	1.949
Stddev	2.265	1.189	46.	.8360	.116	.553
%RSD	17480.	22.71	.7402	141.6	10.11	28.39
#1	-1.615	4.392	6259.	-.0007	-1.228	2.340
#2	1.589	6.073	6194.	1.182	-1.064	1.558
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003002 Acquired: 10/31/2011 9:37:36 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	13.83	.0421	80790.
Stddev	.12	.0448	112.
%RSD	.8381	106.5	.1380
#1	13.91	.0104	80870.
#2	13.75	.0738	80710.
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	8353.7	5277.5	24772.
Stddev	11.0	31.2	235.
%RSD	.13226	.59120	.95053
#1	8345.9	5255.5	24606.
#2	8361.5	5299.6	24939.

Sample Name: 5054003003 Acquired: 10/31/2011 9:39:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.7591	2.431	.2642	18.25	.0725	.0182
Stddev	.0916	.566	.5292	.17	.0988	.0090
%RSD	12.07	23.27	200.3	.9093	136.2	49.32

#1	.6943	2.831	-.1100	18.13	.0027	.0118
#2	.8238	2.031	.6384	18.36	.1424	.0245

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	412.7	-.0206	.2724	.1462	1.523	-7.588
Stddev	.5	.1119	.1059	.5277	.202	.3304
%RSD	.1119	543.5	38.88	360.9	13.23	43.54

#1	413.1	.0585	.3473	.5194	1.380	-.5252
#2	412.4	-.0997	.1975	-.2269	1.665	-.9925

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003003 Acquired: 10/31/2011 9:39:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	236.8	54.22	.0550	-1.498	.1823	.5911
Stddev	10.2	1.35	.0555	.109	.0201	.7899
%RSD	4.285	2.488	100.9	7.259	11.03	133.6

#1	244.0	55.18	.0943	-1.575	.1965	1.150
#2	229.6	53.27	.0157	-1.421	.1681	.0326

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Sb2068	Se1960	Si2881	Sn1899	Ti3372	Ti1908
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	2342	-3.042	38.99	-4.072	-.0934	1.824
Stddev	4585	3.889	1.34	3473	.2547	.581
%RSD	195.8	127.8	3.429	85.27	272.6	31.87

#1	-.0900	-.2923	38.04	-.6528	-.2736	2.235
#2	.5584	-5.792	39.93	-.1617	.0867	1.413

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003003 Acquired: 10/31/2011 9:39:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.0790	4.764	830.7
Stddev	.2676	.061	23.4
%RSD	339.0	1.290	2.818

#1	-.1103	4.807	847.2
#2	.2682	4.720	814.1

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	8645.8	5396.7	25274.
Stddev	9.6	5.5	22.
%RSD	.11052	.10231	.08555

#1	8652.6	5400.6	25289.
#2	8639.1	5392.8	25258.

Sample Name: 5054003004 Acquired: 10/31/2011 9:41:54 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.1247	2.931	1.510	292.2	59.60	-0.050
Stddev	.0993	.116	.886	2.8	.34	.0507
%RSD	79.64	3.954	58.66	.9599	.5724	1024.

#1	.1950	3.013	2.136	294.2	59.84	.0309
#2	.0545	2.849	.8837	290.2	59.36	-.0408

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	118100.	.2887	.7096	.9547	2.288	74.56
Stddev	1260.	.0183	.1755	.2483	.349	10.22
%RSD	1.067	6.325	24.73	26.01	15.25	13.70

#1	119000.	.3017	.5855	1.130	2.041	81.78
#2	117200.	.2758	.8337	.7791	2.534	67.33

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003004 Acquired: 10/31/2011 9:41:54 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	3211.	28090.	2.125	-.2598	10.88	-1.180
Stddev	26.	273.	.004	-.1704	.33	1.474
%RSD	.7971	.9727	.1844	65.60	3.016	124.9

#1	3193.	28290.	2.128	-.1393	10.65	-.1375
#2	3229.	27900.	2.122	-.3803	11.11	-2.222

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	-0.188	2.516	4964.	-.2034	-1.379	2.894
Stddev	.7404	.852	.41.	.1819	.020	1.785
%RSD	3932.	33.86	.8305	89.43	1.462	61.69

#1	.5047	1.913	4993.	-.3321	-1.365	1.631
#2	-.5424	3.118	4935.	-.0748	-1.394	4.156

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003004 Acquired: 10/31/2011 9:41:54 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	11.58	1.804	76720.
Stddev	.16	.141	254.
%RSD	1.362	7.821	.3310

#1	11.69	1.903	76900.
#2	11.47	1.704	76540.

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	8294.0	5285.5	24765.
Stddev	20.7	25.7	106.
%RSD	.24988	.48613	.42962

#1	8308.6	5267.3	24690.
#2	8279.3	5303.7	24840.

Sample Name: ICVCCV Acquired: 10/31/2011 9:44:07 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	500.7	9782.	1008.	1027.	1020.	1023.
Stddev	3.2	70.	3.	9.	3.	2.
%RSD	.6338	.7183	.3327	.9078	.2622	.1793

#1	502.9	9832.	1011.	1034.	1022.	1024.
#2	498.4	9733.	1006.	1020.	1019.	1021.

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9743.	1014.	998.1	988.2	1001.	10030.
Stddev	17.	.	1.4	1.4	9.	9.
%RSD	.1770	.0361	.1420	.1461	.9108	.0895

#1	9755.	1014.	999.1	989.2	1007.	10040.
#2	9730.	1014.	997.1	987.2	994.5	10020.

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVCCV Acquired: 10/31/2011 9:44:07 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	10090.	9974.	999.3	1017.	1006.	1006.
Stddev	12.	36.	1.8	6.	.	4.
%RSD	.1222	.3623	.1766	.5913	.0313	.4046

#1	10080.	10000.	1001.	1022.	1005.	1009.
#2	10100.	9949.	998.0	1013.	1006.	1003.

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	991.0	1006.	5167.	1032.	1026.	968.5
Stddev	.1	10.	30.	4.	3.9	3.9
%RSD	.0138	.9657	.5871	.0479	.4143	.4021

#1	990.9	1013.	5189.	1032.	1029.	971.3
#2	991.1	998.9	5146.	1031.	1023.	965.8

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ICVCCV Acquired: 10/31/2011 9:44:07 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	1006.	1015.	10160.
Stddev	5.	1.	14.
%RSD	.4651	.0704	.1365

#1	1010.	1015.	10170.
#2	1003.	1014.	10150.

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	8435.0	5215.0	24379.
Stddev	29.2	10.6	47.
%RSD	.34646	.20319	.19183

#1	8414.3	5207.5	24346.
#2	8455.7	5222.5	24412.

Sample Name: ICBCCB Acquired: 10/31/2011 9:47:00 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.2782	-.5747	4.532	2.381	-.0180	.0418
Stddev	.4412	1.139	.727	.405	.1967	.0279
%RSD	158.6	198.2	16.03	16.99	1090.	66.72
#1	-.0338	.2307	4.018	2.095	-.1571	.0615
#2	.5902	-1.380	5.046	2.667	.1210	.0221

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	6.944	.1824	.0494	4.957	1.605	-5.833
Stddev	.194	.0107	.0368	.2151	.345	3.677
%RSD	2.793	5.886	74.47	43.39	21.47	63.03
#1	6.807	.1748	.0753	.6478	1.361	-3.233
#2	7.081	.1900	.0234	.3436	1.848	-8.433

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Sample Name: ICBCCB Acquired: 10/31/2011 9:47:00 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	13.91	-5.057	.1709	3.107	.3017	-1.032
Stddev	6.66	1.181	.0050	.977	.1941	.446
%RSD	47.86	23.36	2.918	31.45	64.32	43.25
#1	18.62	-4.221	.1744	2.416	.1645	-1.347
#2	9.205	-5.892	.1673	3.798	.4390	-7.161

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	1.681	6.005	-1.300	.2542	.2724	-1.175
Stddev	.100	.703	.177	.1799	.1141	.918
%RSD	5.921	11.71	13.64	70.76	41.90	78.12
#1	1.751	5.508	-1.426	.1270	.3530	-5.259
#2	1.611	6.502	-1.175	.3814	.1917	-1.824

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Sample Name: ICBCCB Acquired: 10/31/2011 9:47:00 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.4881	.1687	26.20
Stddev	.6163	.0529	4.23
%RSD	126.3	31.37	16.16
#1	.0523	.1312	29.20
#2	.9239	.2061	23.21

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	8571.9	5292.9	24649.
Stddev	12.5	45.0	135.
%RSD	.14580	.85065	.54607
#1	8563.1	5324.7	24744.
#2	8580.8	5261.0	24554.

Sample Name: CRDL Acquired: 10/31/2011 9:49:06 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	11.19	190.7	9.729	150.8	2.906	9.777
Stddev	.39	2.1	.789	3.1	.051	.019
%RSD	3.504	1.082	8.109	2.054	1.757	.1981
#1	10.91	189.2	9.171	148.6	2.870	9.791
#2	11.46	192.2	10.29	153.0	2.943	9.763

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	511.9	1.115	19.95	19.67	11.19	95.70
Stddev	.9	.088	.14	.45	.56	3.62
%RSD	.1724	7.908	.7149	2.303	5.021	3.778
#1	511.3	1.052	20.05	19.35	11.59	93.14
#2	512.6	1.177	19.85	19.99	10.80	98.26

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: CRDL Acquired: 10/31/2011 9:49:06 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	5066.	491.6	10.13	29.11	40.19	3.911
Stddev	34.	8.4	.06	.24	.43	.465
%RSD	.6614	1.713	.6016	.8197	1.076	11.90
#1	5090.	485.7	10.09	28.95	39.89	4.240
#2	5042.	497.6	10.17	29.28	40.50	3.582

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	11.53	11.73	-1.150	72.89	20.34	18.39
Stddev	.75	.00	2.262	.67	.42	.22
%RSD	6.519	.0091	196.7	.9174	2.062	1.210
#1	10.99	11.73	-2.749	72.41	20.04	18.55
#2	12.06	11.73	.4497	73.36	20.64	18.23

Check ? High Limit Low Limit
 Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass

Sample Name: CRDL Acquired: 10/31/2011 9:49:06 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	30.18	43.11	2037.
Stddev	1.08	.38	14.
%RSD	3.563	.8810	.6692
#1	30.94	43.38	2028.
#2	29.42	42.84	2047.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8561.7	5336.3	24515.
Stddev	19.0	4.0	113.
%RSD	.22153	.07583	.45900
#1	8548.3	5339.1	24595.
#2	8575.1	5333.4	24436.

Sample Name: 642718 Acquired: 10/31/2011 9:51:14 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	482.6	936.3	1012.	1285.	1014.	961.9
Stddev	2.9	27.	2.	7.	7.	5.4
%RSD	.6033	.2857	.1589	.5797	.6619	.5578
#1	480.5	9344.	1011.	1280.	1010.	958.1
#2	484.7	9382.	1013.	1290.	1019.	965.7

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	121200.	1004.	943.7	902.4	925.4	9397.
Stddev	608.	2.	1.6	3.3	3.9	43.
%RSD	.5015	.1549	.1648	.3665	.4220	.4549
#1	120700.	1003.	942.6	900.0	922.7	9367.
#2	121600.	1005.	944.8	904.7	928.2	9427.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642718 Acquired: 10/31/2011 9:51:14 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	13070.	36240.	919.8	913.3	959.0	956.0
Stddev	1.	160.	4.3	6.8	2.3	3.0
%RSD	.0065	.4420	.4677	.7476	.2440	.3117
#1	13070.	36130.	916.8	918.1	957.3	953.9
#2	13070.	36350.	922.9	908.5	960.6	958.1

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	986.7	1023.	9618.	990.2	949.6	927.5
Stddev	.8	4.	52.	.4	4.4	.7
%RSD	.0832	.4163	.5396	.0434	.4619	.0772
#1	986.1	1026.	9581.	990.5	946.5	928.0
#2	987.3	1020.	9655.	989.9	952.7	927.0

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642718 Acquired: 10/31/2011 9:51:14 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	939.0	970.5	83650.
Stddev	3.8	.7	164.
%RSD	.4073	.0717	.1965
#1	936.3	970.0	83530.
#2	941.7	971.0	83770.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8323.5	5342.6	24493.
Stddev	20.4	21.7	23.
%RSD	.24480	.40669	.09195
#1	8337.9	5357.9	24508.
#2	8309.1	5327.2	24477.

Sample Name: 642719 Acquired: 10/31/2011 9:53:13 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	483.9	9395.	1024.	1289.	1021.	964.4
Stddev	.7	2.	1.	3.	3.	2.5
%RSD	.1434	.0195	.1411	.2643	.2855	.2567
#1	483.4	9396.	1025.	1291.	1019.	962.6
#2	484.4	9393.	1023.	1286.	1023.	966.1

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	121600.	1008.	948.3	901.3	931.5	9403.
Stddev	487.	1.	.9	4.0	.7	24.
%RSD	.4009	.1163	.0937	.4424	.0747	.2589
#1	121900.	1009.	947.7	898.5	932.0	9385.
#2	121200.	1007.	949.0	904.1	931.0	9420.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642719 Acquired: 10/31/2011 9:53:13 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	13050.	36270.	919.1	962.7	960.7	958.0
Stddev	24.	97.	3.0	3.0	1.4	1.7
%RSD	.1864	.2661	.3232	.3087	.1488	.1811
#1	13030.	36200.	917.0	964.8	961.8	956.8
#2	13060.	36340.	921.2	960.6	959.7	959.2

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	990.4	1079.	9656.	997.5	954.8	930.9
Stddev	.4	1.	6.	1.5	.5	4.0
%RSD	.0369	.1251	.0577	.1495	.0563	.4273
#1	990.1	1080.	9660.	998.5	954.4	933.8
#2	990.6	1078.	9652.	996.4	955.2	928.1

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 642719 Acquired: 10/31/2011 9:53:13 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	941.9	971.9	83260.
Stddev	3.5	.8	291.
%RSD	.3747	.0790	.3498
#1	939.4	972.5	83050.
#2	944.4	971.4	83460.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8275.1	5321.7	24512.
Stddev	14.1	13.1	72.
%RSD	.17084	.24683	.29390
#1	8285.1	5331.0	24563.
#2	8265.1	5312.4	24461.

Sample Name: 5054003005 Acquired: 10/31/2011 9:56:32 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.5700	1.071	1.416	237.1	75.65	.0120
Stddev	.0064	.368	2.557	.5	.23	.0318
%RSD	1.119	34.36	180.7	.2266	.3014	265.3

#1	.5745	1.331	-.3928	236.7	75.82	.0344
#2	.5655	.8108	3.224	237.4	75.49	-.0105

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	37290.	.2721	.1483	3.644	1.779	143.9
Stddev	.35	.0893	.1167	.233	.084	1.3
%RSD	.0946	32.82	78.68	6.395	4.739	.8917

#1	37310.	.3353	.2309	3.809	1.839	144.8
#2	37270.	.2090	.0658	3.480	1.720	143.0

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003005 Acquired: 10/31/2011 9:56:32 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	6491.	13240.	4.199	79.64	11.37	-1.602
Stddev	3.	1.	.026	1.27	.64	.086
%RSD	.0404	.0048	.6236	1.593	5.645	5.367

#1	6493.	13240.	4.218	80.54	10.91	-1.662
#2	6489.	13240.	4.181	78.74	11.82	-1.541

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	.6871	8.653	4343.	.5221	-.6018	1.217
Stddev	.3024	.064	16.	1.320	.3109	.085
%RSD	44.01	.7427	.3631	252.8	51.67	6.959

#1	.9009	8.698	4332.	-.4113	-.8217	1.157
#2	.4732	8.607	4354.	1.455	-.3819	1.277

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: 5054003005 Acquired: 10/31/2011 9:56:32 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	6.307	1.036	91940.
Stddev	.334	.112	213.
%RSD	5.291	10.82	.2320

#1	6.071	.9570	92090.
#2	6.543	1.116	91790.

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	8541.0	5416.1	24880.
Stddev	8.4	16.6	65.
%RSD	.09865	.30607	.25964

#1	8547.0	5404.3	24834.
#2	8535.0	5427.8	24926.

Sample Name: 5054003006 Acquired: 10/31/2011 9:58:38 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	-0.713	-4.169	3.864	243.4	16.87	.0025
Stddev	.2688	2.409	2.358	.1	.13	.0241
%RSD	376.7	57.79	61.03	.0302	.7452	955.2
#1	.1187	-5.873	2.197	243.4	16.78	.0195
#2	-.2614	-2.466	5.532	243.5	16.96	-.0145

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	494.10	.2618	.4630	1.217	2.504	8.806
Stddev	148.	.0340	.0118	.005	.332	4.594
%RSD	.3004	13.00	2.553	4.276	13.26	52.17
#1	49510.	.2859	.4714	1.213	2.270	5.557
#2	49300.	.2378	.4546	1.221	2.739	12.05

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Sample Name: 5054003006 Acquired: 10/31/2011 9:58:38 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	10420.	22740.	.7264	29.16	2.259	-1.206
Stddev	29.	85.	.0386	.08	.141	1.542
%RSD	.2815	.3746	5.319	.2676	6.255	127.8
#1	10400.	22680.	.6991	29.22	2.359	-1.162
#2	10450.	22800.	.7537	29.11	2.159	-2.297

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	-3966	-4027	3114.	-8621	-6908	2.189
Stddev	1.554	1.562	4.	.7855	.1690	2.577
%RSD	391.8	387.9	.1185	91.12	24.46	117.8
#1	-1.495	-1.507	3111.	-1.418	-5.713	.3663
#2	.7021	.7017	3117.	-.3067	-.8103	4.011

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Sample Name: 5054003006 Acquired: 10/31/2011 9:58:38 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	11.10	.2000	91190.
Stddev	.20	.2660	116.
%RSD	1.836	133.0	.1270
#1	11.25	.0119	91110.
#2	10.96	.3881	91270.

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	8487.1	5416.4	24688.
Stddev	20.0	22.4	18.
%RSD	.23539	.41284	.07435
#1	8473.0	5432.3	24701.
#2	8501.3	5400.6	24675.

Sample Name: 5054003001 Acquired: 10/31/2011 10:00:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.3478	-2.531	2.344	343.5	92.69	.0225
Stddev	.7595	3.764	.722	1.3	.06	.0073
%RSD	218.4	148.7	30.78	.3827	.0668	32.48

#1	.8849	-5.192	1.834	344.4	92.65	.0173
#2	-.1892	.1308	2.854	342.6	92.73	.0276

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	107600.	.4514	.7736	.6923	2.511	29.96
Stddev	606.	.2041	.1359	.1069	.286	2.50
%RSD	.5627	45.22	17.57	15.44	11.38	8.329

#1	108000.	.3071	.8697	.7678	2.309	31.73
#2	107200.	.5958	.6775	.6167	2.713	28.20

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 5054003001 Acquired: 10/31/2011 10:00:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	3418.	34840.	6.671	4.834	7.172	-1.496
Stddev	24.	109.	.003	.529	.275	.774
%RSD	.6971	.3140	.0410	10.95	3.834	51.71

#1	3401.	34920.	6.669	4.459	6.978	-.9490
#2	3435.	34770.	6.673	5.208	7.366	-2.043

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	.6726	3.495	6129.	-.5401	-1.362	1.198
Stddev	1.442	.205	22.	.2811	.144	.034
%RSD	214.4	5.869	.3520	52.05	10.55	2.822

#1	1.692	3.350	6145.	-.7389	-1.260	1.222
#2	-.3470	3.640	6114.	-.3413	-1.464	1.174

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: 5054003001 Acquired: 10/31/2011 10:00:47 Type: Unk
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	13.19	.3837	81380.
Stddev	.05	.1252	172.
%RSD	.3427	32.62	.2117

#1	13.23	.2952	81260.
#2	13.16	.4722	81500.

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass

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	8324.1	5352.9	24527.
Stddev	23.5	20.4	45.
%RSD	.28202	.38070	.18160

#1	8340.7	5338.5	24496.
#2	8307.5	5367.3	24559.

Sample Name: ICVCCV Acquired: 10/31/2011 10:13:52 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	492.5	9604.	1009.	1014.	1007.	1004.
Stddev	.3	18.	.	1.	1.	4.
%RSD	.0567	.1879	.0064	.1117	.1362	.3973
#1	492.4	9591.	1009.	1015.	1006.	1001.
#2	492.7	9617.	1009.	1013.	1008.	1006.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	9581.	1014.	1002.	969.6	978.8	9837.
Stddev	33.	1.	3.	1.0	.5	24.
%RSD	.3476	.1257	.2691	.1034	.0514	.2418
#1	9604.	1013.	1000.	970.3	978.4	9854.
#2	9557.	1015.	1004.	968.9	979.2	9820.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 10:13:52 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	10150.	9855.	982.2	1027.	1010.	1006.
Stddev	23.	24.	2.6	1.	1.	5.
%RSD	.2267	.2439	.2602	.1284	.1070	.4509
#1	10130.	9872.	984.0	1026.	1009.	1003.
#2	10170.	9838.	980.4	1028.	1011.	1009.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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	991.8	998.5	5042.	1039.	1013.	975.9
Stddev	.6	1.5	8.	2.	2.	.7
%RSD	.0570	.1531	.1631	.1668	.1920	.0684
#1	991.4	999.6	5048.	1037.	1015.	975.4
#2	992.2	997.4	5036.	1040.	1012.	976.4

Check ? Value Range
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ICVCCV Acquired: 10/31/2011 10:13:52 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	992.0	1016.	10150.
Stddev	.9	4.	47.
%RSD	.0896	.3720	.4653
#1	992.6	1013.	10110.
#2	991.3	1019.	10180.

Check ? Value Range
 Chk Pass Chk Pass Chk Pass

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	8464.0	5303.1	24378.
Stddev	27.6	10.1	3.
%RSD	.32664	.19071	.01433
#1	8444.4	5295.9	24375.
#2	8483.5	5310.2	24380.

Sample Name: ICBCCB Acquired: 10/31/2011 10:16:34 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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_3600)	(Y_3600)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.4597	-1.452	2.334	3.839	-0.726	.0490
Stddev	.0935	1.381	.597	.927	.1346	.0579
%RSD	20.34	95.11	25.60	24.15	185.2	118.2

#1	.5259	-2.429	1.911	4.495	-.1678	.0899
#2	.3936	-.4756	2.756	3.184	.0225	.0080

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_3600)	(Y_3600)	(Y_3600)
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	4.869	.0906	.4091	.1897	1.231	-6.133
Stddev	.057	.0159	.0429	.0714	.652	1.764
%RSD	1.170	17.52	10.48	37.61	52.94	287.6

#1	4.909	.0794	.3788	.2402	.7705	.6339
#2	4.828	.1019	.4394	.1392	1.693	-1.860

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBCCB Acquired: 10/31/2011 10:16:34 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	17.73	-4.055	.0049	5.284	2.651	1.118
Stddev	18.36	.280	.0093	.986	30.89	.715
%RSD	103.6	6.896	190.3	18.66	116.5	64.00

#1	4.741	-4.253	.0115	4.587	.4835	1.624
#2	30.71	-3.858	-.0017	5.982	.0467	.6120

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	.7755	5.263	-4.870	.0468	.1580	-1.191
Stddev	.6146	.752	1.686	.4031	1.089	1.186
%RSD	79.26	14.28	34.62	861.1	68.96	99.51

#1	1.210	4.731	-3.678	.3318	2.350	-2.030
#2	.3409	5.794	-6.062	-.2382	.0809	-.3531

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICBCCB Acquired: 10/31/2011 10:16:34 Type: QC
 Method: 50ICP3 method build(v11) Mode: CONC Corr. Factor: 1.000000
 User: frw 6010 B: Custom ID2: Custom ID3:
 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	.1717	-.0925	47.84
Stddev	.1637	.0603	8.55
%RSD	95.30	65.12	17.87

#1	.0560	-.0499	53.88
#2	.2875	-.1352	41.80

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	8550.6	5335.8	24354.
Stddev	14.1	45.0	227.
%RSD	.16473	.84343	.93335

#1	8540.6	5367.7	24514.
#2	8560.5	5304.0	24193.



Mercury

7470A/7471A

Project Number 5054003

Initials/ Date Compiled JJ 11-7-11

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*

Mercury Log

PASI INDI EPA 7470A/7471A

Call Spike Sol. #: 23288

Time In 11:36 AM

Bath Temp(C): 97.0/97.1/3

Page Number: 2527

ICV Sol. #: 23006 23343

Time Out: 1:36 PM

Wednesday, November 02, 2011

Aqua Regia: 0
 Hydroxylamine Hydrochloride: 1.0 200
 Potassium Permanganate: 3393
 Stannous Chloride: 10196

Stannous Chloride 10196
 Hg Carrier solution:
 Potassium Persulfate: 10151

Daily Working Std and Digested CAL Std's Prepared Per SOP# IN-I-040-rev.10
 and SOP# S-IN-VAP-I-040 rev.01
 Filter Lot: 00412766

Analyst sample ID calc avg client absorbance date/time QC batch initial wt/vol final vol project # QC/Comments

PHB	5054294001		Keramida Ohio	11/2/2011	3500	1.5	30	5054294
PHB	5054210003		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	643360		In-house QC Account	11/2/2011	3500	30	30	
PHB	643361		In-house QC Account	11/2/2011	3500	30	30	
PHB	5054210004		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054210005		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054210006		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054210007		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	643511		In-house QC Account	11/2/2011	3501	10	30	
PHB	5054210009		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054274006		Keramida Ohio	11/2/2011	3500	30	30	5054274
PHB	5054294002		Keramida Ohio	11/2/2011	3500	5	30	5054294
PHB	643508		In-house QC Account	11/2/2011	3501	10	30	
PHB	643509		In-house QC Account	11/2/2011	3501	10	30	
PHB	643510		In-house QC Account	11/2/2011	3501	10	30	
PHB	5054281001		Thomas Industrial Coa	11/2/2011	3501	10	30	5054281
PHB	5054281002		Thomas Industrial Coa	11/2/2011	3501	10	30	5054281
PHB	5054281003		Thomas Industrial Coa	11/2/2011	3501	10	30	5054281
PHB	5054281004		Thomas Industrial Coa	11/2/2011	3501	10	30	5054281
PHB	5054210008		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054119001		Sesco	11/2/2011	3499	30	30	5054119
PHB	643349		In-house QC Account	11/2/2011	3499	30	30	
PHB	643350		In-house QC Account	11/2/2011	3499	30	30	
PHB	5054003001		Arcadis U.S., Inc.	11/2/2011	3499	30	30	5054003
PHB	5054003002		Arcadis U.S., Inc.	11/2/2011	3499	30	30	5054003
PHB	5054003003		Arcadis U.S., Inc.	11/2/2011	3499	30	30	5054003
PHB	5054003004		Arcadis U.S., Inc.	11/2/2011	3499	30	30	5054003
PHB	643351		In-house QC Account	11/2/2011	3499	30	30	
PHB	643352		In-house QC Account	11/2/2011	3500	30	30	
PHB	5054210002		ATC Associates	11/2/2011	3499	30	30	5054210
PHB	5054003006		Arcadis U.S., Inc.	11/2/2011	3499	30	30	5054003
PHB	5054210001		ATC Associates	11/2/2011	3500	30	30	5054210
PHB	5054119002		Sesco	11/2/2011	3499	30	30	5054119
PHB	5054184001		August Mack Ohio	11/2/2011	3499	30	30	5054184
PHB	5054184002		August Mack Ohio	11/2/2011	3499	30	30	5054184

*Interacts sample valences
 and Dilutions added
 into electronic logbook
 by lab technician
 11-3-11 WJ
 Lab technician confirms
 error
 * Samples diluted due
 to high sediment
 content.*

Mercury Log

PASI INDY EPA 7470A/7471A

Call/ Spike Sol: # 23288

Time In 11:36 AM Bath Temp(C): 97.0 *98.2* / 3

Page Number: *11-3-11* 2527

Wednesday, November 02, 2011

Aqua Regia: 0
 Hydroxylamine Hydrochloride: *1.0* ~~2.0~~
 Potassium Permanganate: 3393
 Stannous Chloride: 10196

Stannous Chloride 10196
 Hg Carrier solution:
 Potassium Persulfate: 10151

Time Out: 1:36 PM
 Daily Working Std and Digested CAL Std's Prepared Per SOP# IN-1-040-rev. 10
 and SOP# S-IN-VAP-1-040 rev.01
 Filter Lot: 00412766

Analyst	sample ID	calc avg	client	absorbance	date/time	QC batch	(g or mL)		project #	QC/Comments
							initial wt/vol	final vol		
PHB	643358		In-house QC Account	11/2/2011	3500	30	30			
PHB	643359		In-house QC Account	11/2/2011	3500	30	30			
PHB	5054171001		Industrial Service Gro	11/2/2011	3500	30	30	5054171		
PHB	5054274005		Keramida Ohio	11/2/2011	3500	<i>30.5</i> *	30	5054274		
PHB	5054003005		Arcadis U.S. Inc.	11/2/2011	3499	30	30	5054003		

Sample ID	Dil	QC	Date	Time	Mercury		
CALIBRATION BLANK	1	UNK	11/03/11	10:12:03	0		
STANDARD 0.2	1	UNK	11/03/11	10:14:06	0.2		
STANDARD 1.0	1	UNK	11/03/11	10:16:09	1		
STANDARD 2.0	1	UNK	11/03/11	10:18:13	2		
STANDARD 5.0	1	UNK	11/03/11	10:20:18	5		
STANDARD 7.5	1	UNK	11/03/11	10:22:23	7.5		
STANDARD 10.0	1	UNK	11/03/11	10:24:28	10		
ICV	1	ICV	11/03/11	10:26:34	5.33		
						106.60%	
ICB	1	ICB	11/03/11	10:28:36	0.007		
						2	
CRDL STANDARD	1	CRDL	11/03/11	10:30:40	1.84		
						92.00%	
643358 3436	1	BLANK	11/03/11	10:32:42	0.009		
						2	
643359 3436	1	LCS	11/03/11	10:34:45	4.86		
						97.20%	
5054171001 3436	1	PS	11/03/11	10:36:47	0.008		
5054274005 3436	1	PS	11/03/11	10:38:50	0.593		
5054274006 3436	1	PS	11/03/11	10:40:54	0.172		
5054210001 3436	1	PS	11/03/11	10:42:57	0.023		
5054210002 3436	1	PS	11/03/11	10:45:01	0.012		
5054210003 3436	1	RQS	11/03/11	10:47:05	0.017		
643360 3436	1	MS	11/3/2011	10:49:10	5.08		
643361 3436	1	MSD	11/3/2011	10:51:14	5.15		
CCV	1	CCV	11/3/2011	10:53:19	5.02		
						100.40%	
CCB	1	CCB	11/3/2011	10:55:21	0.009		
						2	
5054210004 3436	1	PS	11/3/2011	10:57:26	0.019		
5054210005 3436	1	PS	11/3/2011	10:59:31	0.008		
5054210006 3436	1	PS	11/3/2011	11:01:33	0.01		
5054210007 3436	1	PS	11/3/2011	11:03:35	0.01		
5054210008 3436	1	PS	11/3/2011	11:05:37	0.011		
5054210009 3436	1	PS	11/3/2011	11:07:40	0.011		
5054294001 3436	1	PS	11/3/2011	11:09:43	0.33		
5054294002 3436	1	PS	11/3/2011	11:11:46	0.285		
643508 3437	1	BLANK	11/3/2011	11:13:49	0.015		
						2	
643509 3437	1	LCS	11/3/2011	11:15:53	5.87		
						117.40%	
CCV	1	CCV	11/3/2011	11:17:58	5.01		
						100.20%	
CCB	1	CCB	11/3/2011	11:20:00	0.008		
						2	
643510 3437	1	LCSD	11/3/2011	11:22:04	5.89		
						117.80%	
5054281001 3437	1	PS	11/3/2011	11:24:08	0.014		
5054281002 3437	1	PS	11/3/2011	11:26:13	0.018		
5054281003 3437	1	PS	11/3/2011	11:28:18	0.015		
5054281004 3437	1	PS	11/3/2011	11:30:20	0.015		
643511 3437	1	MS	11/3/2011	11:32:22	5.94		
643349 3438	1	BLANK	11/3/2011	11:34:24	0.006		
						2	
643350 3438	1	LCS	11/3/2011	11:36:27	4.93		
						98.60%	
5054003001 3438	1	PS	11/3/2011	11:38:30	0.01		
5054003002 3438	1	PS	11/3/2011	11:40:33	0.01		
CCV	1	CCV	11/3/2011	11:42:37	4.98		
						99.60%	
CCB	1	CCB	11/3/2011	11:44:39	0.009		
						2	
5054003003 3438	1	PS	11/3/2011	11:46:43	0.01		
5054003004 3438	1	RQS	11/3/2011	11:48:47	0.01		
643351 3438	1	MS	11/3/2011	11:50:51	5.09		

Sample ID	Dil	QC	Date	Time	Mercury		
643352 3438	1	MSD	11/3/2011	11:52:55	5.25		
5054003005 3438	1	PS	11/3/2011	11:55:00	0.007		
5054003006 3438	1	PS	11/3/2011	11:57:05	0.011		
5054119001 3438	1	PS	11/3/2011	11:59:07	0.012		
5054119002 3438	1	PS	11/3/2011	12:01:09	0.012		
5054184001 3438	1	PS	11/3/2011	12:03:12	0.014		
5054184002 3438	1	PS	11/3/2011	12:05:14	0.017		
CCV	1	CCV	11/3/2011	12:07:19	5.01		
					100.20%		
CCB	1	CCB	11/3/2011	12:09:21	0.008		
					2		
CRDL STANDARD	1	CRDL	11/3/2011	12:11:25	1.82		
					91.00%		

Report Generated By CETAC QuickTrace

Analyst: 50Metals

Worksheet file: C:\Program Files\QuickTrace\Worksheets\11-03-11 3436-3438.wsz

Date Started: 11/3/2011 9:22:25 AM

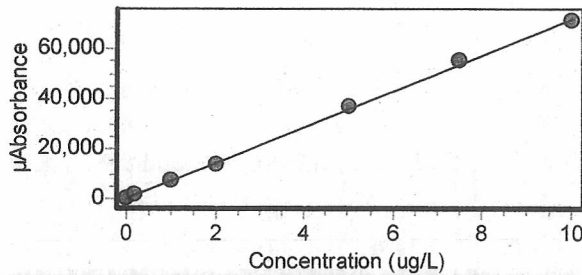
Comment: ICV STD#23343 / CCV STD#23288

Results

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
Calibration Blank	STD	11/03/11 10:12:03 am	0.000	165	0.94		1.00
Replicates			166.6 165.5 165.1 162.9				
Standard 0.2	STD	11/03/11 10:14:06 am	0.200	1619	0.14		1.00
Replicates			1621.1 1617.9 1620.0 1616.2				
Standard 1.0	STD	11/03/11 10:16:09 am	1.000	7486	0.24		1.00
Replicates			7460.5 7488.6 7504.1 7490.1				
Standard 2.0	STD	11/03/11 10:18:13 am	2.000	13281	0.22		1.00
Replicates			13239.9 13290.1 13309.8 13283.1				
Standard 5.0	STD	11/03/11 10:20:18 am	5.000	36252	0.22		1.00
Replicates			36150.4 36285.6 36333.7 36238.9				
Standard 7.5	STD	11/03/11 10:22:23 am	7.500	54700	0.22		1.00
Replicates			54545.0 54750.8 54830.8 54674.3				
Standard 10.0	STD	11/03/11 10:24:28 am	10.000	70755	0.25		1.00
Replicates			70531.4 70830.0 70944.7 70713.9				

Calibration

Equation: $A = 87.236 + 7145.803C$
 R2: 0.99933
 SEE: 792.4725
 Flags:



ICV	ICV	11/03/11 10:26:34 am	5.330	38207	0.24	1.00
Replicates			38089.1 38246.3 38308.1 38184.4			
% Recovery			106.69			

Sample Name	Type	Date/Time	Conc (ug/L)	μAbs	%RSD	Flags	DF
ICB Replicates	ICB	11/03/11 10:28:36 am	0.007	138	1.27		1.00
CRDL Standard Replicates % Recovery	CRDL	11/03/11 10:30:40 am	1.840	13231	0.26		1.00
643358 Replicates	UNK	11/03/11 10:32:42 am	0.009	153	2.13		1.00
643359 Replicates	UNK	11/03/11 10:34:45 am	4.860	34840	0.35		1.00
5054171001 Replicates	UNK	11/03/11 10:36:47 am	0.008	144	1.64		1.00
5054274005 Replicates	UNK	11/03/11 10:38:50 am	0.593	4328	0.28		1.00
5054274006 Replicates	UNK	11/03/11 10:40:54 am	0.172	1313	0.34		1.00
5054210001 Replicates	UNK	11/03/11 10:42:57 am	0.023	255	1.75		1.00
5054210002 Replicates	UNK	11/03/11 10:45:01 am	0.012	172	1.26		1.00
5054210003 Replicates	UNK	11/03/11 10:47:05 am	0.017	208	1.94		1.00
643360 Replicates	UNK	11/03/11 10:49:10 am	5.080	36384	0.37		1.00
643361 Replicates	UNK	11/03/11 10:51:14 am	5.150	36910	0.29		1.00

Sample Name	Type	Date/Time	Conc (ug/L)	μAbs	%RSD	Flags	DF
CCV	CCV	11/03/11 10:53:19 am	5.020	35981	0.27		1.00
Replicates	35844.0	35996.6	36077.8	36004.6			
% Recovery	100.46						
CCB	CCB	11/03/11 10:55:21 am	0.009	149	1.60		1.00
Replicates	146.1	148.6	151.6	150.5			
5054210004	UNK	11/03/11 10:57:26 am	0.019	221	0.84		1.00
Replicates	218.1	220.9	221.5	222.4			
5054210005	UNK	11/03/11 10:59:31 am	0.008	145	2.66		1.00
Replicates	148.1	142.0	142.0	149.2			
5054210006	UNK	11/03/11 11:01:33 am	0.010	158	0.90		1.00
Replicates	159.7	156.6	158.0	159.4			
5054210007	UNK	11/03/11 11:03:35 am	0.010	160	1.61		1.00
Replicates	160.1	156.9	158.7	163.0			
5054210008	UNK	11/03/11 11:05:37 am	0.011	167	0.88		1.00
Replicates	165.3	166.4	166.5	168.8			
5054210009	UNK	11/03/11 11:07:40 am	0.011	168	1.92		1.00
Replicates	173.2	167.0	167.3	166.1			
5054294001	UNK	11/03/11 11:09:43 am	0.330	2445	0.43		1.00
Replicates	2429.8	2444.9	2453.1	2450.7			
5054294002	UNK	11/03/11 11:11:46 am	0.285	2123	0.20		1.00
Replicates	2116.7	2125.5	2126.3	2123.7			
643508	UNK	11/03/11 11:13:49 am	0.015	191	1.71		1.00
Replicates	194.7	187.0	190.9	192.6			
643509	UNK	11/03/11 11:15:53 am	5.870	42054	0.20		1.00
Replicates	41941.9	42085.9	42143.5	42045.1			

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV	CCV	11/03/11 11:17:58 am	5.010	35907	0.25		1.00
Replicates							
35790.6	35937.5	36000.5	35899.0				
% Recovery	100.25						
CCB	CCB	11/03/11 11:20:00 am	0.008	146	1.25		1.00
Replicates							
146.4	148.2	146.9	143.8				
643510	UNK	11/03/11 11:22:04 am	5.890	42143	0.18		1.00
Replicates							
42070.8	42191.5	42225.7	42084.8				
5054281001	UNK	11/03/11 11:24:08 am	0.014	189	1.69		1.00
Replicates							
193.4	189.4	187.4	186.1				
5054281002	UNK	11/03/11 11:26:13 am	0.018	214	1.13		1.00
Replicates							
217.4	213.8	213.2	211.7				
5054281003	UNK	11/03/11 11:28:18 am	0.015	198	2.06		1.00
Replicates							
202.4	199.8	194.4	194.2				
5054281004	UNK	11/03/11 11:30:20 am	0.015	192	1.53		1.00
Replicates							
194.2	190.6	187.9	193.7				
643511	UNK	11/03/11 11:32:22 am	5.940	42542	0.21		1.00
Replicates							
42419.7	42557.7	42628.0	42560.7				
643349	UNK	11/03/11 11:34:24 am	0.006	134	3.24		1.00
Replicates							
139.9	133.2	130.7	130.7				
643350	UNK	11/03/11 11:36:27 am	4.930	35293	0.36		1.00
Replicates							
35116.7	35280.4	35392.4	35384.1				
5054003001	UNK	11/03/11 11:38:30 am	0.010	159	2.71		1.00
Replicates							
154.7	156.2	162.2	163.4				
5054003002	UNK	11/03/11 11:40:33 am	0.010	161	0.84		1.00
Replicates							
159.8	160.3	160.1	162.8				

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags	DF
CCV				CCV	11/03/11 11:42:37 am	4.980	35661	0.26		1.00
Replicates	35532.3	35678.6	35754.6	35679.8						
% Recovery	99.57									
CCB				CCB	11/03/11 11:44:39 am	0.009	151	1.34		1.00
Replicates	152.5	152.1	149.5	148.4						
5054003003				UNK	11/03/11 11:46:43 am	0.010	159	1.24		1.00
Replicates	159.6	160.3	159.6	155.9						
5054003004				UNK	11/03/11 11:48:47 am	0.010	159	3.34		1.00
Replicates	154.1	154.8	159.8	165.6						
643351				UNK	11/03/11 11:50:51 am	5.090	36443	0.51		1.00
Replicates	36194.8	36408.8	36571.7	36598.3						
643352				UNK	11/03/11 11:52:55 am	5.250	37638	0.29		1.00
Replicates	37484.6	37650.2	37744.3	37671.7						
5054003005				UNK	11/03/11 11:55:00 am	0.007	140	2.28		1.00
Replicates	135.7	143.0	141.8	140.9						
5054003006				UNK	11/03/11 11:57:05 am	0.011	167	1.33		1.00
Replicates	168.8	168.9	165.0	165.0						
5054119001				UNK	11/03/11 11:59:07 am	0.012	171	0.94		1.00
Replicates	172.5	169.2	171.4	169.4						
5054119002				UNK	11/03/11 12:01:09 pm	0.012	172	1.87		1.00
Replicates	175.7	174.8	169.9	169.5						
5054184001				UNK	11/03/11 12:03:12 pm	0.014	188	1.58		1.00
Replicates	188.4	183.4	189.0	190.0						
5054184002				UNK	11/03/11 12:05:14 pm	0.017	207	0.30		1.00
Replicates	207.2	206.8	207.4	206.0						

Sample Name				Type	Date/Time	Conc (ug/L)	μAbs	%RSD	Flags	DF
CCV				CCV	11/03/11 12:07:19 pm	5.010	35885	0.26		1.00
Replicates	35762.2	35917.4	35983.6	35875.5						
% Recovery	100.19									
CCB				CCB	11/03/11 12:09:21 pm	0.008	148	2.17		1.00
Replicates	144.4	145.1	149.9	150.6						
CRDL Standard				CRDL	11/03/11 12:11:25 pm	1.820	13100	0.34		1.00
Replicates	13038.5	13096.8	13137.8	13127.2						
% Recovery	91.05									



Wet Chemistry Methods

Project Number 5054003

Initials/ Date Compiled JS 11-7-11

*Check all methods included in this package:

- % Moisture (ASTM D 2974-87)
- pH (SM4500H+B/EPA 150.1/EPA 9045)
- Total Dissolved Solids (TDS) (SM2540C/EPA 160.1)
- Total Suspended Solids (TSS) (SM2540D/EPA 160.2)
- Total Solids (SM2540B/EPA 160.3)
- Alkalinity (SM2320B/EPA 310.1)
- Chloride (SM4500-Cl-E/EPA 325.2)
- Cyanide (SM4500-CN-E/EPA 335.4)
- Fluoride (SM4500-F-C/EPA 340.2)
- Ammonia (EPA 350.1, rev.2)
- Hexavalent Chromium (EPA 7196A)
- Total Kjeldahl Nitrogen (TKN) (EPA 351.2, rev.2)
- Nitrate/Nitrite (EPA 353.2, rev.2)
- Phosphorus (SM4500-P-E/EPA 365.2)
- Turbidimetric Sulfate (ASTM D516-02/EPA 375.4)
- Sulfide (SM4500-S2-D/EPA 376.2)
- Biochemical Oxygen Demand (SM5210B/EPA 405.1)
- Chemical Oxygen Demand (COD) (410.4/ Hach 8000)
- Phenolics (EPA 420.4, rev.1)
- TCLP prep (EPA SW-846 1311)
- 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

CN Std. # 23344 Vol. used: 0.2 mL
 Ottawa Sand # Sodium Hypochlorite #
 Ascorbic Acid #
 MgCl₂ # 10110
 H₂SO₄ # 3418
 Sulfamic Acid # 10120
 0.25 N NaOH # 10150
 Sodium Arsenite #
 Lead Carbonate #

Date/Analyst	Sample #	Batch	Matrix	Sample Volume or Weight		Block #	Presence Cl ₂	Y/N S ²⁻	Comments
				Initial	Final				
10/24/11 GW	BL40538	7035	AD	50mL	50mL	2	N	N	
	L 648539								
	505352D001								
	M 64094D								
	5054119001								
	5054119002								
	5054003001								
	5054003002								
	5054003003								
	5054003004								
	M 640941								
	M 640942								
	5054003005								
	5054003006								
	5054005004								
	DOC 1								
	DOC 2								
	DOC 3								
	DOC 4								

Form F-IN-1010 rev. 7, 26Jan2011
 Validated by: 10-26-11

5054003

Analyte	Analyst	Sample ID	Result	Client	Sample Type	Date/Time	QC Batch/Procedure	Comments	%rec	rpd
Cyanide	ILP	std #1 0.5mg/l	19896238			10/27/2011 12:37:17				
Cyanide	ILP	std #2 0.2mg/l	8646839			10/27/2011 12:38:14				
Cyanide	ILP	std #3 0.1mg/l	4435767			10/27/2011 12:39:12				
Cyanide	ILP	std #4 0.05mg/l	2224231			10/27/2011 12:40:10				
Cyanide	ILP	std #5 0.02mg/l	927565			10/27/2011 12:41:08				
Cyanide	ILP	std #6 0.01mg/l	476381			10/27/2011 12:42:07				
Cyanide	ILP	std #7 0.005mg/l	228374			10/27/2011 12:43:06				
Cyanide	ILP	std #8 0.00mg/l	0			10/27/2011 12:44:06				
Cyanide	ILP	ICV	0.048978			10/27/2011 12:46:19				
Cyanide	ILP	ICB	-0.004657			10/27/2011 12:47:18				
Cyanide	ILP	640266	-0.004657	In-house QC Account	BLANK	10/27/2011 12:48:16	7031	9014 S		
Cyanide	ILP	640267	0.191279	In-house QC Account	LCS	10/27/2011 12:49:15	7031	9014 S		
Cyanide	ILP	5053918001	-0.002014	Duke_Mundell	PS	10/27/2011 12:50:13	7031	9014 S		
Cyanide	ILP	640268	0.173405	In-house QC Account	MS	10/27/2011 12:51:12	7031	9014 S		
Cyanide	ILP	640269	0.172977	In-house QC Account	MSD	10/27/2011 12:52:10	7031	9014 S		
Cyanide	ILP	5053918002	0.003977	Duke_Mundell	PS	10/27/2011 12:53:08	7031	9014 S		
Cyanide	ILP	5053918003	-0.002657	Duke_Mundell	PS	10/27/2011 12:54:06	7031	9014 S		
Cyanide	ILP	5053918004	-0.002131	Duke_Mundell	PS	10/27/2011 12:55:03	7031	9014 S		
Cyanide	ILP	5053918005	0.009031	Duke_Mundell	PS	10/27/2011 12:56:01	7031	9014 S		
Cyanide	ILP	5053918006	-0.001304	Duke_Mundell	PS	10/27/2011 12:56:58	7031	9014 S		
Cyanide	ILP	CCV	0.048714			10/27/2011 12:57:57				
Cyanide	ILP	CCB	-0.004657			10/27/2011 12:58:57				
Cyanide	ILP	5053918007	-0.002493	Duke_Mundell	PS	10/27/2011 13:01:08	7031	9014 S		
Cyanide	ILP	5053918008	-0.004657	Duke_Mundell	PS	10/27/2011 13:02:05	7031	9014 S		
Cyanide	ILP	5053918009	-0.004657	Duke_Mundell	PS	10/27/2011 13:03:02	7031	9014 S		
Cyanide	ILP	5053918010	-0.004657	Duke_Mundell	PS	10/27/2011 13:03:59	7031	9014 S		
Cyanide	ILP	5053918011	-0.002206	Duke_Mundell	PS	10/27/2011 13:04:55	7031	9014 S		

Chloride Reagents
 Chloride Color Reagent: Buffered Potassium Ferricyanide:
 Cyanide Reagents 4-AminoAntipyrine:

Phenol Reagents
 Ammonia Reagents
 Sodium Nitroprusside:
 Sodium Phenolate:
 Hypochlorite Solution:
 NH3 buffer:

TKN Reagents
 08N NaOH:
 TKN Buffer:
 Salicylate nitroprusside sol'n:
 TKN hypochlorite sol'n:
 Mercuric sulfate sol'n:
 TKN carrier:
 TKN digestion solution:

ChloramineT: 10130
 Pyridine: 10158
 Phosphate Buffer: 10187
 0.25 N NaOH: 10150

Reviewed By: ILP

Review Date: Thursday, October 27, 2011

Analyte	Analyst	Sample ID	Result	Client	Sample Type	Date/Time	QC Batch	Procedure	Comments	%rec	rpd
Cyanide	ILP	5053918018	-0.004657	Duke_Murdell	PS	10/27/2011 13:05:53	7031	9014 S			
Cyanide	ILP	640270	0.180806	In-house QC Account	MS	10/27/2011 13:06:52	7031	9014 S			
Cyanide	ILP	640938	-0.004657	In-house QC Account	BLANK	10/27/2011 13:07:50	7035	9012W MI			
Cyanide	ILP	640939	0.185855	In-house QC Account	LCS	10/27/2011 13:08:49	7035	9012W MI			
Cyanide	ILP	5053920001	-0.004657	Lee & Ryan Environme	PS	10/27/2011 13:09:47	7035	9012W MI			
Cyanide	ILP	CCV	0.049793			10/27/2011 13:10:46					
Cyanide	ILP	CCB	-0.004657			10/27/2011 13:11:46					
Cyanide	ILP	640940	0.168622	In-house QC Account	MS	10/27/2011 13:13:58	7035	9012W MI			
Cyanide	ILP	5054119001	-0.004657	Sesco	PS	10/27/2011 13:14:56	7035	9012W MI			
Cyanide	ILP	5054119002	-0.004657	Sesco	PS	10/27/2011 13:15:53	7035	9012W MI			
Cyanide	ILP	5054003001	-0.004657	Arcadis U.S._Inc.	PS	10/27/2011 13:16:51	7035	9012W MI			
Cyanide	ILP	5054003002	-0.004657	Arcadis U.S._Inc.	PS	10/27/2011 13:17:48	7035	9012W MI			
Cyanide	ILP	5054003003	-0.004657	Arcadis U.S._Inc.	PS	10/27/2011 13:18:45	7035	9012W MI			
Cyanide	ILP	5054003004	-0.004657	Arcadis U.S._Inc.	RQS	10/27/2011 13:19:43	7035	9012W MI			
Cyanide	ILP	640941	0.184907	In-house QC Account	MS	10/27/2011 13:20:40	7035	9012W MI			
Cyanide	ILP	640942	0.193983	In-house QC Account	MSD	10/27/2011 13:21:37	7035	9012W MI			
Cyanide	ILP	5054003005	-0.004657	Arcadis U.S._Inc.	PS	10/27/2011 13:22:35	7035	9012W MI			
Cyanide	ILP	CCV	0.049083			10/27/2011 13:23:33					
Cyanide	ILP	CCB	-0.004657			10/27/2011 13:24:33					
Cyanide	ILP	5054003006	-0.004657	Arcadis U.S._Inc.	PS	10/27/2011 13:26:46	7035	9012W MI			
Cyanide	ILP	5054005004	0.00284	Haynes International_1	PS	10/27/2011 13:27:44	7035	9012W MI			
Cyanide	ILP	641311	-0.004657	In-house QC Account	BLANK	10/27/2011 13:28:42	7039	3354 W			
Cyanide	ILP	641312	0.185865	In-house QC Account	LCS	10/27/2011 13:29:41	7039	3354 W			
Cyanide	ILP	5053875002	-0.002071	Buckeye Partners_Ante	PS	10/27/2011 13:30:40	7039	3354 W			
Cyanide	ILP	641313	0.194477	In-house QC Account	MS	10/27/2011 13:31:38	7039	3354 W			
Cyanide	ILP	641314	0.199274	In-house QC Account	MSD	10/27/2011 13:32:37	7039	3354 W			
Cyanide	ILP	5054068001	-0.004657	Bruce Carter and Asso	PS	10/27/2011 13:33:35	7039	3354 W			

Chloride Reagents Phenol Reagents
 Chloride Color Reagent: Buffered Potassium Ferricyanide:

Ammonia Reagents
 Sodium Nitroprusside:

TKN Reagents
 08N NaOH:

Cyanide Reagents

4-AminoAntipyrine:

Sodium Phenolate:

TKN Buffer:
 Salicylate nitroprusside sol'n:

ChloramineT: 10130

Hypochlorite Solution:

TKN hypochlorite sol'n:

Pyridine: 10158

NH3 buffer:

TKN digestion solution:
 Mercuric sulfate sol'n:

Phosphate Buffer: 10187

TKN carrier:

0.25 N NaOH: 10150

TKN digestion solution:

Reviewed By: ILP

Review Date: Thursday, October 27, 2011

Analyte	Analyst	Sample ID	Result	Client	Sample Type	Date/Time	QC Batch	Procedure	Comments	%rec	rp/d
Cyanide	ILP	5054068003	-0.004657	Bruce Carter and Asso	PS	10/27/2011 13:34:33	7039	3354 W			
Cyanide	ILP	5054115002	-0.002666	Buckeye Partners Ante	PS	10/27/2011 13:35:30	7039	3354 W			
Cyanide	ILP	CCV	0.049764			10/27/2011 13:36:29					
Cyanide	ILP	CCB	-0.004657			10/27/2011 13:37:29					
Cyanide	ILP	DOC1	0.200271			10/27/2011 13:39:41					
Cyanide	ILP	DOC2	0.193104			10/27/2011 13:40:38					
Cyanide	ILP	DOC3	0.201366			10/27/2011 13:41:35					
Cyanide	ILP	DOC4	0.200083			10/27/2011 13:42:33					
Cyanide	ILP	CCV	0.049885			10/27/2011 13:43:32					
Cyanide	ILP	CCB	-0.004657			10/27/2011 13:44:32					

Chloride Reagents
 Chloride Color Reagent:
 Cyanide Reagents
 ChloramineT: 10130
 Pyridine: 10158
 Phosphate Buffer: 10187
 0.25 N NaOH: 10150

Phenol Reagents
 Buffered Potassium Ferricyanide:
 4-AminoAntipyrine:
 Ammonia Reagents
 Sodium Nitroprusside:
 Sodium Phenolate:
 Hypochlorite Solution:
 NH3 buffer:

TKN Reagents
 08N NaOH:
 TKN Buffer:
 Salicylate nitroprusside sol'n:
 TKN hypochlorite sol'n:
 Mercuric sulfate sol'n:
 TKN carrier:
 TKN digestion solution:

Reviewed By: ILP

Review Date: Thursday, October 27, 2011

Creator: ilp
Creation Date: Oct 5, 2011 10:02:05
Last Modified: Oct 27, 2011 12:47:50
Description: cyanide

Cup #	Sample ID	Manual Dilution	Sample Type
1	std #1 0.5mg/l	1.0000	CalStd
2	sdt #2 0.2mg/l	1.0000	CalStd
3	std #3 0.1mg/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	640266	1.0000	Unknown
2	640267	1.0000	Unknown
3	5053918001	1.0000	Unknown
4	640268	1.0000	Unknown
5	640269	1.0000	Unknown
6	5053918002	1.0000	Unknown
7	5053918003	1.0000	Unknown
8	5053918004	1.0000	Unknown
9	5053918005	1.0000	Unknown
10	5053918006	1.0000	Unknown
11	5053918007	1.0000	Unknown
12	5053918008	1.0000	Unknown
13	5053918009	1.0000	Unknown
14	5053918010	1.0000	Unknown
15	5053918011	1.0000	Unknown
16	5053918018	1.0000	Unknown
17	640270	1.0000	Unknown
18	640938	1.0000	Unknown
19	640939	1.0000	Unknown
20	5053920001	1.0000	Unknown
21	640940	1.0000	Unknown
22	5054119001	1.0000	Unknown
23	5054119002	1.0000	Unknown
24	5054003001	1.0000	Unknown
25	5054003002	1.0000	Unknown
26	5054003003	1.0000	Unknown
27	5054003004	1.0000	Unknown
28	640941	1.0000	Unknown
29	640942	1.0000	Unknown
30	5054003005	1.0000	Unknown
31	5054003006	1.0000	Unknown
32	5054005004	1.0000	Unknown
33	641311	1.0000	Unknown
34	641312	1.0000	Unknown

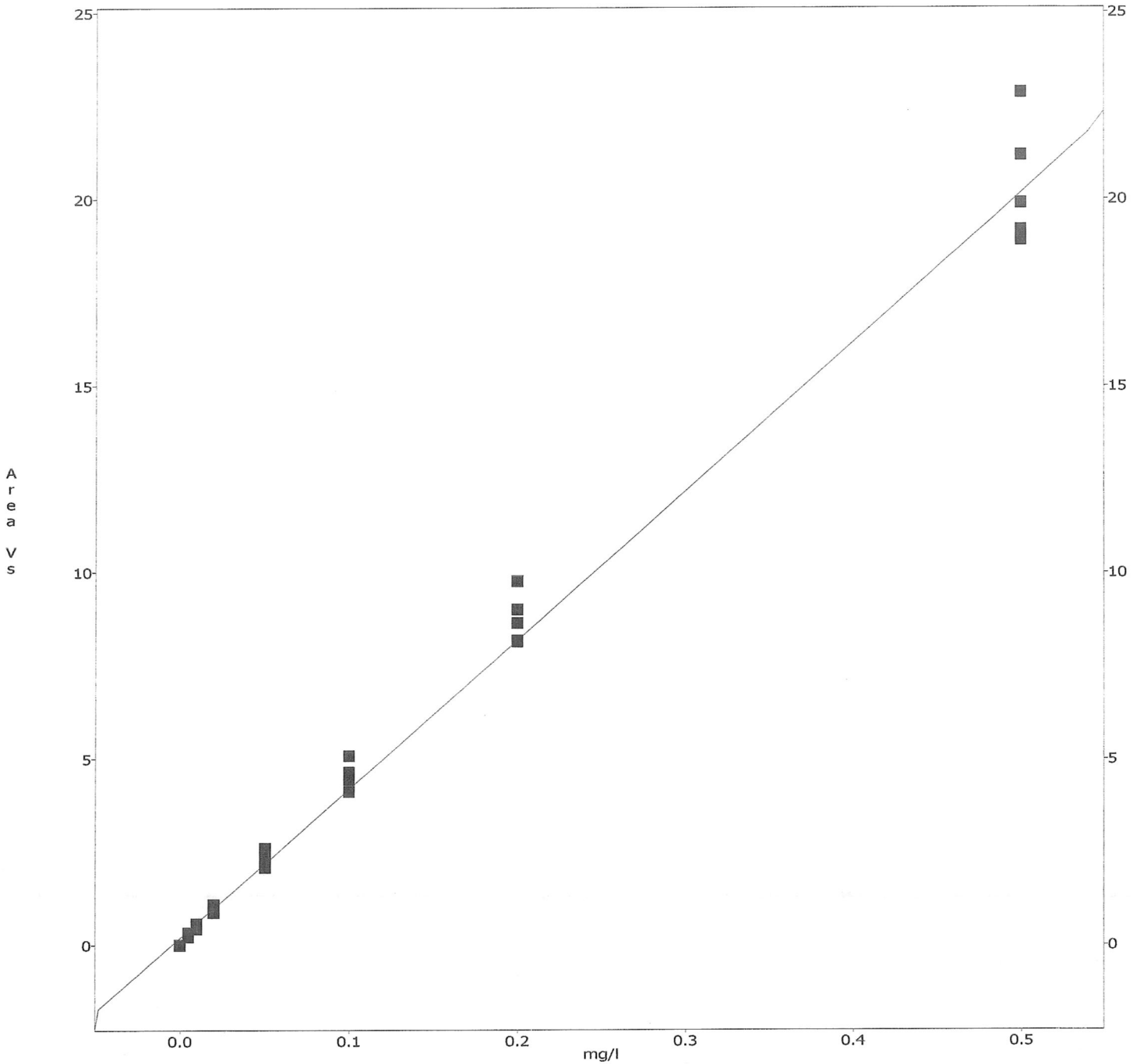
Cup #	Sample ID	Manual Dilution	Sample Type	
35	5053875002	1.0000	Unknown	
36	641313	1.0000	Unknown	
37	641314	1.0000	Unknown	
38	5054068001	1.0000	Unknown	
39	5054068003	1.0000	Unknown	
40	5054115002	1.0000	Unknown	
41	DOC1	1.0000	Unknown	
42	DOC2	1.0000	Unknown	
43	DOC3	1.0000	Unknown	
44	DOC4	1.0000	Unknown	

Cyanide

Lvl	Area	mg/l	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	19896238	0.500	19896238	19185262	18908560	22850656	21175760	1624901.6	8.0	1.3
2	8646839	0.200	8646839	8150074	8180378	9768186	9007731	670475.3	7.7	-5.9
3	4435767	0.100	4435767	4117840	5074666	4619658	4637568	347826.9	7.6	-6.4
4	2224231	0.050	2224231	2090000	2595258	2350055	2338173	186461.3	8.0	-2.1
5	927565	0.020	927565	872125	1086966	969296	968688	78953.9	8.2	7.2
6	476381	0.010	476381	440038	575293	510870	514381	50223.9	10.0	27.3
7	228374	0.005	228374	235536	324573	255939	274291	38467.7	14.6	78.8
8	0	0.000	0	0	0	0	0	0.0	0.0	

1st Order Poly
 Conc = 2.504e-008 Area - 4.657e-003
 r = 0.9993

Scaling: None - Weighting: None



CYANIDE: EPA 335.4
 CYANIDE BUFFER 10187
 CHLORAMINE T 10130
 CAL PREP STD 23305
 CALIBRATION STD'S PREPARED PER

CYANIDE CARRIER 10150
 PYRIDINE 10158
 ICV PREP STD 23344
 SOP# S-IN-I-015-rev.9

BY: ilp DATE 10-27-11

OPERATOR: ilp
 ACQ. TIME: Oct 27, 2011 12:37:16
 DATA FILENAME: C:\OMNION\DATA\102711CN.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	640266	27 Oct 2011	12:48:16	1	-0.0047	1.0
2	640267	27 Oct 2011	12:49:15	1	0.1913	1.0
3	5053918001	27 Oct 2011	12:50:13	1	-0.0020	1.0
4	640268	27 Oct 2011	12:51:12	1	0.1734	1.0
5	640269	27 Oct 2011	12:52:10	1	0.1730	1.0
6	5053918002	27 Oct 2011	12:53:08	1	0.0040	1.0
7	5053918003	27 Oct 2011	12:54:06	1	-0.0027	1.0
8	5053918004	27 Oct 2011	12:55:03	1	-0.0021	1.0
9	5053918005	27 Oct 2011	12:56:01	1	0.0090	1.0
10	5053918006	27 Oct 2011	12:56:58	1	-0.0013	1.0
11	5053918007	27 Oct 2011	13:01:08	1	-0.0025	1.0
12	5053918008	27 Oct 2011	13:02:05	1	-0.0047	1.0
13	5053918009	27 Oct 2011	13:03:02	1	-0.0047	1.0
14	5053918010	27 Oct 2011	13:03:59	1	-0.0047	1.0
15	5053918011	27 Oct 2011	13:04:55	1	-0.0022	1.0
16	5053918018	27 Oct 2011	13:05:53	1	-0.0047	1.0
17	640270	27 Oct 2011	13:06:52	1	0.1808	1.0
18	640938	27 Oct 2011	13:07:50	1	-0.0047	1.0
19	640939	27 Oct 2011	13:08:49	1	0.1859	1.0
20	5053920001	27 Oct 2011	13:09:47	1	-0.0047	1.0

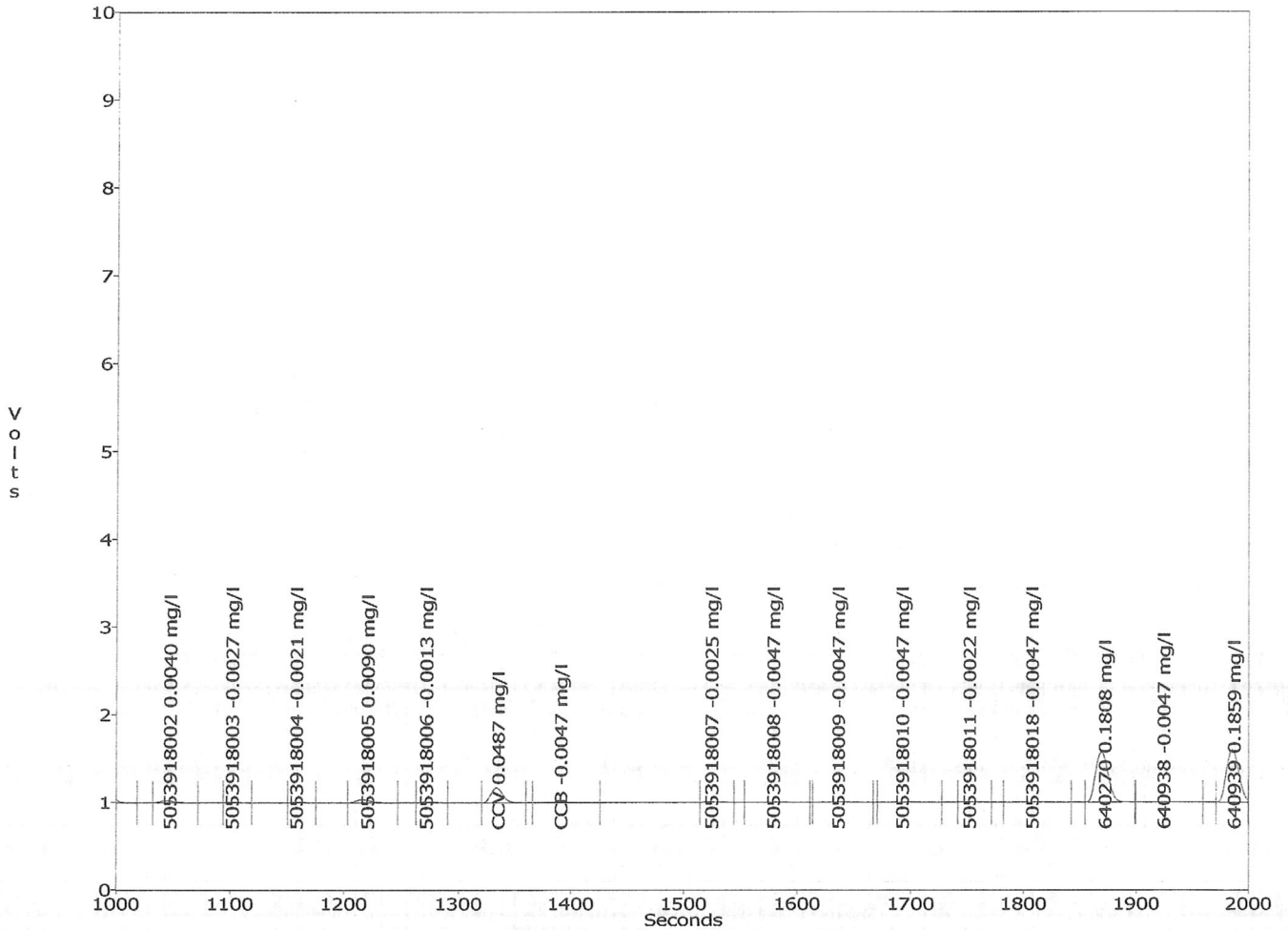
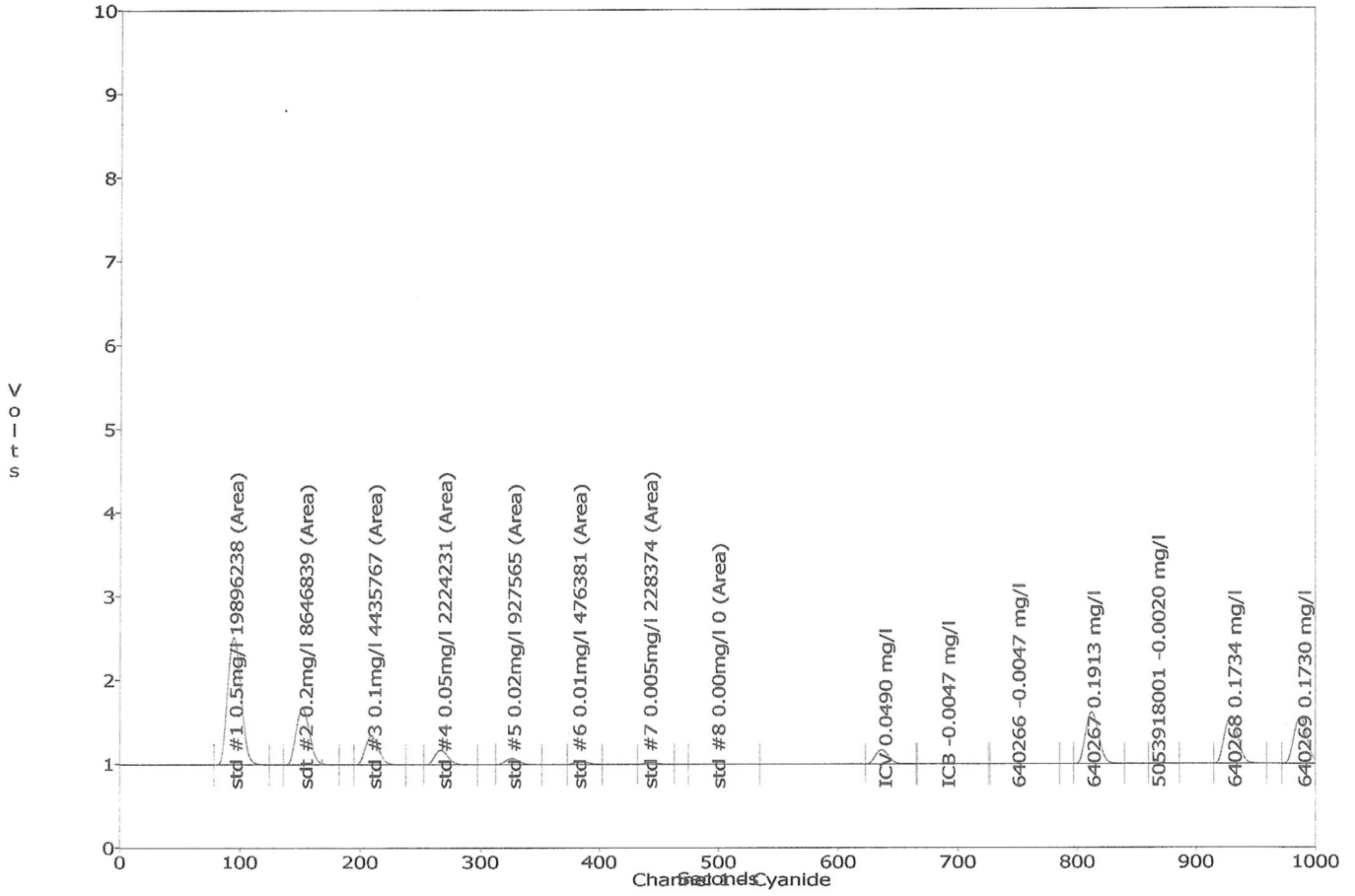
Multi-Channel Table
 Type: Unknowns
 Channel Range: 1 to 8 -- Cup Range: 21 to 64

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	Cyanide (mg/l)	Man Dil Factor
21	640940	27 Oct 2011	13:13:58	1	0.1686	1.0
22	5054119001	27 Oct 2011	13:14:56	1	-0.0047	1.0
23	5054119002	27 Oct 2011	13:15:53	1	-0.0047	1.0
24	5054003001	27 Oct 2011	13:16:51	1	-0.0047	1.0
25	5054003002	27 Oct 2011	13:17:48	1	-0.0047	1.0
26	5054003003	27 Oct 2011	13:18:45	1	-0.0047	1.0
27	5054003004	27 Oct 2011	13:19:43	1	-0.0047	1.0
28	640941	27 Oct 2011	13:20:40	1	0.1849	1.0
29	640942	27 Oct 2011	13:21:37	1	0.1940	1.0
30	5054003005	27 Oct 2011	13:22:35	1	-0.0047	1.0
31	5054003006	27 Oct 2011	13:26:46	1	-0.0047	1.0
32	5054005004	27 Oct 2011	13:27:44	1	0.0028	1.0
33	641311	27 Oct 2011	13:28:42	1	-0.0047	1.0
34	641312	27 Oct 2011	13:29:41	1	0.1859	1.0
35	5053875002	27 Oct 2011	13:30:40	1	-0.0021	1.0
36	641313	27 Oct 2011	13:31:38	1	0.1945	1.0
37	641314	27 Oct 2011	13:32:37	1	0.1993	1.0
38	5054068001	27 Oct 2011	13:33:35	1	-0.0047	1.0
39	5054068003	27 Oct 2011	13:34:33	1	-0.0047	1.0
40	5054115002	27 Oct 2011	13:35:30	1	-0.0027	1.0
41	DOC1	27 Oct 2011	13:39:41	1	0.2003	1.0
42	DOC2	27 Oct 2011	13:40:38	1	0.1931	1.0
43	DOC3	27 Oct 2011	13:41:35	1	0.2014	1.0
44	DOC4	27 Oct 2011	13:42:33	1	0.2001	1.0

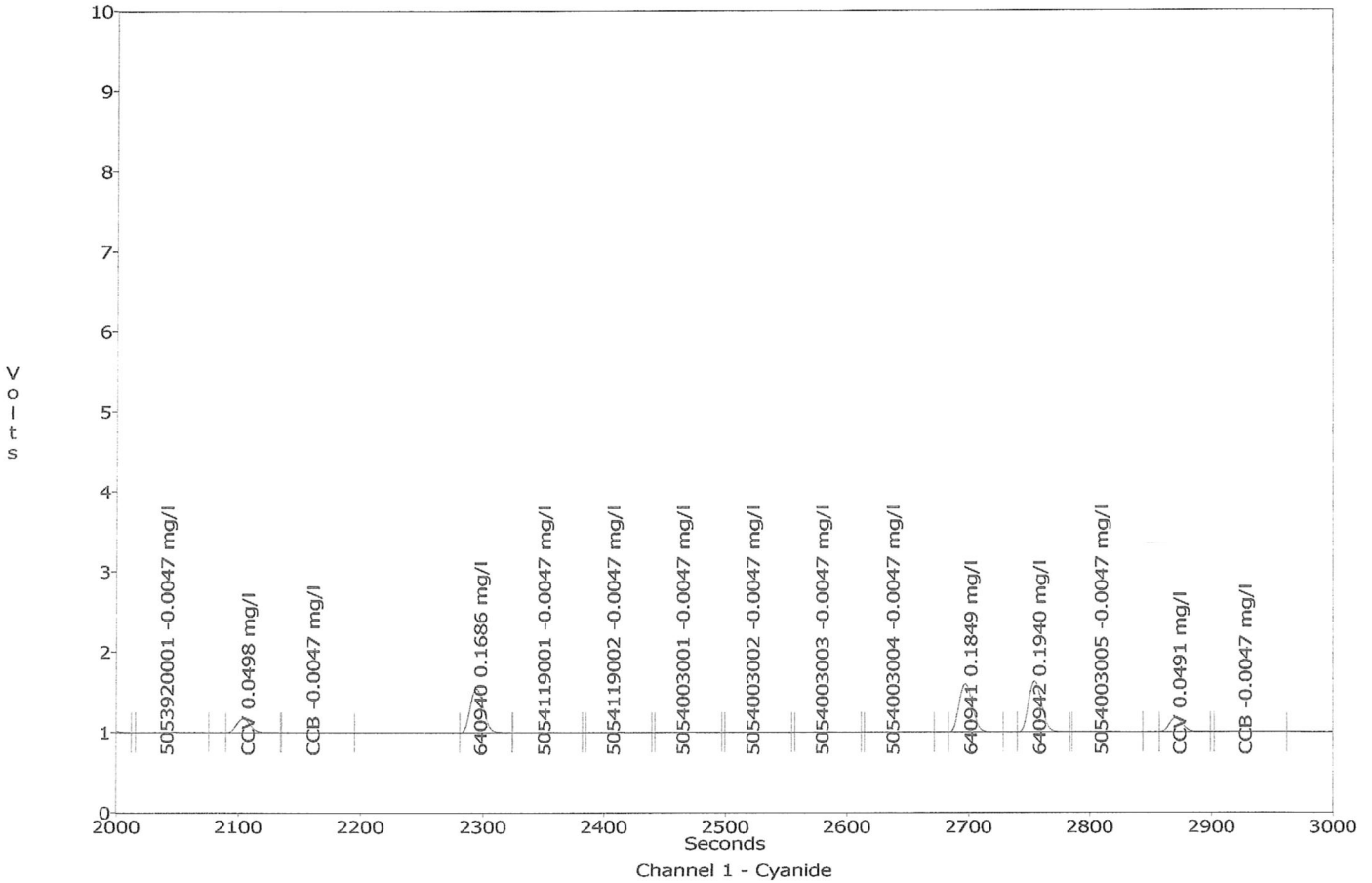
Multi-Channel Table
 Type: DQM
 Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Date	Sampling Time	# of Reps	Cyanide (mg/l)	Man Dil Factor
14	CCV	RelChkStd	27 Oct 2011	12:57:57	1	0.0487 0.0500 % Difference: -2.5728	1.0
14	CCV	RelChkStd	27 Oct 2011	13:10:46	1	0.0498 0.0500 % Difference: -0.4134	1.0
14	CCV	RelChkStd	27 Oct 2011	13:23:33	1	0.0491 0.0500 % Difference: -1.8333	1.0
14	CCV	RelChkStd	27 Oct 2011	13:36:29	1	0.0498 0.0500 % Difference: -0.4727	1.0
14	CCV	RelChkStd	27 Oct 2011	13:43:32	1	0.0499 0.0500 % Difference: -0.2305	1.0
15	ICB	AbsChkStd	27 Oct 2011	12:47:18	1	-0.0047 0.0000 Difference: -0.0047	1.0
15	CCB	AbsChkStd	27 Oct 2011	12:58:57	1	-0.0047 0.0000 Difference: -0.0047	1.0
15	CCB	AbsChkStd	27 Oct 2011	13:11:46	1	-0.0047 0.0000 Difference: -0.0047	1.0
15	CCB	AbsChkStd	27 Oct 2011	13:24:33	1	-0.0047 0.0000 Difference: -0.0047	1.0
15	CCB	AbsChkStd	27 Oct 2011	13:37:29	1	-0.0047 0.0000 Difference: -0.0047	1.0
15	CCB	AbsChkStd	27 Oct 2011	13:44:32	1	-0.0047 0.0000 Difference: -0.0047	1.0
16	ICV	RelChkStd	27 Oct 2011	12:46:19	1	0.0490 0.0500 % Difference: -2.0432	1.0

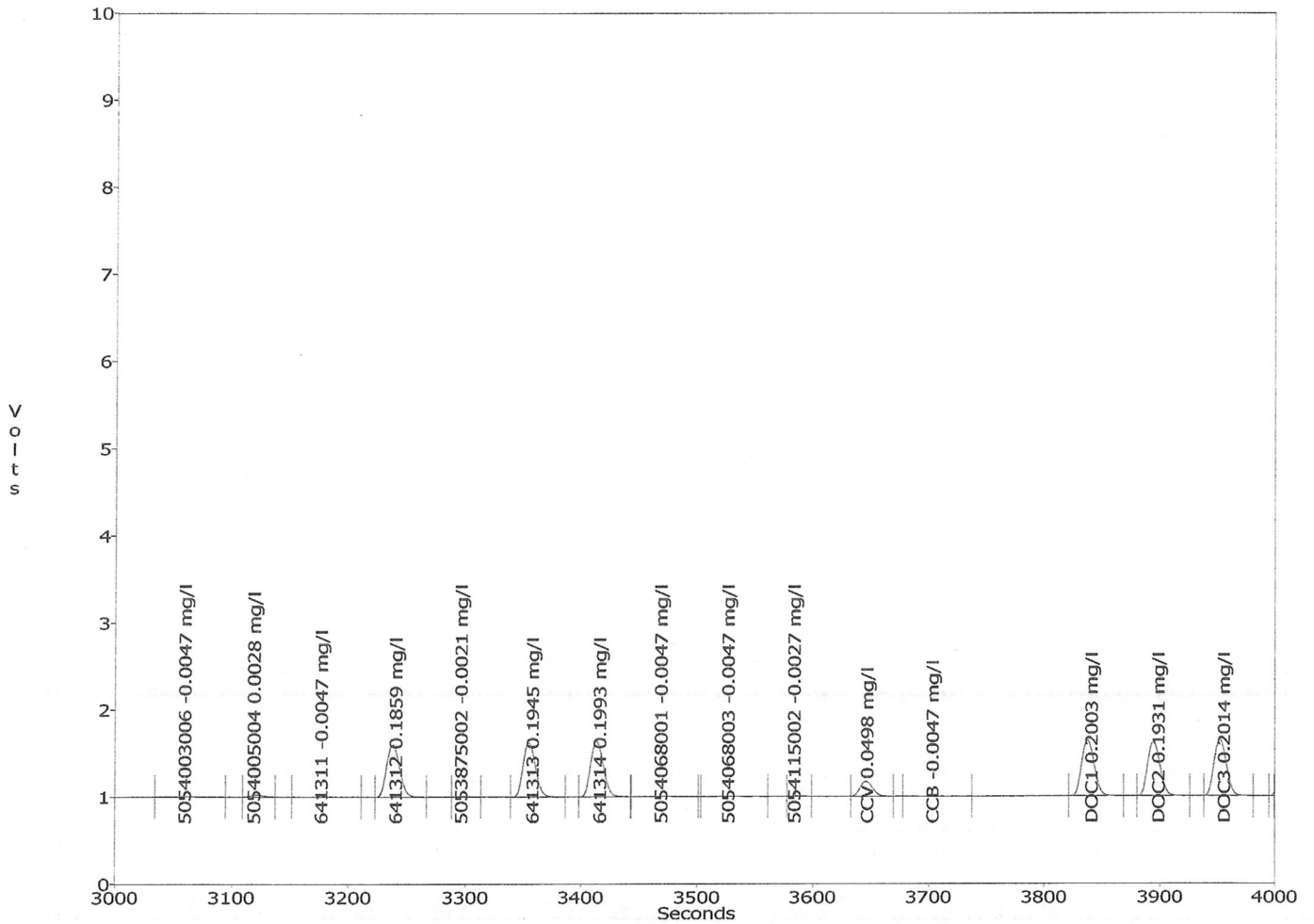
Channel 1 - Cyanide



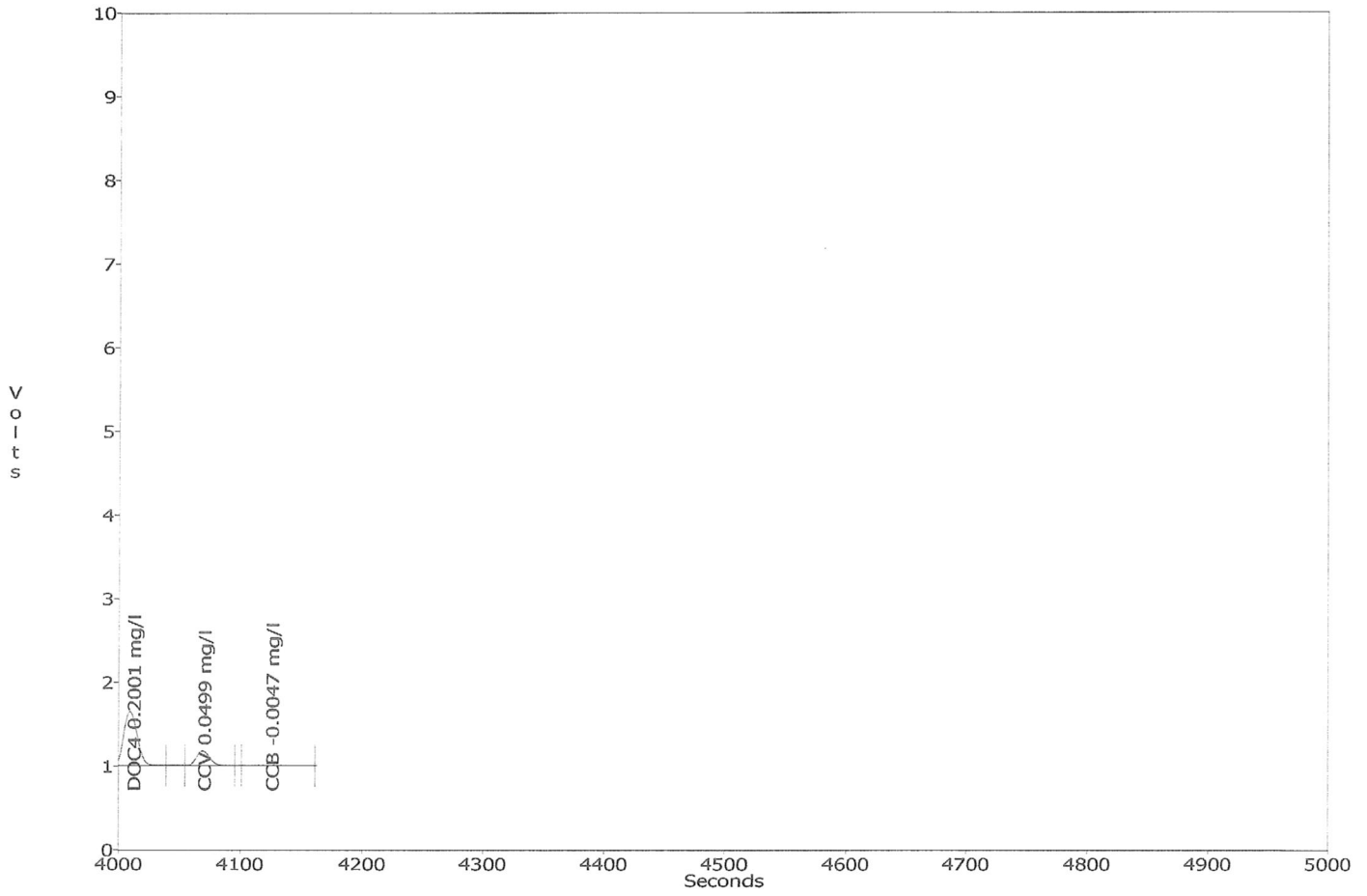
Channel 1 - Cyanide



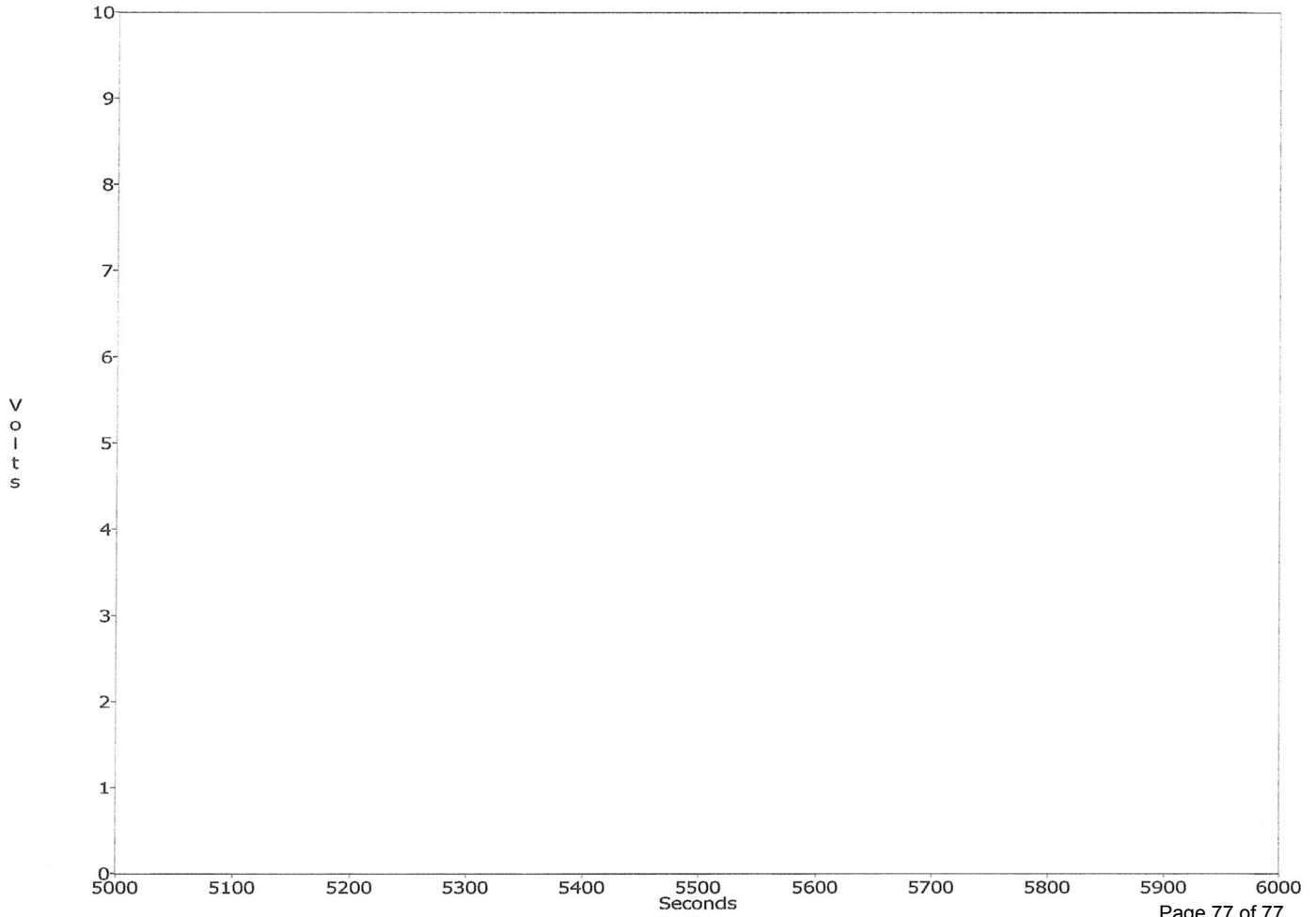
Channel 1 - Cyanide



Channel 1 - Cyanide



Channel 1 - Cyanide



Racer Trust- Surface Impoundments

Data Review

INDIANAPOLIS, INDIANA

Metals and Cyanide Analyses

SDG#5054003

Analyses Performed By:
Pace Analytical Services
Indianapolis, Indiana

Report: #13205R
Review Level: Tier II
Project: IN000297.2011.00001

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #5054003 for samples collected in association with the Racer Trust-Surface Impoundment. The review was conducted as a Tier II 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:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
MW-206B(102011)	5054003001	Water	0/20/11					X	X
FD-1(102011)-TP	5054003002	Water	0/20/11					X	X
EB-1(102011)-TP	5054003003	Water	0/20/11					X	X
MW-203B(102011)	5054003004	Water	0/20/11					X	X
MW-202B(102011)	5054003005	Water	0/20/11					X	X
MW201B(102011)	5054003006	Water	0/20/11					X	X

MISC- Miscellaneous parameters: cyanide

Notes:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location MW-203B(102011).

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 6010B, 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.
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 detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No other qualification of the sample results was required.

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.

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 qualifier "N" will be removed.

The MS analysis performed on sample location MW-203B(102011) exhibited recoveries within the control limits.

All analytes associated with MS/MSD recoveries were within 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 precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-206B(102011)/FD-1(102011)-TP	All metals	ND	ND	AC

ND = Not detected

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.

A serial dilution was not performed on sample location associated with this SDG.

8. 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 METALS

METALS; SW-846 6010/7470	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP)					
Atomic Absorption – Manual Cold Vapor (CV)					
Tier I 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		X	
Laboratory Control Sample (LCS)		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	
ICP Serial Dilution					X
Reporting Limit Verification		X		X	
Raw Data		X		X	
Tier II 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.

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 instrument detection limit (IDL). 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 IDL 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.

4.1 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 qualifier "N" will be removed.

The MS analysis performed on sample location MW-203B(102011) exhibited recoveries within the control limits.

All analytes associated with MS/MSD recoveries were within 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 precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water 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.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
MW-206B(102011)/FD-1(102011)-TP	Cyanide	0.010 U	0.010 U	AC

ND = Not detected

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%.

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: EPA 9012	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Miscellaneous Instrumentation					
Tier I 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
LCS/LCSD Precision (RPD)					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 II Validation					
Initial calibration %RSD or correlation coefficient		X		X	
Continuing calibration %R		X		X	
Raw Data		X		X	
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: Lisa Horton

SIGNATURE:



DATE: November 28, 2011

PEER REVIEW: Dennis Capria

DATE: December 1, 2011

**CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS**



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
 Required Client Information:
 Company: **ARCADIS**
 Address: **251 Echo St. Ste. 800**
INDIAN, IN 46204
 Email To: **TKolbe@arcadis-us.com**
 Phone: **317-231-6500** / **317-231-6544**
 Requested Due Date/TAT: **STD**

Section B
 Required Project Information:
 Report To: **Tom Kolb**
 Copy To: **Heather Fastine@arcadis-us.com**
 Purchase Order No.: **IN000297.2011**
 Project Name: **Kaler Surface Impoundment**
 Project Number: **IN000297.2011**

Section C
 Invoice Information:
 Attention: **per Jon**
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location STATE: **IN**

Page: **1** of **7**
1523246

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₈	Methanol	Other	Chloride (Total)	Metals (Asbestos)				
1	MW-2068 (10/2011)	W6	W6	10/20/11	1200		2	X	X	X	X	X	X	X	X	X	X	002			
2	FD-1 (10/2011) - TP	W6	W6	10/20/11			2	X	X	X	X	X	X	X	X	X	X				
3	ER-1 (10/2011) - TP	W6	W6	10/20/11	1200		2	X	X	X	X	X	X	X	X	X	X				
4	MW-20315 (10/2011)	W6	W6	10/20/11	1300		6	X	X	X	X	X	X	X	X	X	X	AMS/MSA			
5	NW-20218 (10/2011)	W6	W6	10/20/11	1510		2	X	X	X	X	X	X	X	X	X	X	006			
6	MW-2018 (10/2011)	W6	W6	10/20/11	1610		2	X	X	X	X	X	X	X	X	X	X				
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS
 Level IV Reporting
 Big Metals - Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Silver, Selenium
 Refer to included TABLES

RELINQUISHED BY / AFFILIATION
 T-AL/ARCADIS

ACCEPTED BY / AFFILIATION
 Marcia Bennett/Pace

DATE
 10/20/11

TIME
 17:14

DATE
 10/20/11

TIME
 17:14

TEMP IN °C
 5.90

Y/N
 Y

Received on Ice (Y/N)
 Y

Sealed Cooler (Y/N)
 Y

Samples Intact (Y/N)
 Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Jim Parker**
 SIGNATURE of SAMPLER: *[Signature]*

DATE SIGNED (MM/DD/YYYY)
 10/20/11

ORIGINAL
 Client w/vice



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Sample: MW-206B(102011)		Lab ID: 5054003001	Collected: 10/20/11 12:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 10:00	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 10:00	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 10:00	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 10:00	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 10:00	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:38	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:16	57-12-5	



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Sample: FD-1(102011)-TP	Lab ID: 5054003002	Collected: 10/20/11 08:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:37	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:37	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:37	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:37	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:37	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:40	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:17	57-12-5	



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Sample: EB-1(102011)-TP	Lab ID: 5054003003	Collected: 10/20/11 12:00	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:39	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:39	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:39	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:39	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:39	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:46	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND mg/L		0.010	1		10/27/11 13:18	57-12-5	



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Sample: MW-203B(102011)		Lab ID: 5054003004	Collected: 10/20/11 13:20	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:41	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:41	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:41	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:41	7440-47-3	
Lead, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:41	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:41	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:41	7440-22-4	
7470 Mercury, Dissolved		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:48	7439-97-6	
9012 Cyanide, Total		Analytical Method: EPA 9012						
Cyanide	ND mg/L		0.010	1		10/27/11 13:19	57-12-5	



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Sample: MW-202B(102011)	Lab ID: 5054003005	Collected: 10/20/11 15:10	Received: 10/20/11 17:14	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	10/31/11 00:00	10/31/11 09:56	7440-38-2	
Barium, Dissolved	ND ug/L		100	1	10/31/11 00:00	10/31/11 09:56	7440-39-3	
Cadmium, Dissolved	ND ug/L		5.0	1	10/31/11 00:00	10/31/11 09:56	7440-43-9	
Chromium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7440-47-3	
Lead, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7439-92-1	
Selenium, Dissolved	ND ug/L		10.0	1	10/31/11 00:00	10/31/11 09:56	7782-49-2	
Silver, Dissolved	ND ug/L		50.0	1	10/31/11 00:00	10/31/11 09:56	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury, Dissolved	ND ug/L		2.0	1	11/02/11 00:00	11/03/11 11:55	7439-97-6	
9012 Cyanide, Total	Analytical Method: EPA 9012							
Cyanide	ND mg/L		0.010	1		10/27/11 13:22	57-12-5	



ANALYTICAL RESULTS

Project: Racer Surface Impoundment
 Pace Project No.: 5054003

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-201B(102011) Lab ID: 5054003006 Collected: 10/20/11 16:10 Received: 10/20/11 17:14 Matrix: Water								
6010 MET ICP, Dissolved Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic, Dissolved	ND	ug/L	10.0	1	10/31/11 00:00	10/31/11 09:58	7440-38-2	
Barium, Dissolved	ND	ug/L	100	1	10/31/11 00:00	10/31/11 09:58	7440-39-3	
Cadmium, Dissolved	ND	ug/L	5.0	1	10/31/11 00:00	10/31/11 09:58	7440-43-9	
Chromium, Dissolved	ND	ug/L	10.0	1	10/31/11 00:00	10/31/11 09:58	7440-47-3	
Lead, Dissolved	ND	ug/L	10.0	1	10/31/11 00:00	10/31/11 09:58	7439-92-1	
Selenium, Dissolved	ND	ug/L	10.0	1	10/31/11 00:00	10/31/11 09:58	7782-49-2	
Silver, Dissolved	ND	ug/L	50.0	1	10/31/11 00:00	10/31/11 09:58	7440-22-4	
7470 Mercury, Dissolved Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	ND	ug/L	2.0	1	11/02/11 00:00	11/03/11 11:57	7439-97-6	
9012 Cyanide, Total Analytical Method: EPA 9012								
Cyanide	ND	mg/L	0.010	1		10/27/11 13:26	57-12-5	

**Attachment 3 – STATISTICAL ANALYSIS REPORT OF BACKGROUND GROUNDWATER QUALITY
Closed Hazardous Waste Surface Impoundment
Former Allison Gas Turbine Division – Plant 5
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, General Motors Corporation (GM) Former Allison Gas Turbine (AGT) Division, 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

Semi-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 KaplanMeier 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-Wilks test at an alpha level of 0.05. 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 (May 2004 to October 2011). 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 $\mu\text{g/L}$ per year since 2004. The slope is more likely to be decreasing than increasing, and the 95% upper confidence limit for the median slope equal to 7.8 $\mu\text{g/L}$ per year (**Figure 3b**).

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 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 ($\sigma[\ln \text{ detects}] = 0.125$), the 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 2011 sampling event. As presented in **Table 3**, none of the indicator parameters were detected during the October 2011 sampling event. 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.

TABLE 1

**GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-201B	MW-201B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-201B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

TABLE 1
GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-202B	MW-202B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-202B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

TABLE 1
GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-203B	MW-203B (A)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (B)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (C)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-203B (D)	05/25/04	<0.0100	<0.0500	<0.00100	<0.0200	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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	

TABLE 1

**GROUNDWATER ANALYTICAL DATA
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

Monitoring Well	Sample ID	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	MW-206B (A)	05/25/04	<0.0100	0.0885	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (B)	05/25/04	<0.0100	0.0884	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (C)	05/25/04	<0.0100	0.0875	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	MW-206B (D)	05/25/04	<0.0100	0.0889	<0.00100	<0.0100*	<0.00500	<0.00200	<0.0100	<0.0100	<0.0200
	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-203B (102011) FD	10/20/11	<0.0100	<0.100	<0.0050	<0.0100	<0.0100	<0.0020	<0.0100	<0.0500	<0.010	

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.

TABLE 2

UPGRADIENT MONITORING WELL MW-206B BACKGROUND DATA
 CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
 FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
 INDIANAPOLIS, INDIANA
 INR000021436

Monitoring Well	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Cyanide
MW-206B	5/25/2004	<0.0100	0.0883	<0.0010	<0.0100*	<0.0050	<0.0020	<0.0100	<0.0100	<0.0200
	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	

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)

TABLE 3

**BACKGROUND SCREENING LEVELS
CLOSED HAZARDOUS WASTE SURFACE IMPOUNDMENT
FORMER ALLISON GAS TURBINE DIVISION - PLANT 5
INDIANAPOLIS, INDIANA
INR000021436**

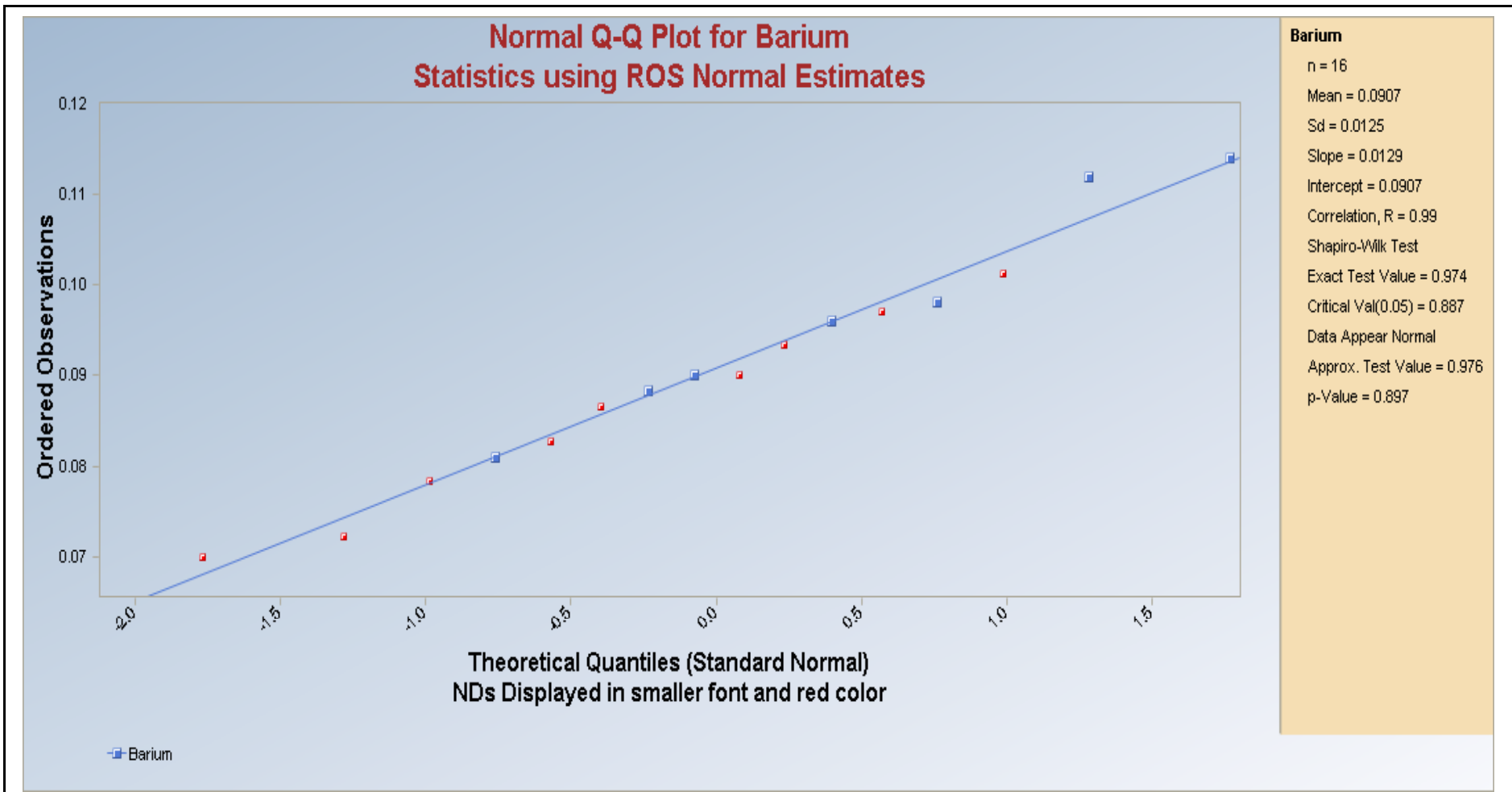
Analyte	Background Wells (MW-206B)					Compliance Wells (MW-201B, -202B, -203B)			
	Detects / N	Maximum (mg/L)	95/99 UTL (mg/L)	Method	BSL (mg/L) ¹	Maximum (mg/L)	Well	2011 Sampling Dates	> BSL ?
Arsenic	1 / 16	0.016	NA	NA	0.02	< 0.01	All 3 wells	10/20/11	No
Barium	7 / 16	0.114	0.127	Kaplan-Meier ²	0.13	< 0.1	All 3 wells	10/20/11	No
Cadmium	0 / 16	< 0.005	NA	NA	0.005	< 0.005	All 3 wells	10/20/11	No
Chromium	3 / 16	0.076	NA	NA	0.08	< 0.01	All 3 wells	10/20/11	No
Lead	0 / 16	< 0.01	NA	NA	0.01	< 0.01	All 3 wells	10/20/11	No
Mercury	0 / 16	< 0.002	NA	NA	0.002	< 0.002	All 3 wells	10/20/11	No
Selenium	1 / 16	0.0114	NA	NA	0.01	< 0.01	All 3 wells	10/20/11	No
Silver	0 / 16	< 0.05	NA	NA	0.05	< 0.05	All 3 wells	10/20/11	No
Cyanide	0 / 16	< 0.02	NA	NA	0.02	< 0.01	All 3 wells	10/20/11	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

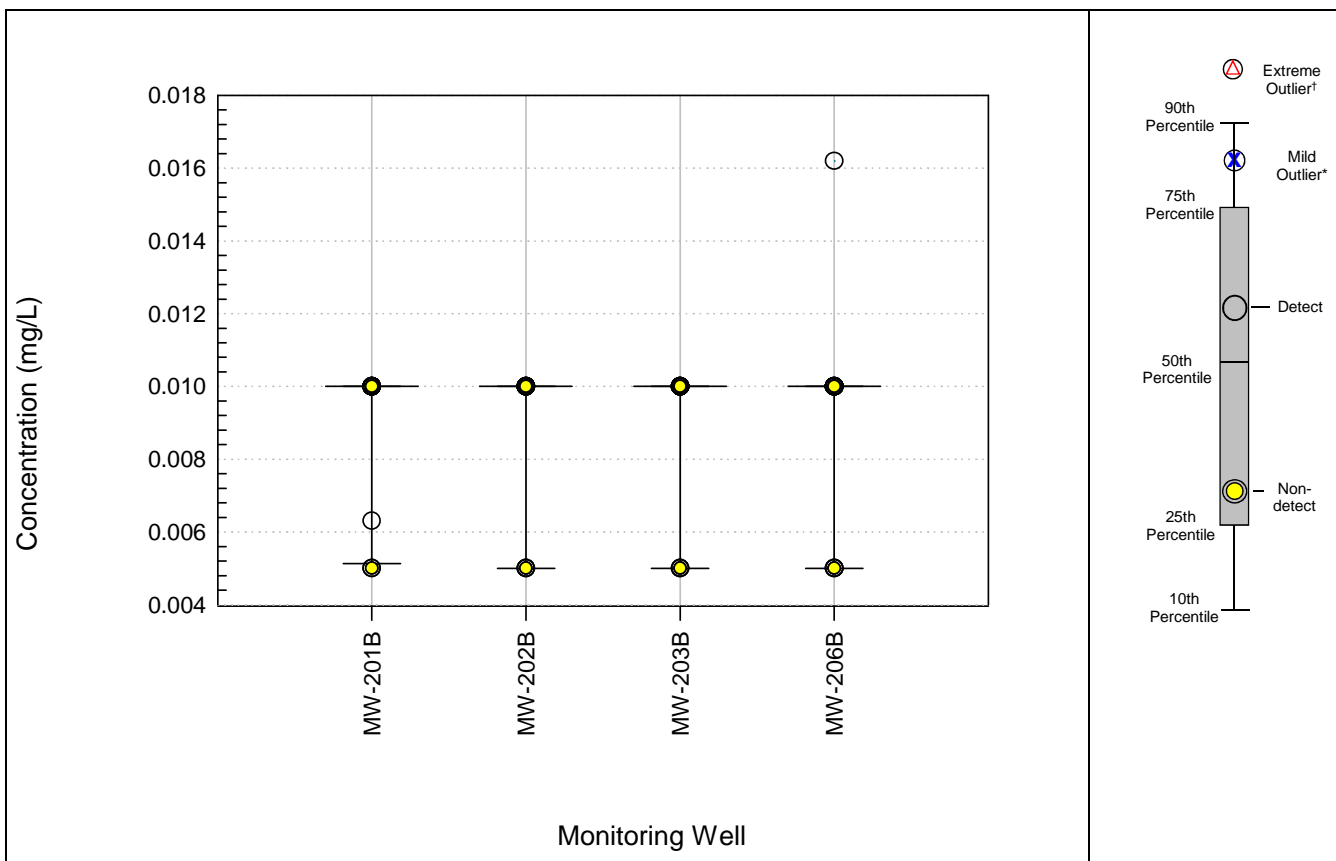
Notes:

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 = 7, 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.



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



Box and Whisker Plot
Arsenic

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

Figure 2-1

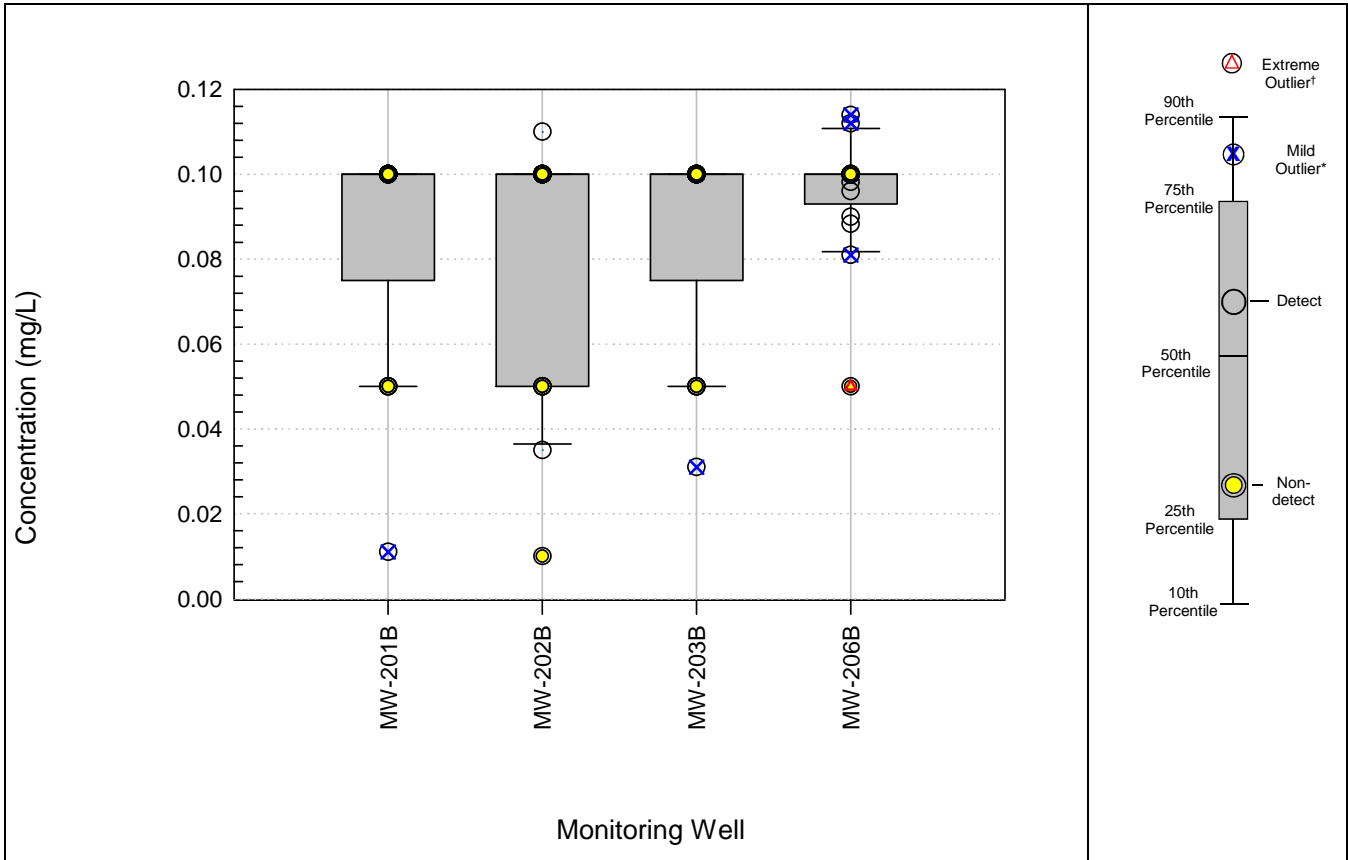
Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	15	1	16	0.005	0.01	0.0063	0.0063	0.0063	0.0063	NA	0.010	0.010	0.010
MW-202B	mg/L	16	0	16	0.005	0.01	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-203B	mg/L	16	0	16	0.005	0.01	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-206B	mg/L	15	1	16	0.005	0.01	0.0162	0.0162	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.



Box and Whisker Plot
Barium

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

Figure 2-2

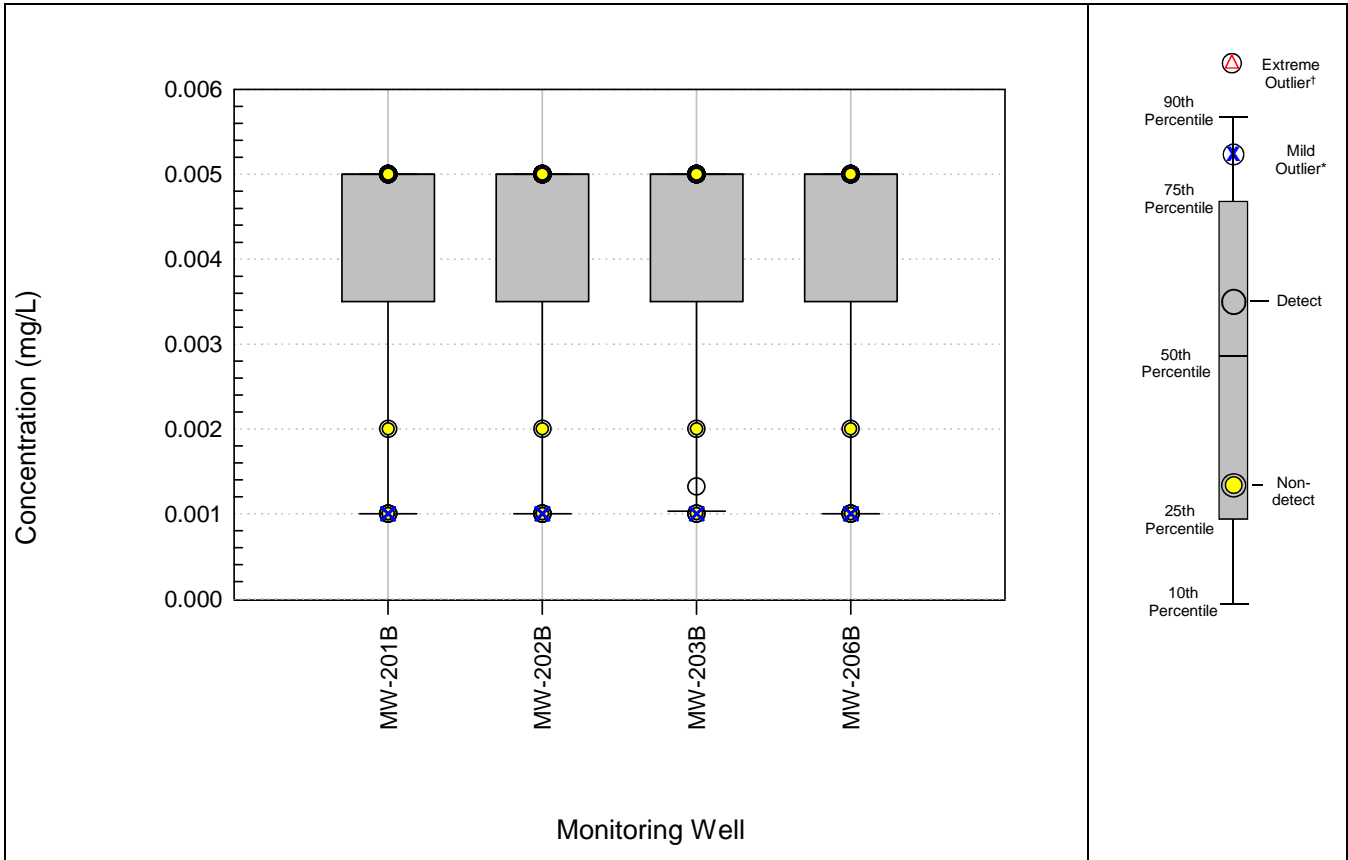
Monitoring Well	Units	Sample Size			ND Range		Detects				Percentiles (All Data)			
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	15	1	16	0.05	0.1	0.011	0.011	0.011	0.011	NA	0.075	0.10	0.10
MW-202B	mg/L	14	2	16	0.01	0.1	0.035	0.11	0.073	0.072	0.053	0.050	0.10	0.10
MW-203B	mg/L	15	1	16	0.05	0.1	0.031	0.031	0.031	0.031	NA	0.075	0.10	0.10
MW-206B	mg/L	9	7	16	0.05	0.1	0.081	0.114	0.097	0.096	0.012	0.093	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.



**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	mg/L	16	0	16	0.001	0.005	ND	ND	ND	ND	ND	0.0035	0.0050	0.0050
MW-202B	mg/L	16	0	16	0.001	0.005	ND	ND	ND	ND	ND	0.0035	0.0050	0.0050
MW-203B	mg/L	15	1	16	0.001	0.005	0.00132	0.00132	0.0013	0.0013	NA	0.0035	0.0050	0.0050
MW-206B	mg/L	16	0	16	0.001	0.005	ND	ND	ND	ND	ND	0.0035	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

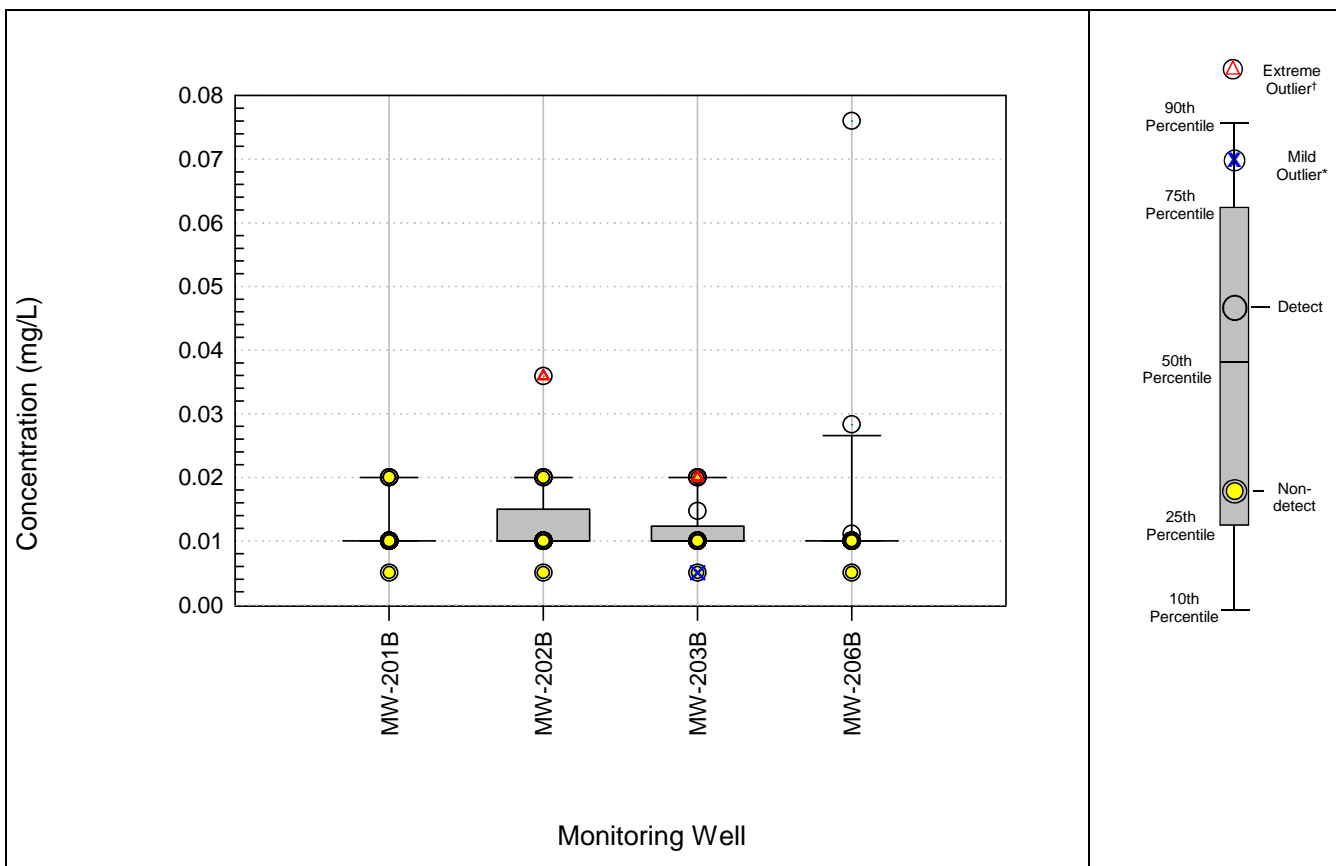
NA = value not applicable due to frequency of detection

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.



**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	mg/L	16	0	16	0.005	0.02	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-202B	mg/L	15	1	16	0.005	0.02	0.0359	0.0359	0.036	0.036	NA	0.010	0.010	0.015
MW-203B	mg/L	15	1	16	0.005	0.02	0.0147	0.0147	0.015	0.015	NA	0.010	0.010	0.012
MW-206B	mg/L	13	3	16	0.005	0.01	0.0111	0.076	0.038	0.028	0.034	0.010	0.010	0.010

Notes:

† Result value is $< 25\text{th percentile} - 3 \cdot \text{IQR}$ or $> 75\text{th percentile} + 3 \cdot \text{IQR}$

* Result value is $< 25\text{th percentile} - 1.5 \cdot \text{IQR}$ or $> 75\text{th percentile} + 1.5 \cdot \text{IQR}$

-- = no data

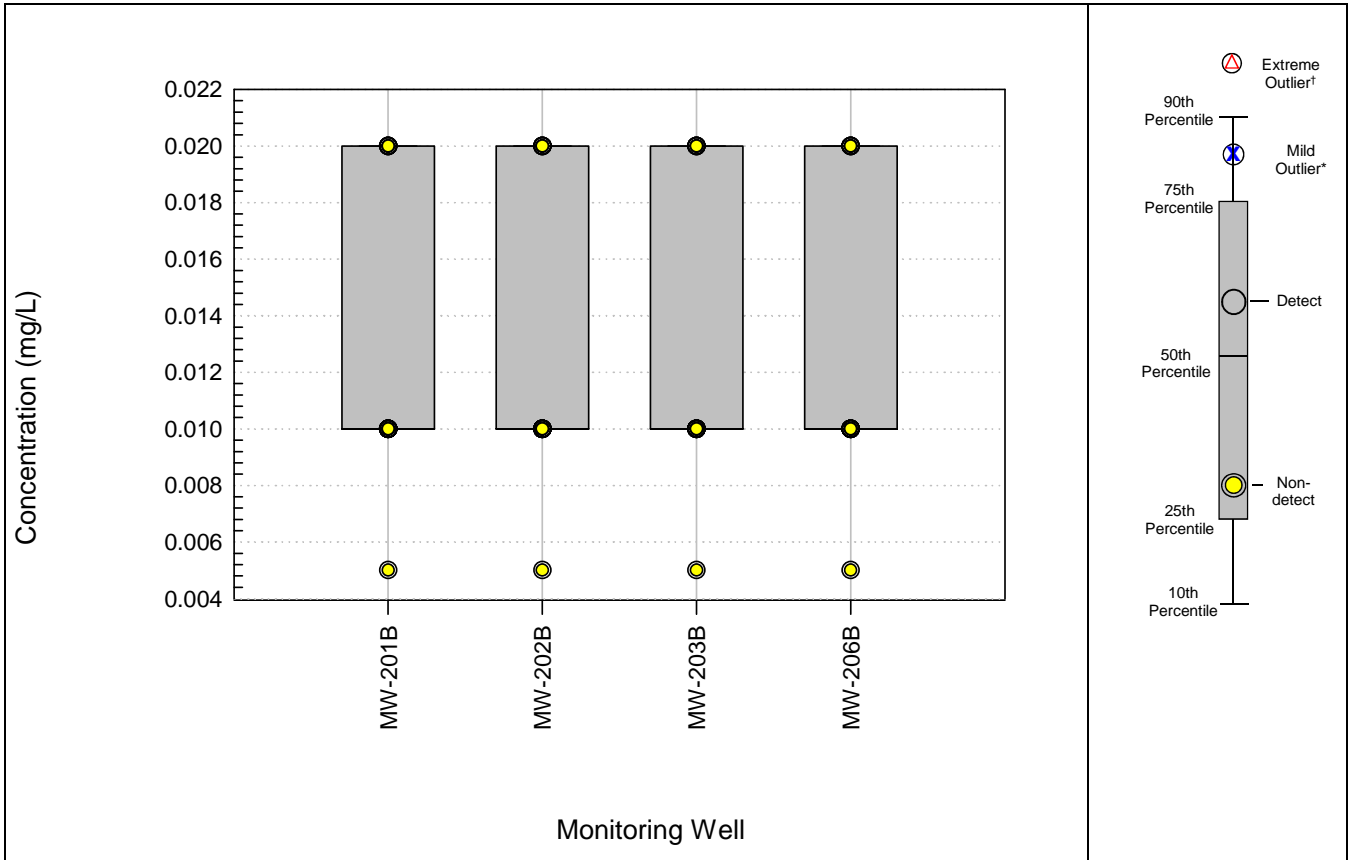
NA = value not applicable due to frequency of detection

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.



**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	mg/L	16	0	16	0.005	0.02	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-202B	mg/L	16	0	16	0.005	0.02	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-203B	mg/L	16	0	16	0.005	0.02	ND	ND	ND	ND	ND	0.010	0.010	0.020
MW-206B	mg/L	16	0	16	0.005	0.02	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

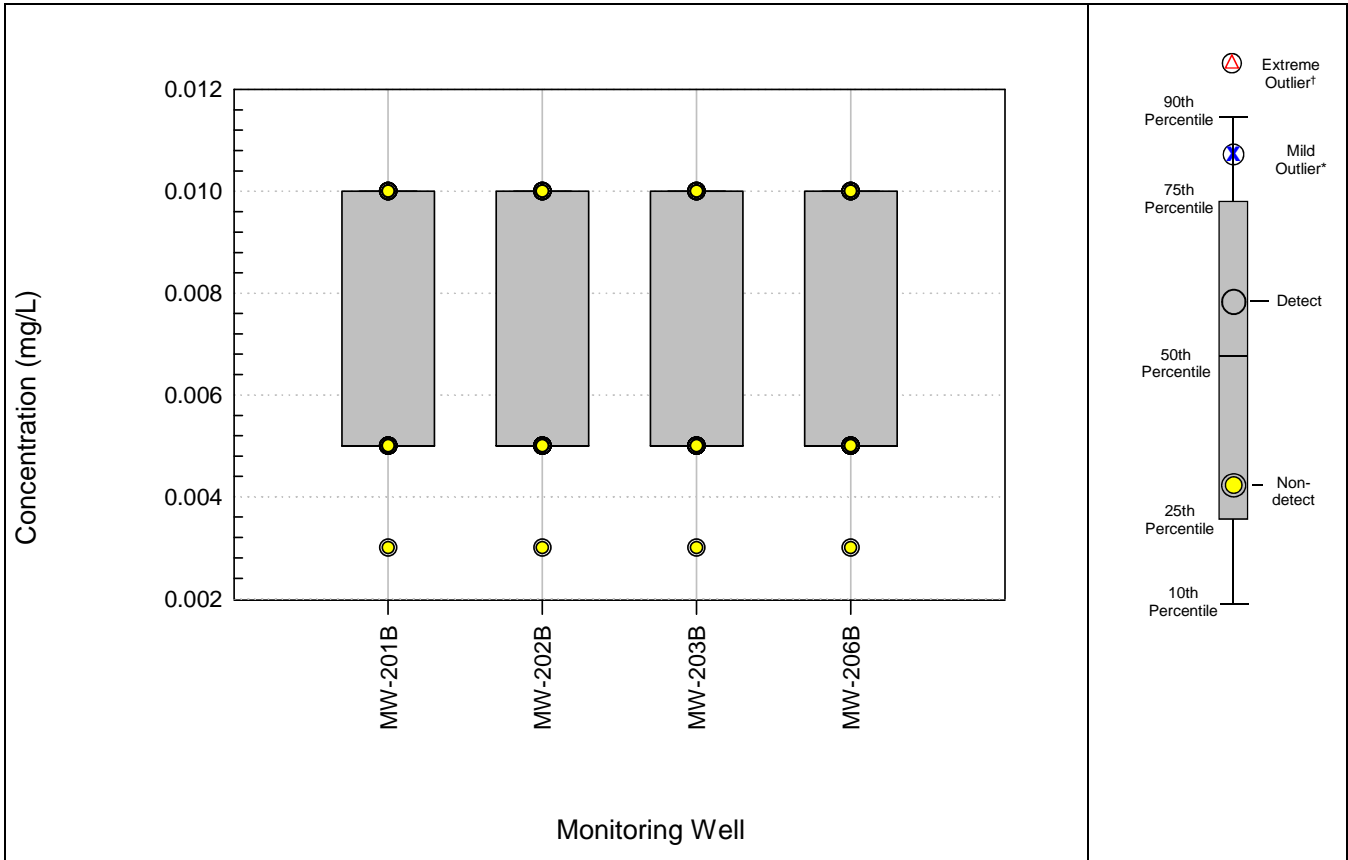
NA = value not applicable due to frequency of detection

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.



Box and Whisker Plot
Lead

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

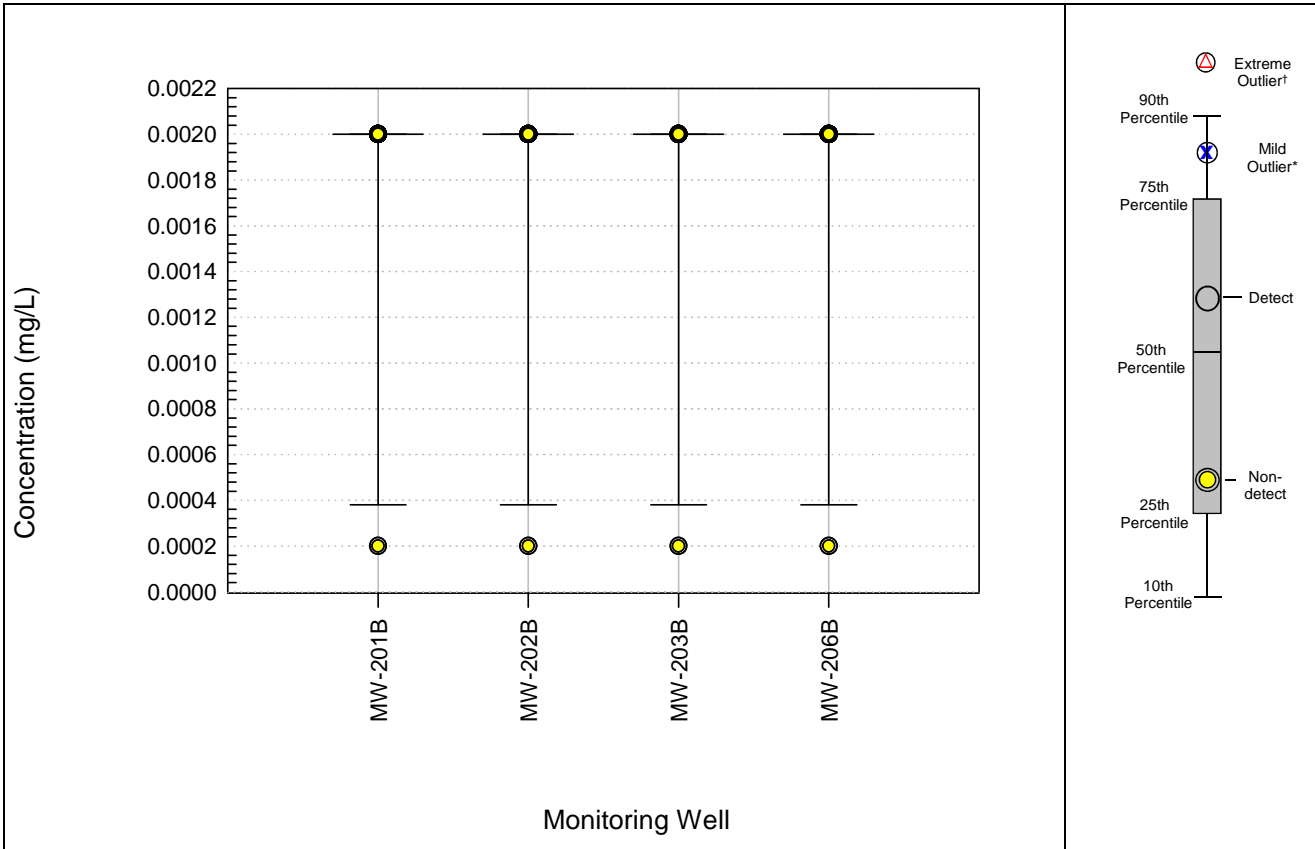
Figure 2-6

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	mg/L	16	0	16	0.003	0.01	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-202B	mg/L	16	0	16	0.003	0.01	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-203B	mg/L	16	0	16	0.003	0.01	ND	ND	ND	ND	ND	0.0050	0.0050	0.010
MW-206B	mg/L	16	0	16	0.003	0.01	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.



**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	mg/L	16	0	16	0.0002	0.002	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-202B	mg/L	16	0	16	0.0002	0.002	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-203B	mg/L	16	0	16	0.0002	0.002	ND	ND	ND	ND	ND	0.0020	0.0020	0.0020
MW-206B	mg/L	16	0	16	0.0002	0.002	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

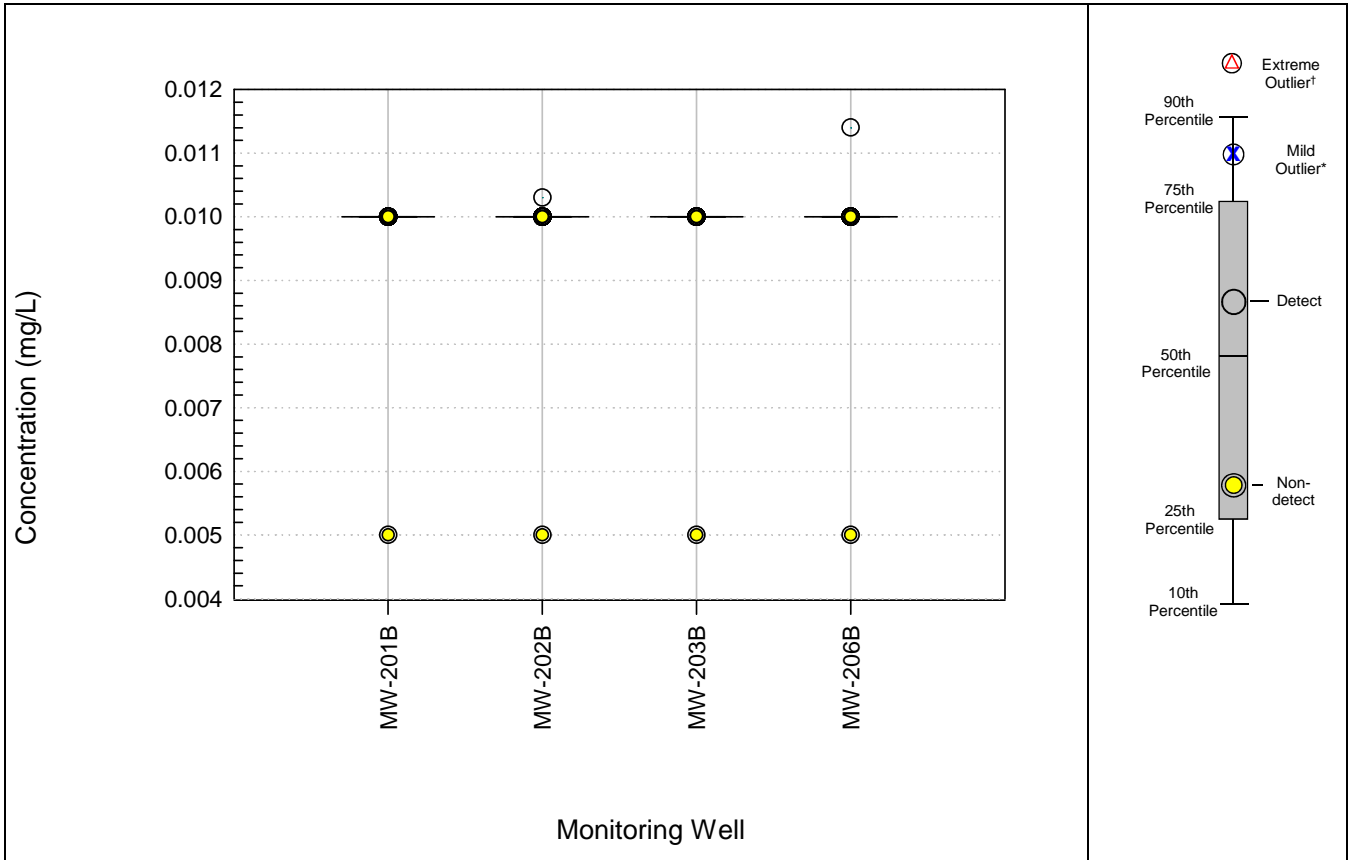
NA = value not applicable due to frequency of detection

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.



**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	mg/L	16	0	16	0.005	0.01	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-202B	mg/L	15	1	16	0.005	0.01	0.0103	0.0103	0.010	0.010	NA	0.010	0.010	0.010
MW-203B	mg/L	16	0	16	0.005	0.01	ND	ND	ND	ND	ND	0.010	0.010	0.010
MW-206B	mg/L	15	1	16	0.005	0.01	0.0114	0.0114	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

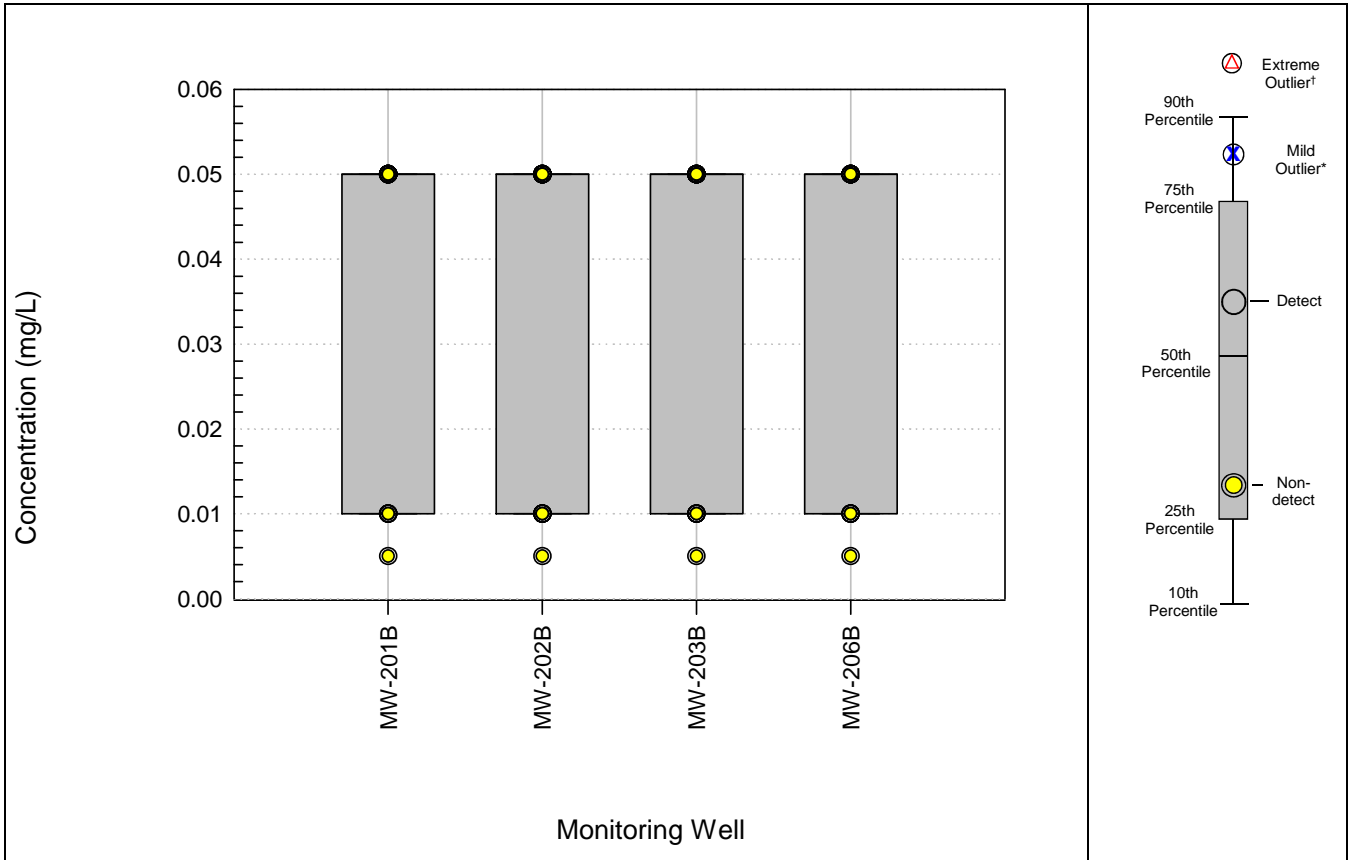
NA = value not applicable due to frequency of detection

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.



Box and Whisker Plot
Silver

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

Figure 2-9

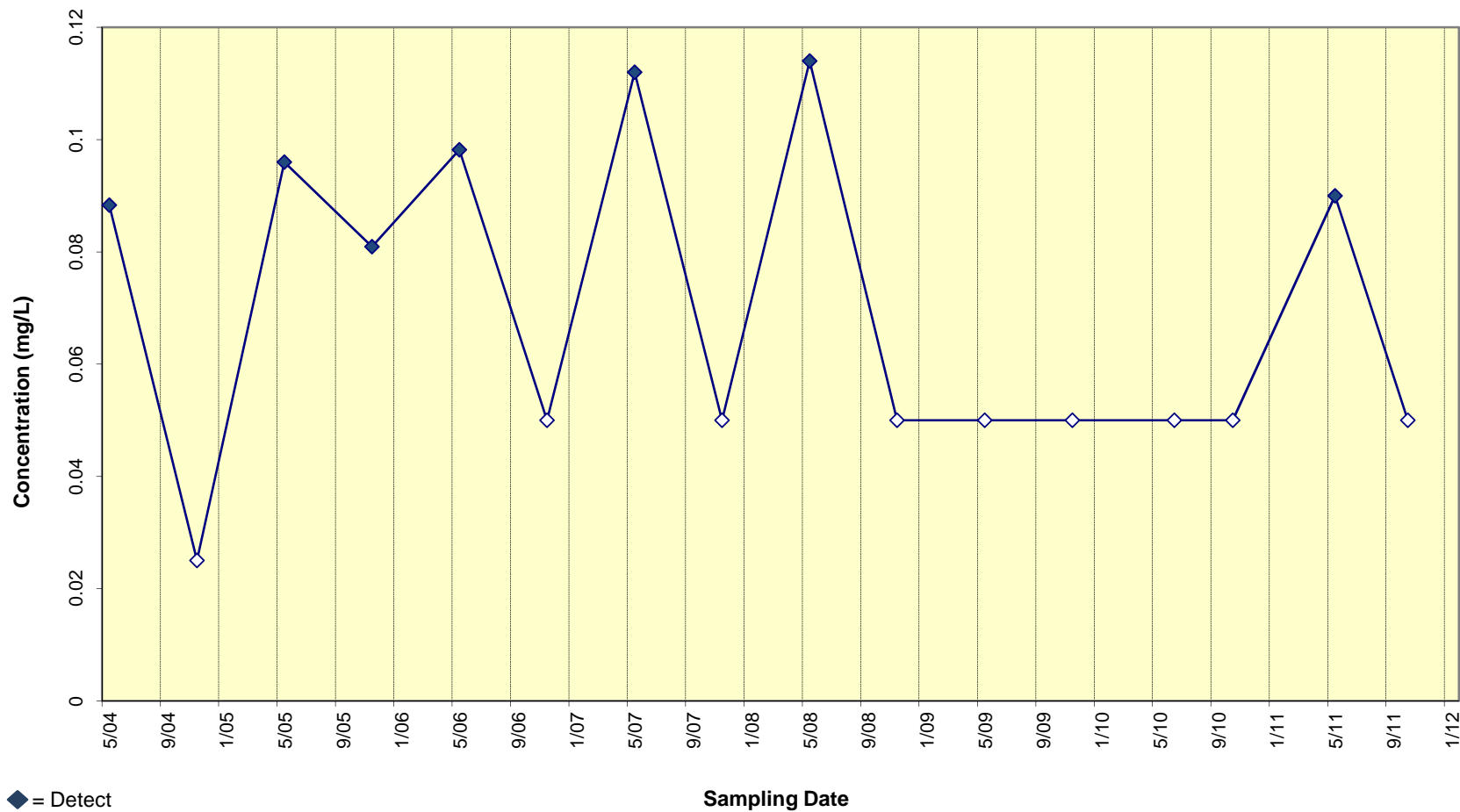
Monitoring Well	Units	Sample Size			ND Range		Detects					Percentiles (All Data)		
		NDs	Detects	Total	Min	Max	Min	Max	Mean	Median	SD	25th	50th	75th
MW-201B	mg/L	16	0	16	0.005	0.05	ND	ND	ND	ND	ND	0.010	0.050	0.050
MW-202B	mg/L	16	0	16	0.005	0.05	ND	ND	ND	ND	ND	0.010	0.050	0.050
MW-203B	mg/L	16	0	16	0.005	0.05	ND	ND	ND	ND	ND	0.010	0.050	0.050
MW-206B	mg/L	16	0	16	0.005	0.05	ND	ND	ND	ND	ND	0.010	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.



◆ = Detect
◇ = Non-detect

Results of Mann-Kendall Test for Trend:

No Significant Trend

p value = 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 = mg/L/day

95% Confidence Interval = to mg/L/day

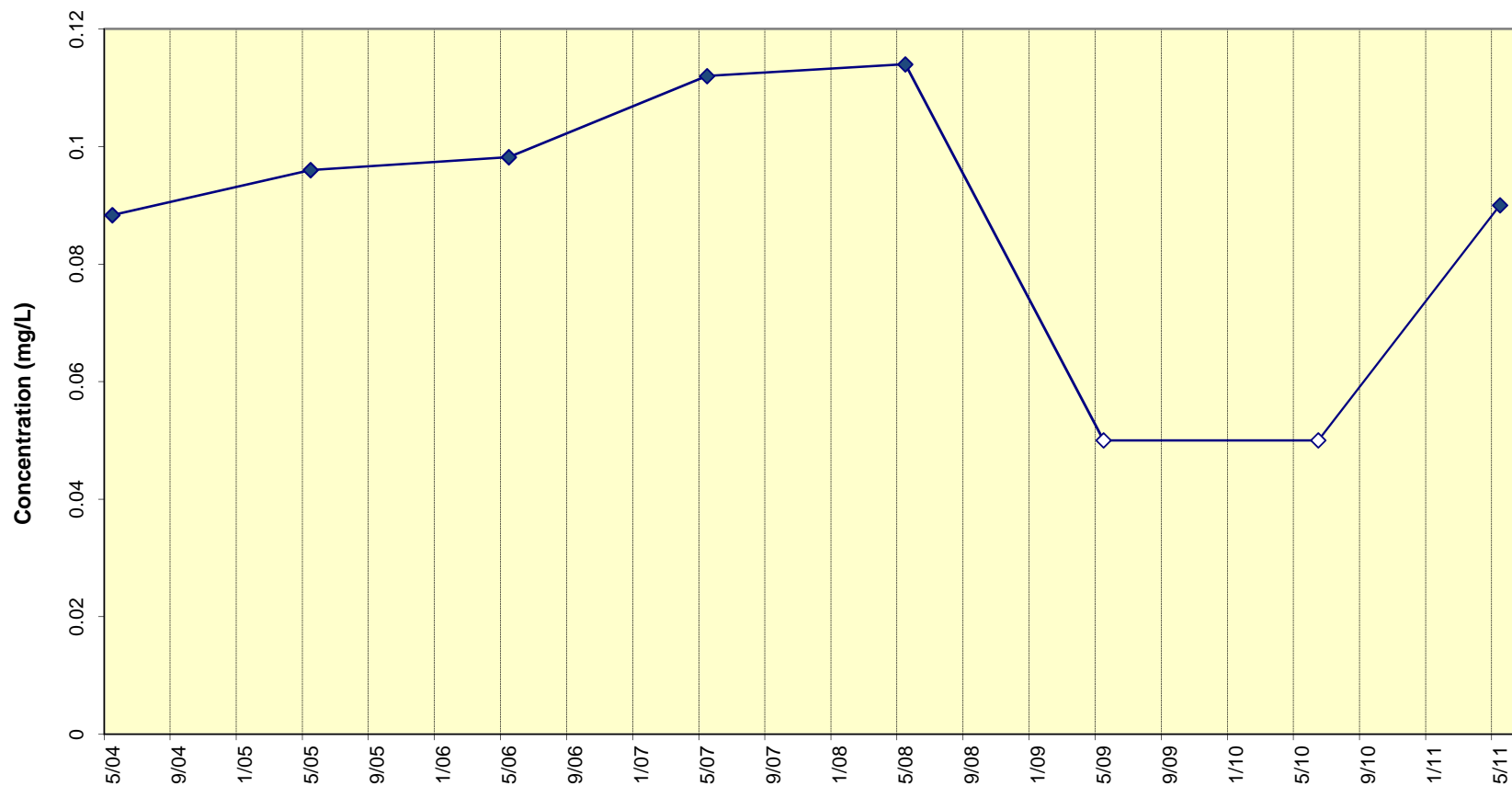
mg/L - milligrams per liter



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



◆ = Detect
◇ = Non-detect

Sampling Date

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



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