
Baltimore Inner Harbor Environmental Media Monitoring Plan Quarterly Report No. 95 Second Quarter 2013

Prepared for
Honeywell International Inc.

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CH2MHILL®

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Acronyms and Abbreviations

EMMP	Environmental Media Monitoring Plan
EPA	U.S. Environmental Protection Agency
MDE	Maryland Department of the Environment
MES	Maryland Environmental Services
ppb	parts per billion
Site	Honeywell Baltimore Inner Harbor Site
SSMP	Surface Soil Monitoring Plan

Introduction

1.1 Purpose

This document represents the partial fulfillment of the Consent Decree entered into by Honeywell (formerly AlliedSignal, Inc.), the U.S. Environmental Protection Agency (EPA), and the Maryland Department of the Environment (MDE) on September 29, 1989. Specifically, this document satisfies Section V.3 of the Consent Decree, Exhibit 4 (RCRA Correction Action Plan Task XV.A.9). This section requires that a progress report be submitted every calendar quarter during the life of the Consent Decree. This report provides the data required by the Environmental Media Monitoring Program, as set forth in the Environmental Media Monitoring Plan (EMMP) and the Surface Soil Monitoring Plan (SSMP), as submitted to MDE and EPA.

This report summarizes the data collected during the second quarter of 2013.

1.2 Scope of Work

The scope of work outlined in the EMMP covers sampling and analysis of environmental media before, during, and after dismantlement of the former plant, and the completion of the corrective measures implementation activities at the Honeywell Baltimore Inner Harbor Site (Site). The environmental media sampled as part of the EMMP are air, surface water, groundwater, and sediment.

The scope of work outlined in the SSMP covers sampling and analysis of environmental media after completion of Corrective Measures Implementation activities at the Site. The only environmental medium sampled as part of the SSMP is the drainage layer effluent.

Media are sampled on varying frequencies as required by the EMMP and the SSMP (quarterly, twice annually, annually, and every 3 years). Only data for the media sampled during each quarter are reported in the associated quarterly report.

1.3 Sampling Conducted this Quarter

Surface water samples were collected during the second quarter 2013, as well as during the first quarter of 2013. Appendix A provides data associated with sampling during the first quarter; results for the second quarter will be provided in the third quarter 2013 report. The surface water sample results for the first quarter 2013 were validated by Critigen, and the validation report for this event is provided in Appendix D. All data quality objectives were met for surface water samples collected during the first quarter of 2013.

Groundwater samples were collected during the second quarter of 2013. Appendix B provides data associated with the sampling event. The groundwater sample results for the second quarter 2013 were validated by Critigen, and the validation report is provided in Appendix D. All data quality objectives were met for groundwater samples collected during the second quarter of 2013.

Drainage layer samples were collected during the second quarter of 2013. Appendix C provides data associated with the sampling event. The drainage layer sample results for the second quarter 2013 were validated by Critigen, and the validation report is provided in Appendix C. All data quality objectives were met for drainage layer samples collected during the second quarter of 2013.

1.4 Progress Report Organization

Progress reports prepared in accordance with the Consent Decree are organized by medium. The media section included in this document provides a summary of methodology, the current quarter's sampling plan, and a summary of results. Also provided in the medium section are a discussion of the sampling event; explanations for any deviations

from the EMMP or SSMP procedures; data summaries; and discussion of the data, quality control results, and pertinent data trends. Raw data and chain-of-custody records are provided in Appendixes A through C.

This progress report describes the surface water, groundwater and drainage layer monitoring performed during the second quarter of 2013.

Surface Water Monitoring

2.1 Methodology

The surface water monitoring program provides information about surface water quality around the perimeter of the Site, at 18 predetermined stations, and at 2 stations upstream from the Site. Samples are collected at each station during each quarter and analyzed for total dissolved chromium.

Sampling is conducted within 1 hour of low tide and close to the predetermined sampling locations. The pH, temperature, specific conductance, and depth to the river bottom are measured before each sample is collected. A decontaminated Kemmerer sampler is used to collect the samples, which are placed in 500-milliliter plastic bottles. Two samples are collected—the first 1 foot below the water surface and the second 1 foot above the river bottom—at all locations except Station 20, where the water depth may be at or below 1 foot. When this is the case, only one sample is collected at Station 20. A mid-depth sample is required from sampling locations where the depth is more than 10 feet. The lateral placement of each sample location is about 5 feet from the bulkhead/shoreline. Laboratory sampling personnel record measurements and observations on sampling sheets, which are presented in Appendix A.

Surface water sample containers are placed on ice as soon as samples are collected. Field duplicate samples, field blanks, and rinsate blanks are also collected. At the end of the sample round, the samples are filtered and preserved. The samples are then transferred to the laboratory using documented chain-of-custody procedures and a dedicated courier. The samples are analyzed for total dissolved chromium using EPA SW-846 Method 6010B.

The results received from the laboratory are entered into a database in which data for each month are tabulated. When duplicate samples for a given station are taken, the average of the concentrations is used for that station. The analytical results, chain-of-custody documentation, and field sampling reports are presented in Appendix A.

2.2 Current Quarter Results

Surface water sampling for the first quarter of 2013 and second quarter of 2013 was performed by Maryland Environmental Services (MES) at all 20 sampling locations on March 8, 2013, and on May 6, 2013, respectively. The surface water sampling locations are shown in Figure 2-1 (at the end of this section). Results for the surface water samples collected on March 8, 2013, are included in this report. Results of the analysis of the surface water samples collected on May 6, 2013, will be reported in the third quarter 2013 report (October 10, 2013). All of the collected samples were transported to Lancaster Laboratories in Lancaster, Pennsylvania, for total dissolved chromium analysis. Summaries of the surface water data and average concentrations for March 2013, including individual sample detection limits and validated data qualifiers, are presented in Tables 2-1 and 2-2.

2.3 Data Review

The surface water monitoring program is intended to provide information on surface water quality in the immediate vicinity of the waterside perimeter of the Site. This information is used to assess the performance of the corrective measures.

The Consent Decree, Section V, Part 12, establishes the Surface Water Performance Standard: “The surface water performance standard [...] for total chromium shall be 50 parts per billion (ppb), calculated for each sample location by arithmetically averaging the samples taken at all depths over 4 consecutive days.” In October 2002, the sample frequency was amended to be 1 day of sampling at each sampling location per quarter.

In addition, the EMMP states that Honeywell will review analytical data for results greater than 11-ppb of dissolved hexavalent chromium. The 11-ppb reporting level is based on the following:

- Code of Maryland Regulation 26.08.02.03-1B, which states that the numerical toxic substance criteria for freshwater shall be applied to the surface water near the Site

- National Recommended Water Quality Criteria Correction EPA 822-Z-99-001 (April 1999), which states that the chronic exposure level for dissolved hexavalent chromium in freshwater is 11 ppb

Total dissolved chromium concentrations in surface water reported for second quarter 2013 (first quarter 2013 results) are similar to the analytical values reported in first quarter 2013 (fourth quarter 2012 results). The percentages of actual or average surface water results meeting specific criteria (performance standard, chronic freshwater exposure, and detection limit) are listed in Table 2-1. Results of analyses for total dissolved chromium from each sampling location and each depth are presented in Table 2-2. The average analytical result from each sampling location is presented in Table 2-3.

Table 2-1**Percent of Average or Actual Surface Water Results Below Specific Criteria**

Sample Event	<u>Performance Standard</u> Actual Concentration < 50 ppb	<u>Fresh Water Chronic Exposure Level</u> Actual Concentration <11 ppb	Analytical Detection Limit† Actual Concentration <10 ppb	Method Detection Limit† Actual Concentration <1.1 ppb
March	100%	100%	100%	91%

† The Analytical Detection Limit as determined by the Laboratory QC is 1.1 ppb

Table 2-2
Surface Water Sampling Data per Location
March 2013

Station Number	Detection Limit	Total Dissolved Chromium (mg/L)
		3/8/2013
3B	0.01	0.005 U
3T	0.01	0.0011 J
4B	0.01	0.005 U
4T	0.01	0.005 U
5B	0.01	0.005 U
5T	0.01	0.005 U *
6B	0.01	0.005 U
6T	0.01	0.005 U
7B	0.01	0.005 U
7T	0.01	0.005 U
8B	0.01	0.005 U
8T	0.01	0.005 U
9B	0.01	0.005 U
9T	0.01	0.005 U
10B	0.01	0.005 U *
10T	0.01	0.005 U
11B	0.01	0.005 U
11T	0.01	0.005 U
12B	0.01	0.005 U
12T	0.01	0.005 U
13B	0.01	0.005 U
13T	0.01	0.005 U
14B	0.01	0.005 U
14T	0.01	0.005 U
15B	0.01	0.005 U
15T	0.01	0.005 U *
16B	0.01	0.005 U
16T	0.01	0.005 U
17B	0.01	0.005 U
17T	0.01	0.005 U
18B	0.01	0.005 U
18M	0.01	0.005 U
18T	0.01	0.005 U
19B	0.01	0.005 U
19T	0.01	0.005 U
20B	0.01	0.005 U *
20T	0.01	0.005 U
Cent B	0.01	0.005 U
Cent T	0.01	0.005 U
LADY B	0.01	0.005 U
LADY T	0.01	0.0011

NOTES

T - Sample collected 1 foot below the surface (TOP)

M - Sample collected from the measured middle of the TOP and BOTTOM measurements (MIDDLE)

B - Sample collected 1 foot from the bottom (BOTTOM)

* - Average of the sample and its Field Duplicate

J - Results was reported below the Report Detection Limit

U - Result below the Method Detection Limit

Table 2-3
 Surface Water Sampling Data per Sampling Station
 March 2013

Station Number	Total Dissolved Chromium (mg/L)
	3/8/2013 Station Average of All Depths
3	0.0031
4	0.0050
5	0.0050
6	0.0050
7	0.0050
8	0.0050
9	0.0050
10	0.0050
11	0.0050
12	0.0050
13	0.0050
14	0.0050
15	0.0050
16	0.005
17	0.0050
18	0.0050
19	0.0050
20	0.0050
Cent	0.0050
Lady	0.0050

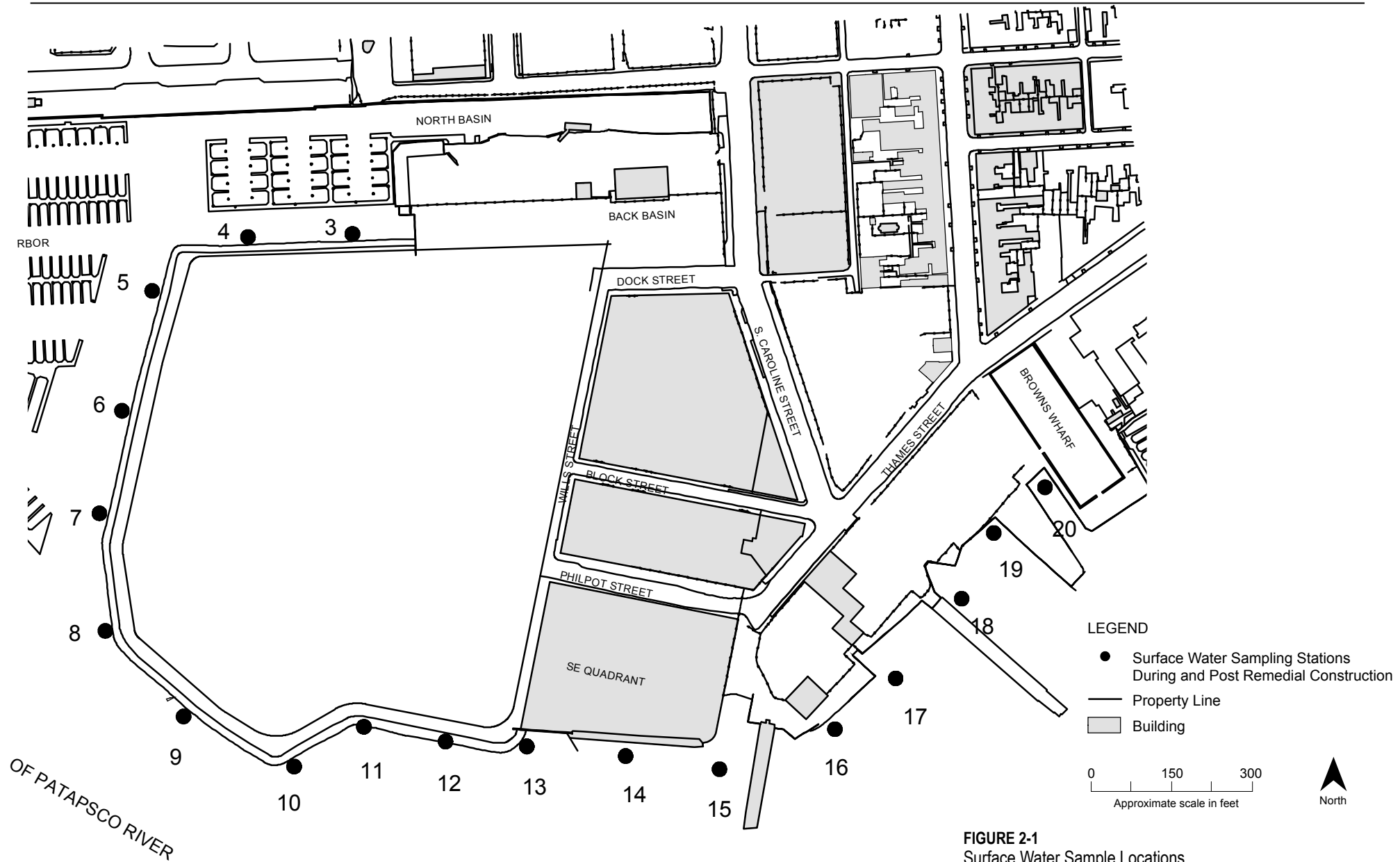


FIGURE 2-1
 Surface Water Sample Locations
 Environmental Media Monitoring

Groundwater Monitoring

3.1 Methodology

The Consent Decree required monthly groundwater monitoring for the first 2 years following completion of remedial construction at nine locations around the perimeter of the site and in three locations (OP-2, OP-11, and NWM-27) in offsite areas. Four of the perimeter locations (SW-06, SW-11, SW-13, and SW-15) are monitored by collecting surface water samples within 1 foot of the bottom, as described in Section 2.1. The other five perimeter locations (OP-3, OP-4, OP-5, OP-7, and OP-9) are monitored by collecting groundwater samples from onsite piezometers. The three offsite locations are monitored by collecting one sample from a conventional monitoring well (NWM-27) and one sample each from two piezometers (OP-2 and OP-11). All monitoring locations are shown in Figure 3-1.

As of January 2002, the groundwater-monitoring frequency was reduced from monthly to twice per year, as described in Sections 1.2.3 and 5.2.3 of the Honeywell Baltimore Works Environmental Media Monitoring Plan, which was approved by EPA and MDE.

Before the monitoring well and piezometers are purged and sampled, measurements of depth to water are recorded on a sampling summary sheet. All designated monitoring wells/piezometers are sampled in accordance with the low-flow sampling procedures detailed in the following documents:

- “Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures” (EPA/540/S-95/504), April 1996, by Robert W. Puls and Michael J. Barcelona
- “Recommended Procedures for Low-Flow Purging and Sampling of Groundwater Monitoring Wells” (Bulletin No. QAD023), August 8, 1994, by EPA Region III

During purging and before sample collection, field measurements—including conductivity, pH, temperature, reduction oxidation potential, dissolved oxygen, and turbidity—are measured until the well stabilizes. The sampling time is recorded. The collected samples are filtered, preserved, placed on ice, and then transferred to the laboratory according to chain-of-custody procedures. The samples are analyzed for total dissolved chromium by the laboratory using EPA SW-846 Method 6010B. Two of the samples (OP-3 and OP-2) are also analyzed for total dissolved cyanide using EPA SW-846 Method 9014. Field blanks, temperature blanks, and rinsate blanks are also collected and analyzed for the same parameters.

Results received from the laboratory are entered into a database. Data for each month, quarter, and year are tabulated, averaged, and compared to previous results.

3.2 Current Quarter Results

Groundwater samples were taken on April 17, 2013. MES performed all sample collection, and Lancaster Laboratories performed the sample analysis.

3.2.1 Chromium

Total dissolved chromium was detected in all of the groundwater samples collected from piezometers and monitoring wells. There was no significant difference in chromium concentrations between the second quarter 2013 monitoring data and the total dissolved chromium concentrations detected at each respective sampling station during monitoring performed over the last 5 years. Sample results for OP-4 were more similar to the results from the second quarter of 2012 than the results from the fourth quarter of 2012. Current chromium results from this location are much lower than prior results. The analytical data report is attached as Appendix B-3.

Bottom surface water samples collected along the site perimeter from locations proximal to historical groundwater sampling well locations, as described in Section 3.1 of this report, had total dissolved chromium levels below the analytical method detection limit.

3.2.2 Cyanide

Total dissolved cyanide concentrations were within expected variations, based on a review of the historical concentrations. The analytical data report is provided in Appendix B-3.

3.3 Historical Results

3.3.1 Chromium

The second quarter 2013 results from groundwater sampling, averaged to represent two sampling events per year for data comparison for each groundwater monitoring location, are presented in Table 3-1. A statistical review of the analytical data, including the minimum, maximum, average, and standard deviation values for each well location, is presented in Table 3-2. Validated analytical groundwater monitoring results with data qualifiers from the second quarter of 2013, including annual averages for data collected during the last 5 years, are presented in Table 3-3.

The historical total dissolved chromium concentrations in groundwater for each monitoring location are shown in Figure 3-2. Trends for total dissolved chromium concentrations for each groundwater monitoring location are depicted in Figures 3-3 through 3-9. The historical data in these figures were averaged to allow current data to be compared to past sample rounds. Current groundwater results are in line with the trends anticipated from the past sample analysis concentration.

3.3.2 Cyanide

Groundwater samples were collected from two locations (OP-2 and OP-3) for cyanide analysis. The historical trend of cyanide levels is presented in Table 3-4. The concentrations of cyanide detected in samples collected from each location are presented in Figures 3-10 and 3-11, respectively.

Table 3-1
Total Dissolved Chromium Concentrations in Groundwater (mg/l)

Monitoring Wells	Elevation (ft) Top of Well Screen	Current Results mg/l	Sample Detection Limit mg/l	Sample Event Dates							
				Apr, 2013	Oct, 2012	Apr, 2012	Oct, 2011	Jun, 2011	Apr, 2010	Oct, 2009	Apr, 2009
<u>Outboard Piezometers</u>		Apr, 2013		Apr, 2013	Oct, 2012	Apr, 2012	Oct, 2011	Jun, 2011	Apr, 2010	Oct, 2009	Apr, 2009
11B		0.0011	0.01	0.0011	0.001	0.0011	0.001	0.003	0.003	0.003	0.003
13B		0.0011	0.01	0.0011	0.001	0.0023	0.001	0.003	0.003	0.003	0.003
15B		0.0011	0.01	0.0011	0.001	0.0011	0.001	0.0034	0.003	0.003	0.003
6B		0.0011	0.01	0.0011	0.001	0.0011	0.001	0.003	0.003	0.004	0.003
NWM-27	32.68	2450	2	2450	1910	2150	2310	1910	1840	1950	2240
OP11	44.47	0.869	0.01	0.869	0.751	0.507	0.210	0.390	0.470	0.201	0.368
OP2	64.31	5.77	0.01	5.77	5.14	5.20	5.82	5.79	6.31	6.36	6.05
OP3	68.53	137	0.1	137	140	126	142	144	146	153	165
OP4	69.14	3	0.01	3	323	17	457	504	503	533	548
OP5	60.7	3.95	0.01	3.95	2.96	1.89	2.84	4.61	5.03	6.52	5.360
OP7	55.42	0.002	0.01	0.002	0.002	0.012	0.010	0.005	0.006	0.005	0.003
OP9	47.13	1900	2	1900	1870	1950	2110	2200	2040	2150	2070

<u>Outboard Piezometers</u>	Oct, 2008	Apr, 2008	Oct, 2007	Apr, 2007	Oct, 2006	Apr, 2006	Oct, 2005	Apr, 2005	Oct, 2004	Apr, 2004	Oct, 2003
11B	0.003	0.0023	0.002	0.015	0.015	0.015	0.015	0.015	0.005	0.010	0.005
13B	0.003	0.0023	0.002	0.015	0.015	0.015	0.015	0.015	0.005	0.010	0.005
15B	0.003		0.002	0.015	0.015	0.015	0.015	0.015			0.005
6B	0.003	0.003	0.004	0.015	0.015	0.015	0.015	0.015	0.005	0.010	0.005
NWM-27	174	2130	699	1690	710	1540	1010	874	744	422	603
OP11	0.192	0.483	0.033	0.122	0.015	0.235	0.182	0.026	0.017	0.080	0.005
OP2	7.12	5.77	7.34	6.33	6.39	6.20	6.32	6.08	5.98	5.75	6.16
OP3	6	189	166	202	199	219	286	288	297	309	342
OP4	616	601	526	684	584	812	1020	1100	1150	1260	1290
OP5	7.720	7.66	8.1	7.8	.8	.3	8.7	11.5	11.9	11.9	13.3
OP7	0.004	0.005	0.002	0.015	0.015	0.015	0.015	0.005	0.005	0.010	0.004
OP9	5020	4800	3020	3170	3050	2790	2810	2680	2780	2510	2480

**Table 3-1
Total Dissolved Chromium Concentrations in Groundwater (mg/l)**

<u>Outboard Piezometers</u>	Apr, 2003	Oct, 2002	Apr, 2002	Jan, 2002	Dec, 2001	Nov, 2001	Oct, 2001	Sep, 2001	Aug, 2001	Jul, 2001	Jun, 2001
11B	0.005	0.005	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.010
13B	0.005	0.005	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.010
15B	0.005	0.005	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.010
6B	0.005	0.005	0.008	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.010
NWM-27	603	550	930	1100	690	1300	830	1000	1500	1300	1600
OP11	0.005	0.017	0.009	0.029	0.033	0.026	0.032	0.049	0.034	0.032	0.042
OP2	6.00	5.63	4.90	5.50	5.60	4.90	6.20	6.50	5.80	4.80	5.80
OP3	342	378	440	440	440	480	570	420	410	450	420
OP4	1210	1620	1800	1400	1700	2000	1700	1800	1800	1800	1900
OP5	15.4	16.9	21.0	19.5	18.5	20.0	20.5	21.0	17.5	23.5	23.0
OP7	0.006	0.005	0.008	0.008	0.008	0.008	0.012	0.008	0.008	0.008	0.010
OP9	2510	2410	2500	2200	2500	2650	2500	2600	2400	2500	2500

<u>Outboard Piezometers</u>	May, 2001	Apr, 2001	Mar, 2001	Feb, 2001	Jan, 2001	Dec, 2000	Nov, 2000	Oct, 2000	Sep, 2000	Aug, 2000	Jul, 2000
11B	0.010	0.010	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
13B	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
15B	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
6B	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
NWM-27	1700	1300	1500	1600	1600	1600	1700	1700	1800	1700	1600
OP11	0.031	0.010	0.050	0.014	0.012	0.015	0.022	0.011	0.010	0.011	0.010
OP2	6.00	5.75	4.90	6.20	6.10	6.00	5.90	6.10	5.85	5.90	3.15
OP3	430	460	470	450	470	480	500	490	500	510	530
OP4	1800	1900	1900	2000	2000	2100	2100	2400	2250	2400	2400
OP5	23.0	24.0	25.0	25.5	26.0	25.0	26.0	28.0	25.0	24.0	18.0
OP7	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.013	0.010	0.012
OP9	2400	2400	2400	2300	2600	2500	2400	2700	2500	2500	2400

**Table 3-1
Total Dissolved Chromium Concentrations in Groundwater (mg/l)**

<u>Outboard Piezometers</u>	Jun, 2000	May, 2000	Apr, 2000	Mar, 2000	Feb, 2000	Dec, 1999	Aug, 1999	May, 1999	Mar, 1999	Dec, 1998	Sep, 1998
11B	0.01	0.01	0.01	0.01	0.002						
13B	0.01	0.01	0.010125	0.0105	0.002						
15B	0.01	0.01	0.01	0.01	0.002						
6B	0.01	0.01	0.01	0.01	0.002						
NWM-27	1700	1700	1800	3600	2600	1800	2300	1900	1400	1000	
OP11	0.01	0.01	0.010	0.004	0.047	0.020	0.010	.01	0.03	0.01	2.7
OP2	3.6	3.7	5.40	8.00	4.40	7.30	6.50	1.80	2.4	2.8	4.6
OP3	540	580	570	1045	630	670	800	670	690	750	780
OP4	2400	2800	2500	3300	2300	2900	3800	2900	2000	3000	1900
OP5	34	27	33.0	47.0	44.0	42.0	31.0	59.0	45.0	58	65
OP7	0.041	0.05	0.051	0.002	0.002	0.020	.01	.01	0.060	1.600	8.600
OP9	2400	2800	2500	4500	2400	3200	2200	1800	3200	2200	2300

<u>Outboard Piezometers</u>	Jun, 1998	Mar, 1998	Dec, 1997
11B			
13B			
15B			
6B			
NWM-27		610	
OP11			
OP2			
OP3	890	2200	2400
OP4	2000	2500	3700
OP5	70	130	150
OP7	0.3	0.02	0.02
OP9	2800	3600	

Table 3-2
Current and Annual Total Dissolved Chromium Concentrations in Groundwater (mg/l)

Monitoring Wells	Elevation (ft) Top of Well Screen	Current Results ppm	Sample Detection Limit ppm	Last Sample Round Results ppm	Average					Notes
					2013	2012	2011	2010	2009	
<u>Outboard Piezometers</u>										
OP-3	-53.5	137	0.1	140	137	133	139	145	160	4
OP-4	-57.1	2.69	0.0	323	2.7	170	457	504	548	4
OP-5	-51.3	3.955	0.01	2.96	3.96	2.43	3.10	4.82	5.94	4
OP-7	-47.6	0.0018	0.01	0.0017	ND	ND	0.0103	ND	ND	4
OP-9	-37.8	1900	2	1870	1900	1910	2045	2120	2110	4
<u>Deep Surface Water</u>										
SW-06	NA	0.0011	0.01	0.0011	ND	ND	ND	ND	ND	4
SW-11	NA	0.0011	0.01	0.0011	ND	ND	ND	ND	ND	4
SW-13	NA	0.0011	0.01	0.0011	ND	ND	ND	ND	ND	4
SW-15	NA	0.0011	0.01	0.0011	ND	ND	ND	ND	ND	4
<u>Offsite Wells</u>										
OP-2	-48.0	5.77	0.01	5.14	5.77	5.17	5.81	6.11	6.21	4
OP-11	-35.5	0.869	0.01	0.8905	0.869	0.699	0.381	0.442	0.285	4
NWM-27	-24.7	2450	2	1910	2450	2030	2270	1875	2095	4

NA - Not Applicable

ND - Not Detected

ERROR - Numerical data not reported for some portion of the referenced time period

U - Not detected validated results

B - Indicates that the calibration blank had some carryover contamination from these sample

* - Average of the sample and its duplicate

1 - Consists of averages of monthly data

2 - Consists of averages of quarterly data

3 - Consists of twice annual data (single data point)

4 - Average consists of all available data

Table 3-3 - Groundwater Trend Analysis ⁽¹⁾

Wells	Sample Dates	Data Points	Minimum	Maximum	Average	Standard Deviation	Current Quarter Concentrations
<u>Outboard Piezometers</u>							
OP-3	December,31 1980 to June,30 2013	63	6	2400	478	404	137
OP-4	December,31 1980 to June,30 2013	61	3	3800	1639	901	3
OP-5	December,31 1980 to June,30 2013	74	0.27	150	23	25	3.96
OP-7	December,31 1980 to June,30 2013	58	0.002	9	0.194	1.143	0.002
OP-9	December,31 1980 to June,30 2013	58	1800	5020	2613	618	1900
<u>Offsite Wells</u>							
OP-2	December,31 1980 to June,30 2013	65	1.80	8.00	5.57	1.17	5.77
OP-11	December,31 1980 to June,30 2013	57	0.004	2.700	0.189	0.411	0.869
NWM-27	December,31 1980 to June,30 2013	53	174	3600	1494	651	2450

1 - Trend analysis based on Sample Event Results stored in central electronic database.

Table 3-4
Current and Annual Total Dissolved Cyanide Concentrations in Groundwater (ug/l)

Monitoring Wells	Elevation (ft) Top of Well Screen	Current Results ug/l	Sample Detection Limit ug/l	Sample Event Dates							
				Oct, 2012	Apr, 2012	Oct, 2011	Jun, 2011	Sep, 2010	Apr, 2010	Oct, 2009	Apr, 2009
<u>Outboard Piezometers</u>		Apr, 2013									
OP2	64.31	5.00	10	5.00	5.0	5.0	5.00	11.00	23.00	5.00	5.00
OP3	68.53	5.0	10	17.0	9.5	13.00	13.0	24.0	5.0	18.0	19.00

<u>Outboard Piezometers</u>	Oct, 2008	Apr, 2008	Oct, 2007	Apr, 2007	Oct, 2006	Apr, 2006	Oct, 2005	Apr, 2005	Oct, 2004	Apr, 2004	Oct, 2003
OP2	5.0	5.0	5.0	10.0	10.0	10.0	10.0	10.00	10.00	10.00	5.0
OP3	12.0	25.0	9.5	26.0	22.0	10.0	35.0	17.0	34.0	20.0	30.0

<u>Outboard Piezometers</u>	Apr, 2003	Oct, 2002	Apr, 2002	Jan, 2002	Nov, 2001	Aug, 2001	May, 2001	Feb, 2001	Nov, 2000	Aug, 2000	May, 2000
OP2	5.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.00
OP3	36.0	40.4	24.0	15.0	47.0	42.0	18.0	37.0	10.0	41	53

<u>Outboard Piezometers</u>	Feb, 2000	Dec, 1999	Aug, 1999	May, 1999	Mar, 1999	Dec, 1998	Dec, 1998	Sep, 1998	Jun, 1998	Mar, 1998
OP2	10.00	5.00	5.00	5.00	5.00	5.00	5.00			
OP3	110.0	110.0	37.0	69.0	55.0	29.0	29.0	9.00	14.0	1.00

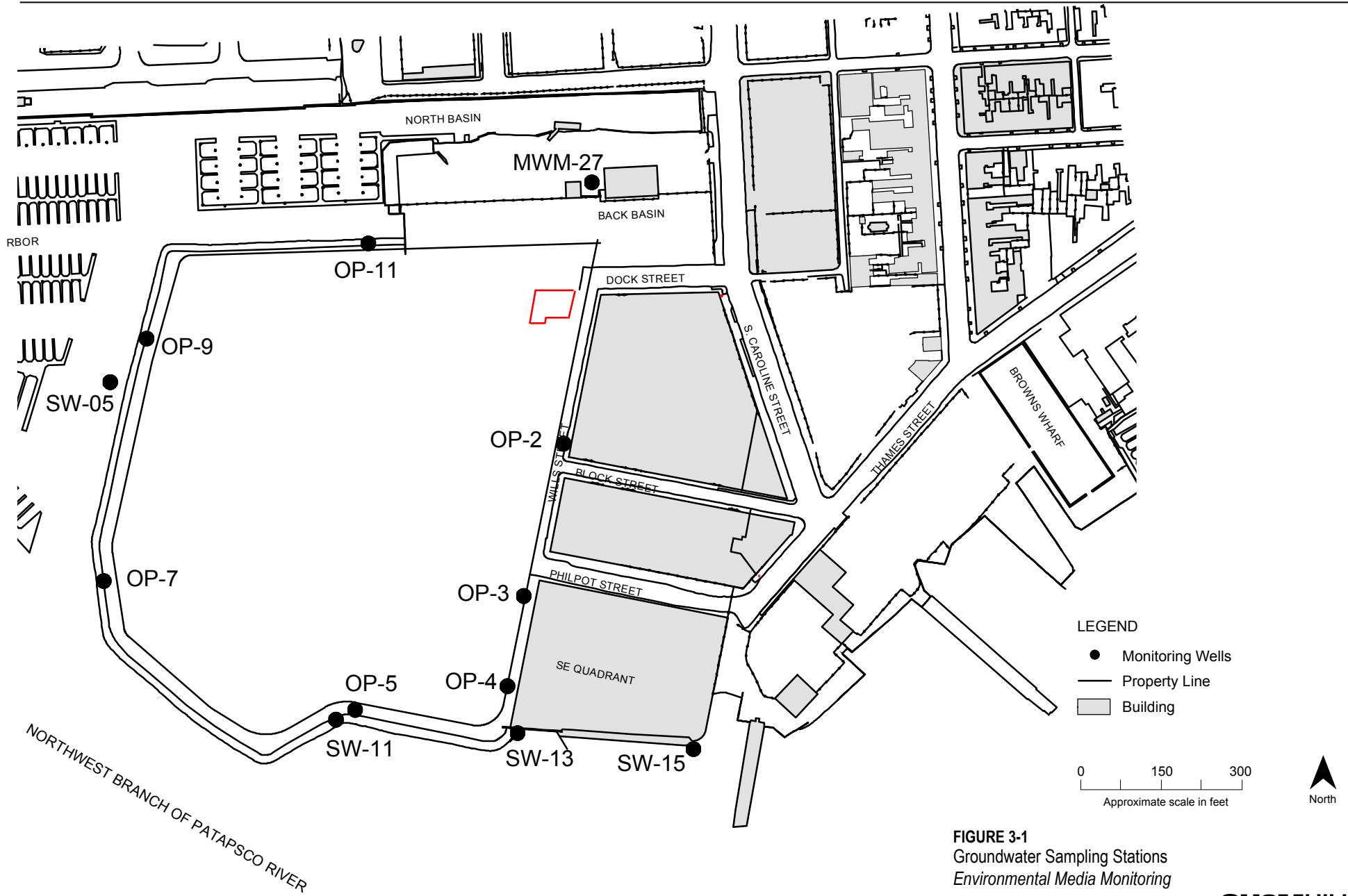


FIGURE 3-1
 Groundwater Sampling Stations
 Environmental Media Monitoring

Figure 3-2
Historical Total Dissolved Chromium Concentrations in Groundwater

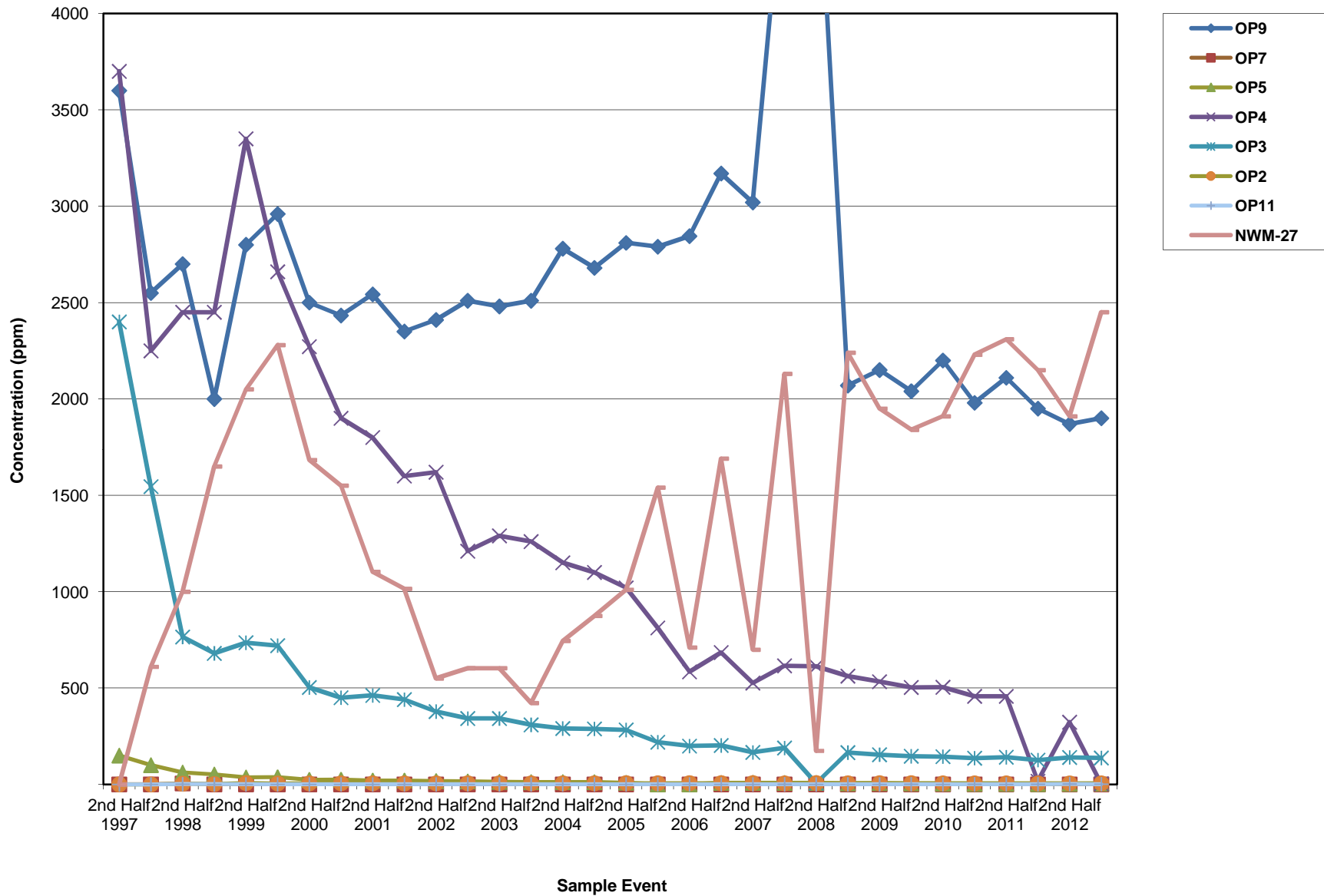


Figure 3-3
Total Dissolved Chromium Concentrations in Groundwater for OP- 3

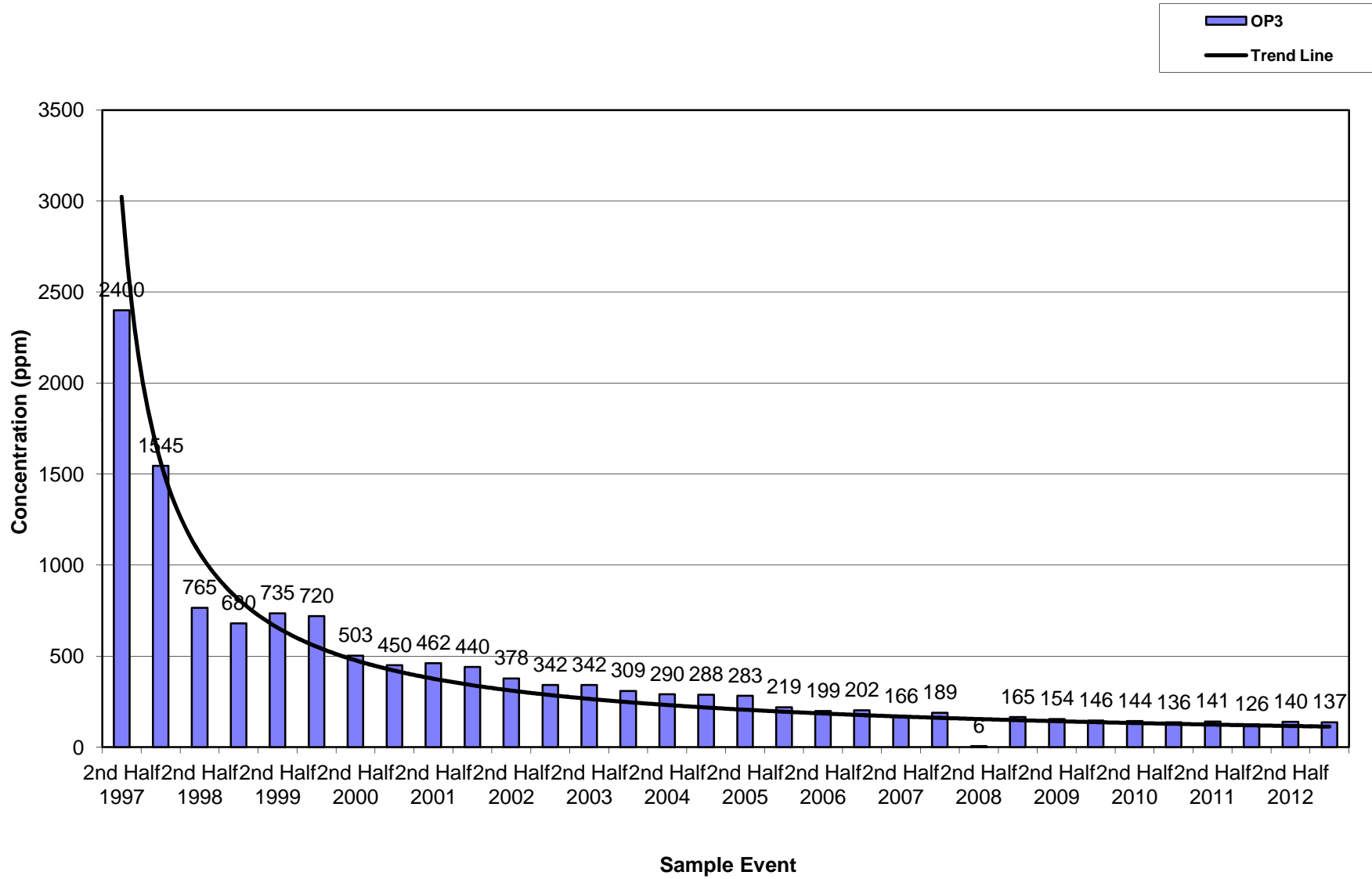


Figure 3-4
Total Dissolved Chromium Concentrations in Groundwater for OP-4

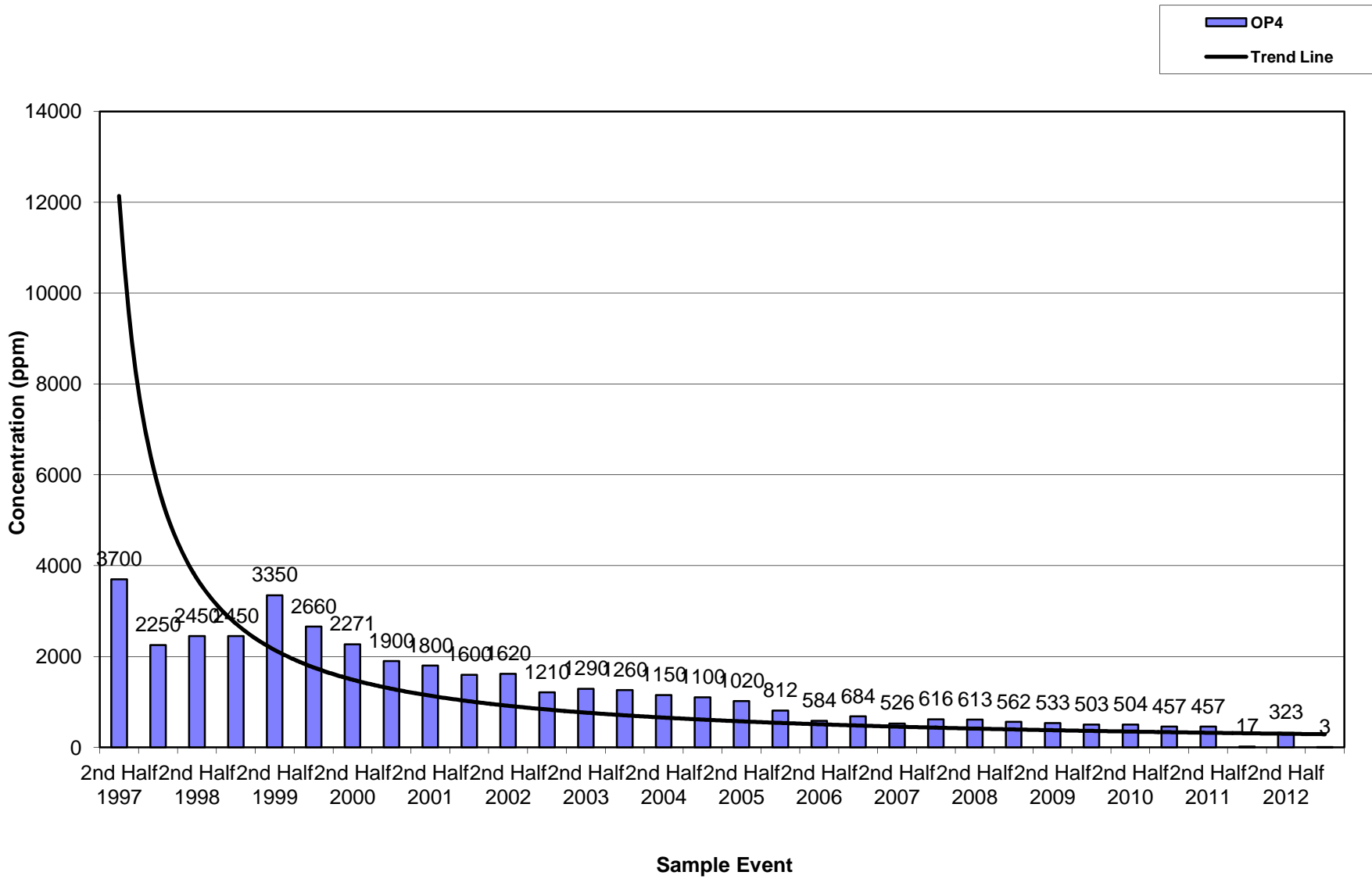


Figure 3-5
Total Dissolved Chromium Concentrations in Groundwater for OP-5

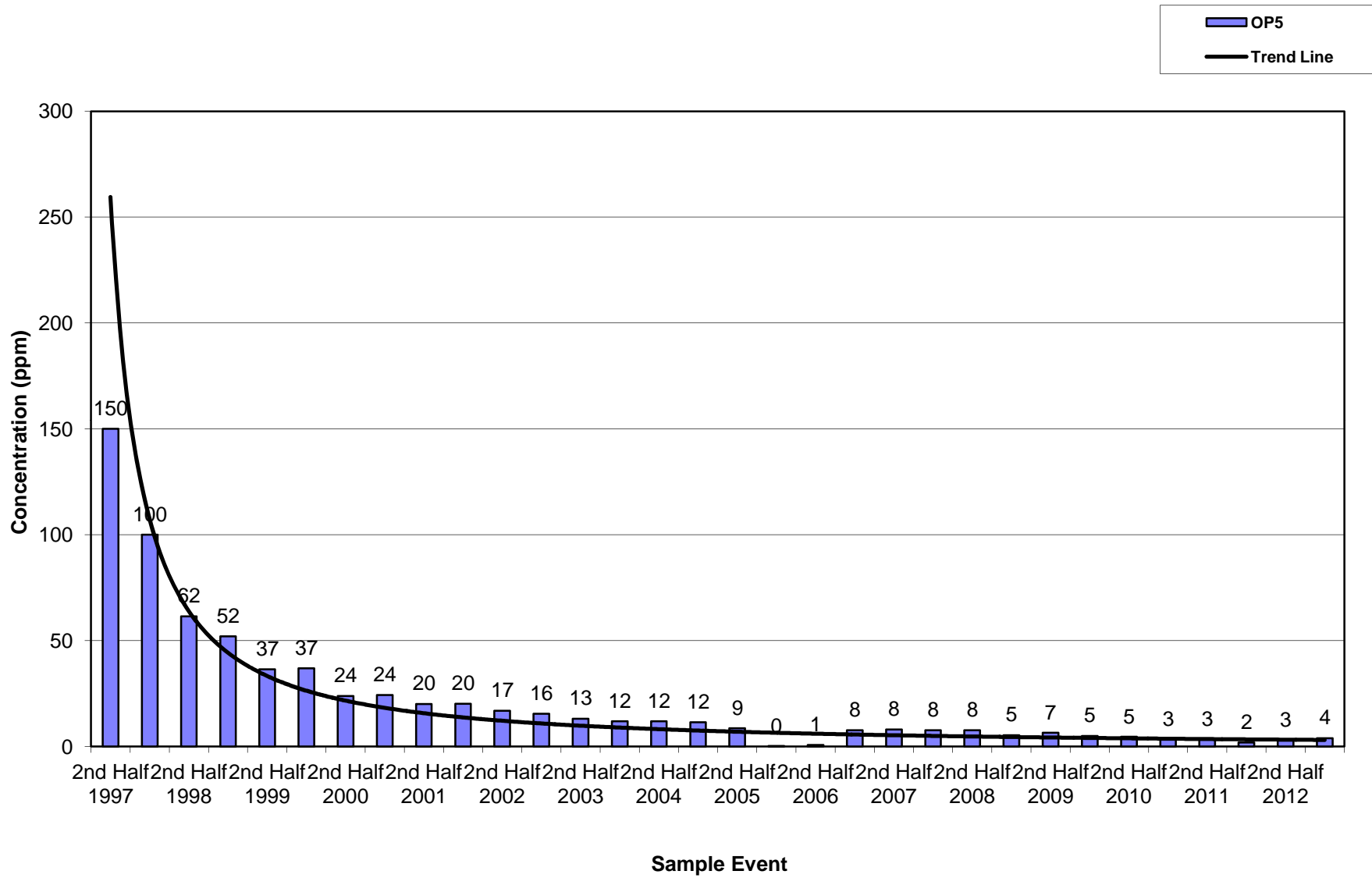


Figure 3-6
Total Dissolved Chromium Concentrations in Groundwater for OP-7

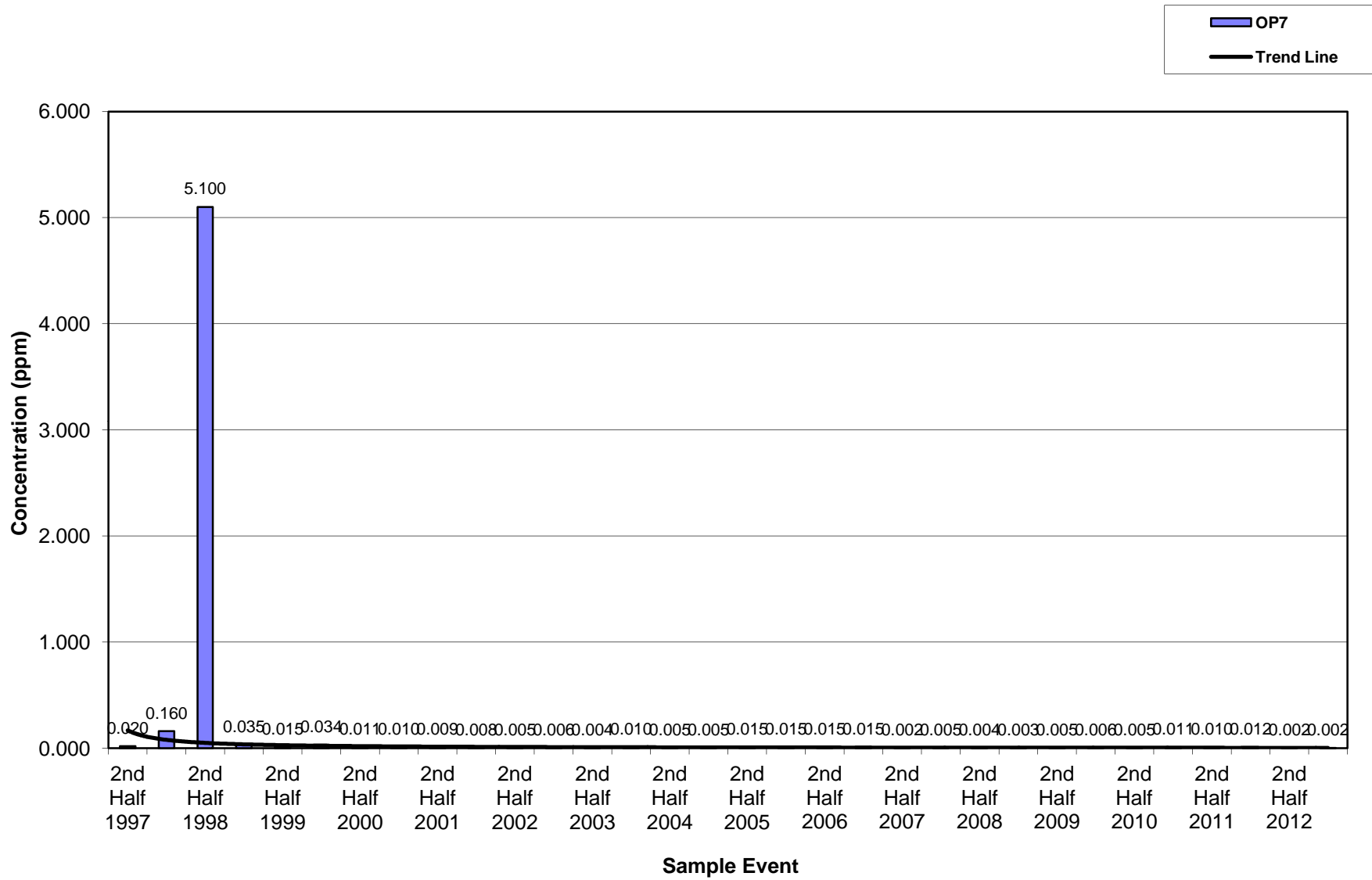


Figure 3-7
Total Dissolved Chromium Concentrations in Groundwater for OP-9

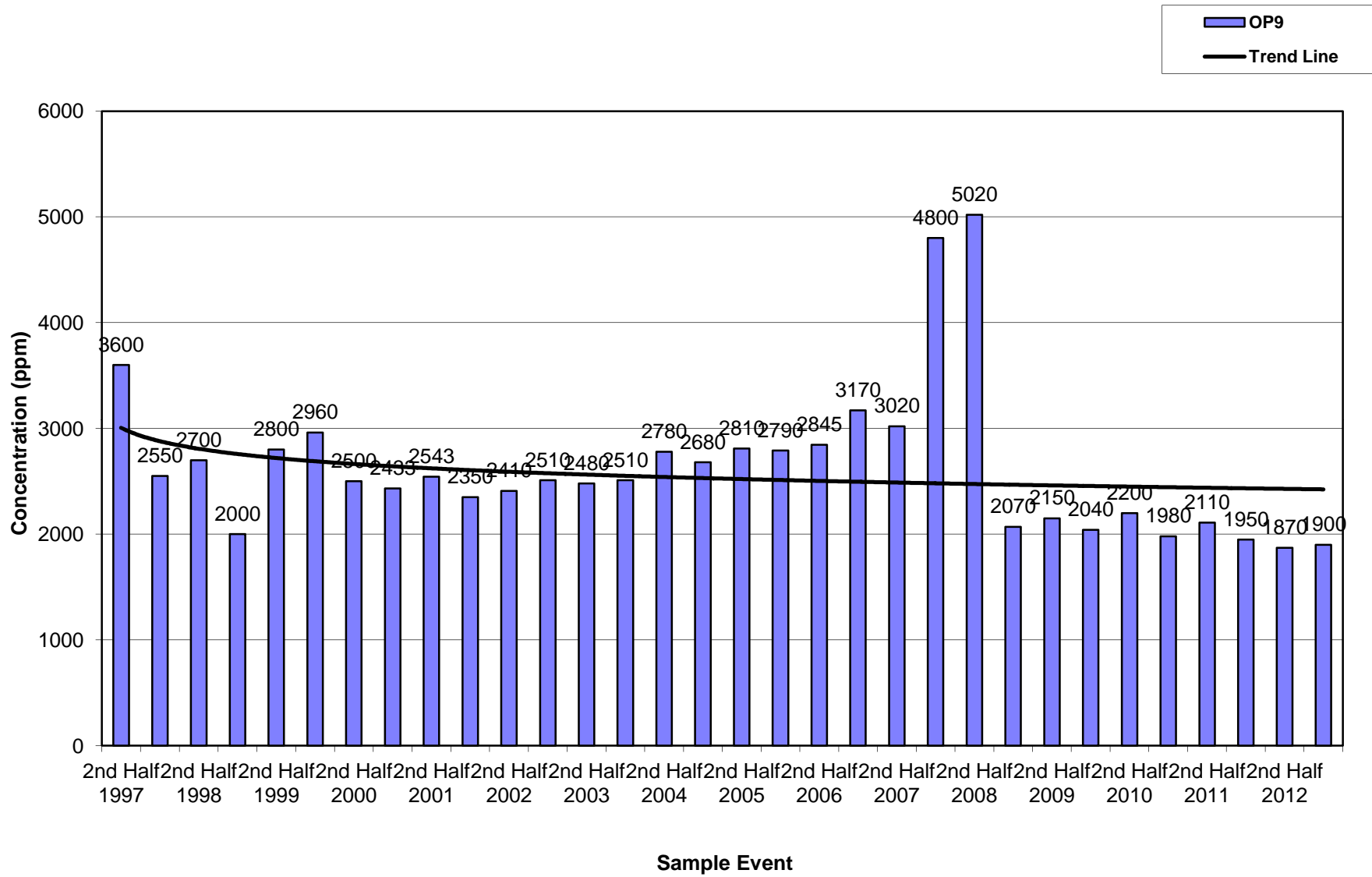


Figure 3-8
Total Dissolved Chromium Concentrations in Groundwater for OP- 2

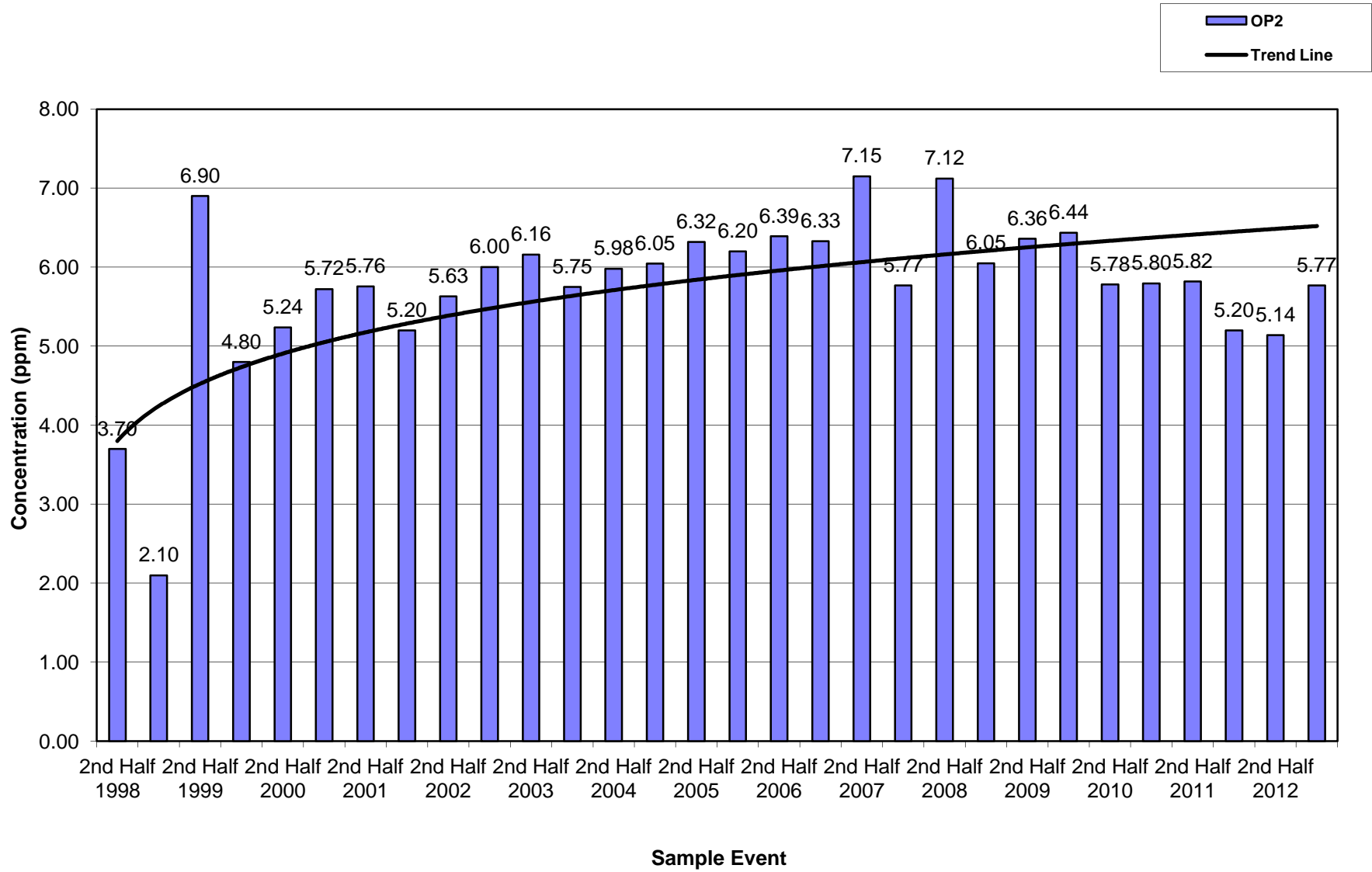


Figure 3-9
Total Dissolved Chromium Concentrations in Groundwater for OP-11

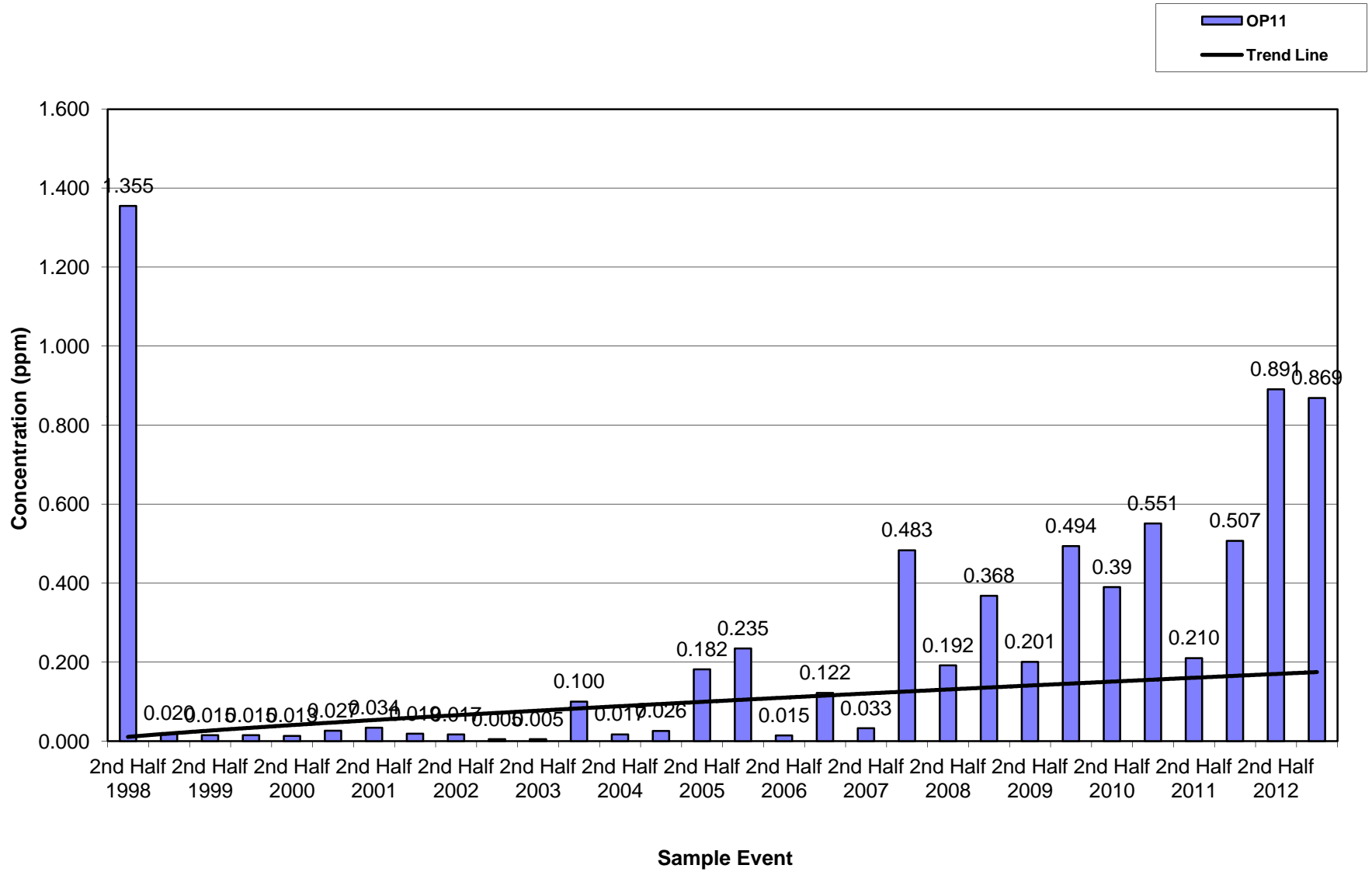


Figure 3-10
Total Dissolved Chromium Concentrations in Groundwater for NWM-27

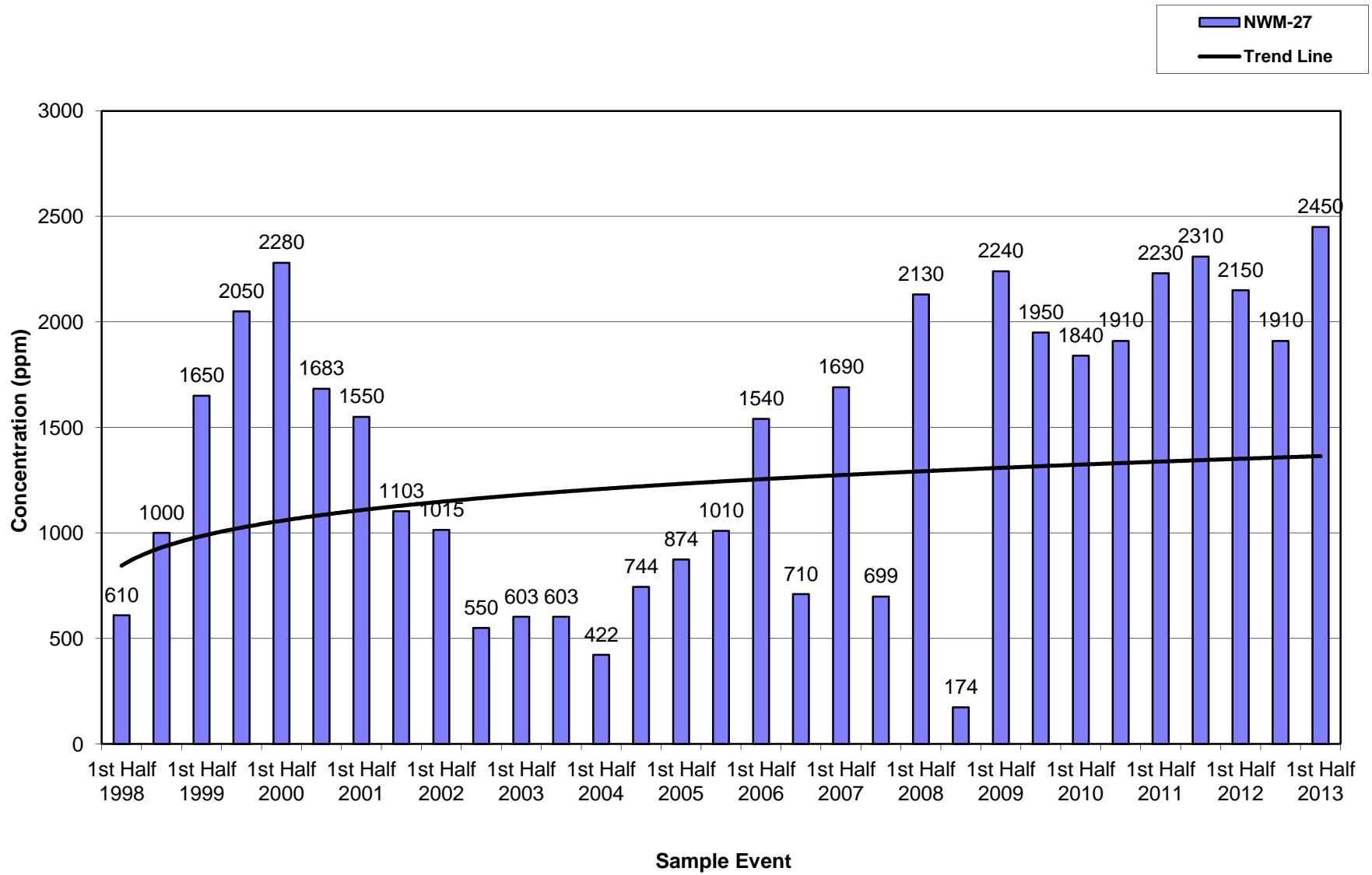


Figure 3-11
Total Dissolved Cyanide Concentrations in Groundwater OP-2

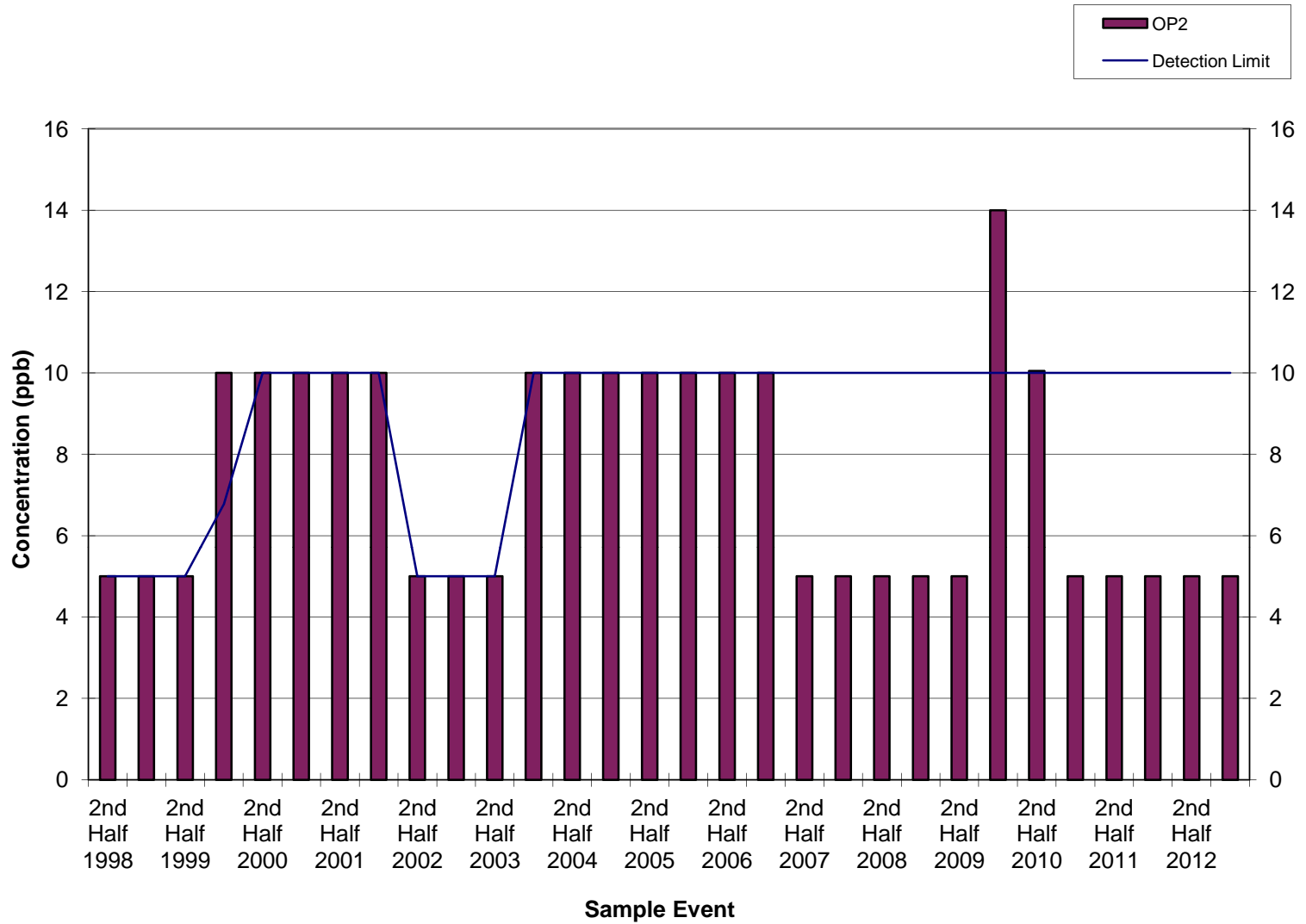
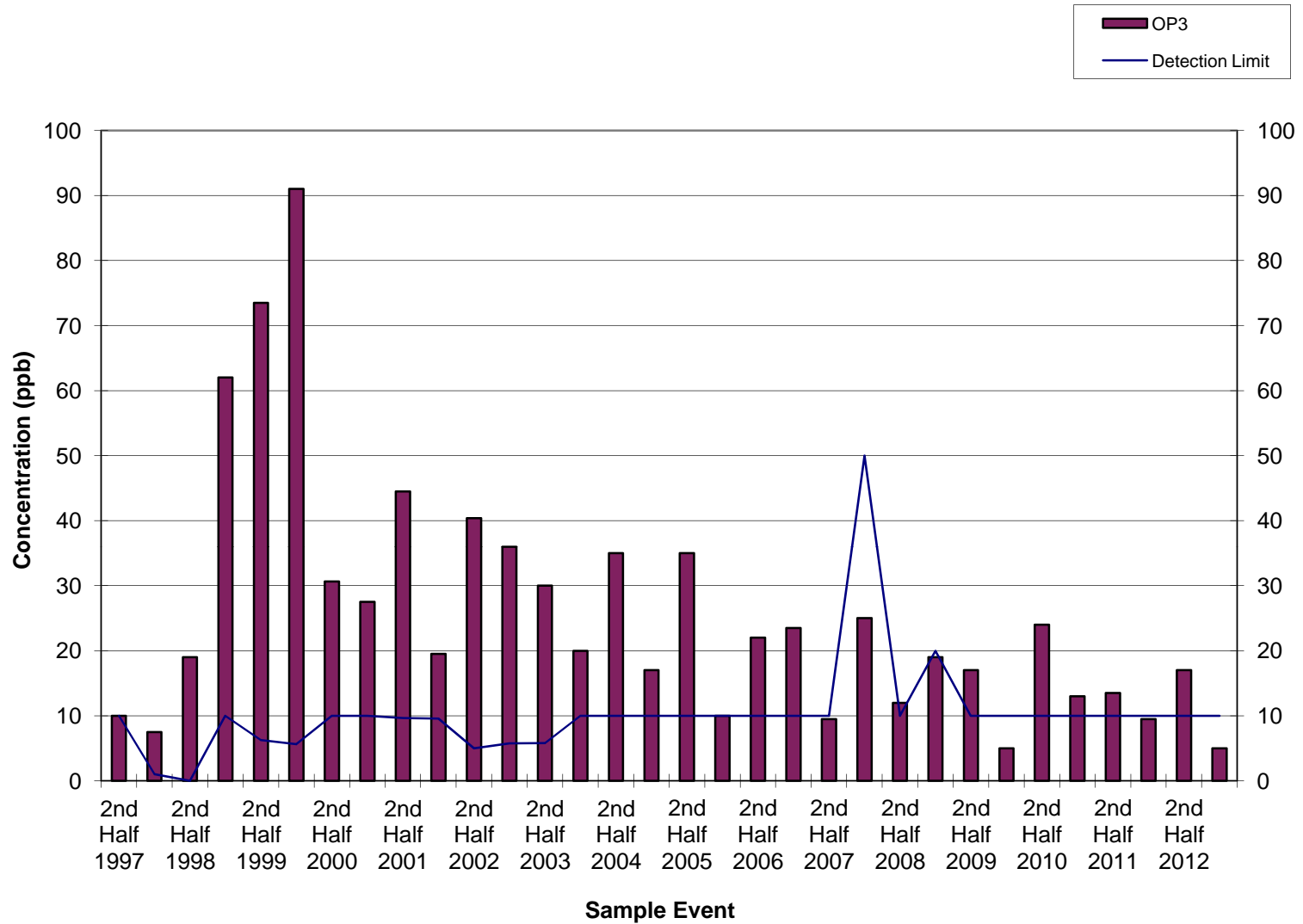


Figure 3-12
Total Dissolved Cyanide Concentrations in Groundwater OP-3



Drainage Layer Monitoring

4.1 Methodology

Section V, Paragraph 7(a) of the Consent Decree requires the promulgation of an SSMP to establish requirements to monitor the performance of the remedial action. Annual sampling of water passing through the drainage layer and infiltration trench is one of the methods used to evaluate this performance. Four perimeter locations, depicted in Figure 4-1, are sampled for total chromium, filtered total chromium, and filtered total cyanide. Additionally, the depth to water in each sampling location is checked monthly to gauge the flow of water, if any, from the drainage layer into the sample point. Two of the sample points (SSSP1 and SSSP4) are located at the end of a perforated pipe running within a toe drain along the landward perimeter of the site. The other two points are located within an infiltration trench running along the harbor perimeter of the site.

Before sample collection begins, a volume of water is analyzed for temperature, dissolved oxygen, specific conductance, and redox potential. Three sample volumes are then withdrawn from the sample point using a peristaltic pump and dedicated tubing. The sampling time is recorded. Once the samples are collected, the appropriate samples are filtered; then all of the samples are preserved, placed on ice, and transferred to the laboratory using documented chain-of-custody procedures. The samples are analyzed for total chromium and total dissolved chromium by the laboratory using EPA SW-846 Method 6010B or for total dissolved cyanide using EPA SW-846 Method 9014, whichever method is stated on the chain-of-custody form for that particular sample. Field blanks, temperature blanks, and rinsate blanks are also collected.

MES performs all sampling. Lancaster Laboratories performs all analysis. Results received from the laboratory are entered into a database.

4.2 Current Quarter Results

Drainage layer samples were taken on April 24, 2013, and again on May 23, 2013. The May sample event was scheduled when the results from the April 24, 2013, were reviewed and it was noted that the reported concentration of the duplicate QA/QC did not match the parent result. It was determined that the locations should be sampled again to ensure there were no issues with the reported results. The reported QA/QC results for the second sampling event were acceptable and were validated. These results are included in this report and are attached as Appendix D. The results from the April 24 event are attached to this report as Appendix C. The results from all sampled locations were below established baseline levels. Water elevations from each sample point, the tidal elevation when the water elevation was taken, and monthly rainfall totals are presented in Figure 4-2.

Drainage layer sample results are presented in Appendix D. The validation report for the May sampling event is included in Appendix E.

4.2.1 Chromium

The total chromium results for the current sample round, as well as historical results, are shown in Tables 4-1 through 4-4. All total chromium results were below the sample detection limit, but concentrations above the method detection limit were reported. All results were at or below the baseline results.

4.2.2 Dissolved Chromium

The total dissolved chromium results for the current sample round, as well as historical results, are shown in Tables 4-1 through 4-4. All dissolved chromium results were below the sample detection limit, but concentrations above the method detection limit were reported. All results were at or below the baseline results.

4.2.3 Cyanide

The total dissolved cyanide results, as well as historical results, for the sample points are shown in Tables 4-1 through 4-4. The total dissolved cyanide results were below the sample detection limit and were at or below the baseline results.

4.3 Trend Analysis

All results were at or below the sample detection limits. The results for total chromium from SSMP2 and SSMP3, and the results for filtered total chromium from SSMP2 were below the method detection limit. All parameters are in line with baseline results. Current and historical sample results are provided in Tables 4-1 through 4-4.

Table 4-1
 Drainage Layer Sampling Data SSMP1
 Second Quarter 2013

Year	CR	CR (Filtered)	Cyanide	Spec. Cond.	pH	Temp.	D.O.	ORP
2013	0.0031	0.0018	5	0.75	6.98	21.19	5.14	146
2012	0.0046	0.0029	10	0.795	5.68	14.58	6.13	260
2011	0.0079	0.0034	5	0.901	6.62	19.7	0.37	9
2010	0.0061	0.0034	5	-	-	-	-	-
2009	0.0032	0.0095	5	0.704	-	13.5	8.95	-
2008	0.0289	0.0023	5	-	-	20	6.43	-
2007	0.0793	0.015	10	-	-	17.38	0	-
2006	0.0103	0.015	10	0.661	6.39	19.1	7.98	-
2005	0.0053	0.015	10	795	6.64	16.4	-	-
2004	0.01	0.01	10	1448	6.7	22.6	4.9	-
2003	0.0121	0.006	5	568	7.64	15.1	3.15	-
2002	0.008	0.008	10	0.63	7.16	11.1	9.26	-
2001	0.01	0.01	10	3.3	6.5	8.8	-	-
2000	0.011	0.01	10	-	-	-	-	-

Table 4-2
 Drainage Layer Sampling Data SSMP2
 Second Quarter 2013

Year	CR	CR (Filtered)	Cyanide	Spec. Cond.	pH	Temp.	D.O.	ORP
2013	0.0011	0.0011	5	1.20	6.90	21.65	3.86	78
2012	0.0028	0.0014	1	2.54	6.59	14.22	5.07	200
2011	0.0034	0.0034	5	2.01	6.5	20.1	0.88	34
2010	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-
2007	0.116	0.015	10	-	-	-	-	-
2006	0.015	0.015	10	20.1	2.59	19.4	7.84	-
2005	0.015	0.015	10	11360	7.27	18.3	-	-
2004	0.01	0.01	10	123.5	6.99	23.5	3.37	-
2003	0.005	0.005	5	360.8	7.92	15	5.16	-
2002	0.008	0.008	10	0.246	7.14	8.3	10.65	-
2001	0.01	0.01	10	66.4	7.23	6.7	-	-
2000	0.01	0.01	10	-	-	-	-	-

Table 4-3
 Drainage Layer Sampling Data SSMP3
 Second Quarter 2013

Year	CR	CR (Filtered)	Cyanide	Spec. Cond.	pH	Temp.	D.O.	ORP
2013	0.0011	0.0012	5	18.9	7.00	22.54	8.05	-98
2012	0.0016	0.0019	10	13.8	7.14	14.79	8.82	167
2011	0.0034	0.0034	5	2.696	6.89	19.8	0.75	12
2010	0.0034	0.0034	5	-	-	-	-	-
2009	0.003	0.003	5	31.9	-	13.8	9.88	-
2008	0.0023	0.0023	5	-	-	19.1	3.26	-
2007	0.015	0.015	10	-	-	20.89	0	-
2006	0.015	0.015	10	12.9	6.71	20	4.11	-
2005	0.015	0.015	10	6460	6.35	19.5	-	-
2004	0.01	0.01	10	5750	7.45	23.8	4.9	-
2003	0.005	0.005	5	1919	7.38	15.1	3.35	-
2002	0.008	0.008	10	23.8	6.95	8.3	4.9	-
2001	0.01	0.01	10	23.55	7.21	6.8	-	-
2000	0.01	0.01	10	-	-	-	-	-

Table 4-4
 Drainage Layer Sampling Data SSMP4
 Second Quarter 2013

Year	CR	CR (Filtered)	Cyanide	Spec. Cond.	pH	Temp.	D.O.	ORP
2013	0.0083	0.0069	5	1.83	6.51	20.05	8.64	218
2012	0.0106	0.0110	10	2.38	7.32	15.40	9.18	189
2011	0.0058	0.004	5	1.592	7.34	19.8	0.88	41
2010	0.0073	0.0069	5	-	-	-	-	-
2009	0.0093	0.0086	5	6.44	-	13.1	10.79	-
2008	0.0023	0.0023	5	-	-	19	3.1	-
2007	0.0049	0.0024	10	-	-	19.94	9.02	-
2006	0.015	0.015	10	1.46	7.19	18.7	5.82	-
2005	0.015	0.015	10	1215	7.01	19.1	-	-
2004	0.0043	0.0037	10	5756	7.44	21.1	6.14	-
2003	0.0031	0.0024	5	677	8.26	15	6.71	-
2002	0.008	0.008	10	1.62	7.3	9.7	10.27	-
2001	0.01	0.01	10	1376	7.78	7.2	-	-
2000	0.01	0.01	10	-	-	-	-	-

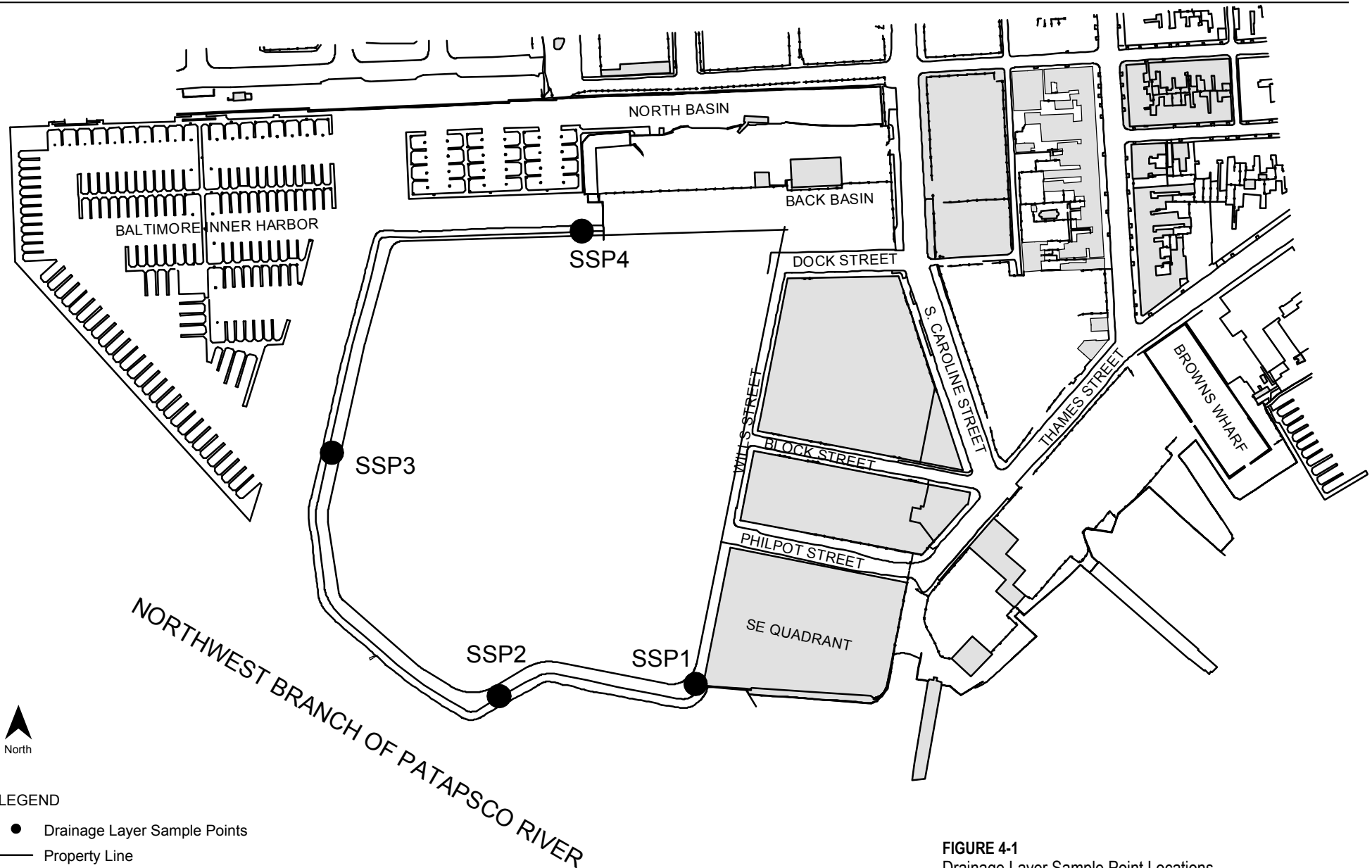


FIGURE 4-1
 Drainage Layer Sample Point Locations
Environmental Media Monitoring

Drainage Layer Sample Points Water Depths

Figure 4-2



Appendix A
Surface Water Sampling Program Data

Appendix A-1
Raw Laboratory Data—March 2013

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

March 14, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 03/08/2013

Group Number: 1374299

SDG: BHB01

PO Number: 4500013806

State of Sample Origin: MD

Client Sample DescriptionLancaster Labs (LLD) #

30905-SW3T-030813 BKG Grab Water	6977981
30905-SW3T-030813 MS Grab Water	6977982
30905-SW3T-030813 MSD Grab Water	6977983
30905-SW3T-030813 DUP Grab Water	6977984
30905-SW3B-030813 Grab Water	6977985
30905-SW4T-030813 Grab Water	6977986
30905-SW4B-030813 Grab Water	6977987
30905-SW5T-030813 Grab Water	6977988
30905-SW5B-030813 Grab Water	6977989
30905-SW6T-030813 Grab Water	6977990
30905-SW6B-030813 Grab Water	6977991
30905-SW7T-030813 Grab Water	6977992
30905-SW7B-030813 Grab Water	6977993
30905-SW8T-030813 BKG Grab Water	6977994
30905-SW8T-030813 MS Grab Water	6977995
30905-SW8T-030813 MSD Grab Water	6977996
30905-SW8T-030813 DUP Grab Water	6977997
30905-SW8B-030813 Grab Water	6977998
30905-SW9T-030813 Grab Water	6977999
30905-SW9B-030813 Grab Water	6978000
30905-SW10T-030813 Grab Water	6978001
30905-SW10B-030813 Grab Water	6978002

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Honeywell International
COPY TO

Attn: Ken Biles

ELECTRONIC COPY TO	Critigen	Attn: Amy Klopper
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Robert Steele
ELECTRONIC COPY TO	Honeywell	Attn: Katherine Beach
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Rakesh Singh
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Peeyush Gupta
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ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Aruna Chandrashekar
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Suraj Nayak

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 30905-SW3T-030813 BKG Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977981
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:52 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW3T- SDG#: BHB01-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0011 J	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 17:57	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW3T-030813 MS Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977982
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:52 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/14/2013 08:43

SW3T- SDG#: BHB01-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.207	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:10	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW3T-030813 MSD Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977983
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:52 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW3T- SDG#: BHB01-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.202	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:14	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW3T-030813 DUP Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977984
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:52 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW3T- SDG#: BHB01-01DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:06	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW3B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977985
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:54 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW3B- SDG#: BHB01-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:23	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW4T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977986
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:57 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/14/2013 08:43

SW4T- SDG#: BHB01-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:27	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW4B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977987
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:59 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW4B- SDG#: BHB01-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:40	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW5T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977988
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:02 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW5T- SDG#: BHB01-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:44	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW5B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977989
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:04 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW5B- SDG#: BHB01-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:49	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW6T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977990
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:08 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW6T- SDG#: BHB01-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:53	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW6B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977991
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:10 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW6B- SDG#: BHB01-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 18:57	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW7T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977992
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:12 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW7T- SDG#: BHB01-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 19:02	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW7B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977993
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:14 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/14/2013 08:43

SW7B- SDG#: BHB01-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848003	03/13/2013 19:06	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848003	03/13/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW8T-030813 BKG Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977994
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:16 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW8T- SDG#: BHB01-11BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 00:43	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW8T-030813 MS Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977995
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:16 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW8T- SDG#: BHB01-11MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.199	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 00:55	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW8T-030813 MSD Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977996
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:16 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW8T- SDG#: BHB01-11MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.201	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 00:59	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW8T-030813 DUP Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977997
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:16 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW8T- SDG#: BHB01-11DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0013 J	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 00:51	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW8B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977998
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:18 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW8B- SDG#: BHB01-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:07	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW9T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6977999
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:20 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW9T- SDG#: BHB01-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:12	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW9B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978000
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:22 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW9B- SDG#: BHB01-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:23	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW10T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978001
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:24 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW10T SDG#: BHB01-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:28	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW10B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978002
LLI Group # 1374299
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:25 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/14/2013 08:43

MEY-3

Morristown NJ 07962

SW10B SDG#: BHB01-16*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:32	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 03/14/13 at 08:43 AM

Group Number: 1374299

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 130711848003 Chromium	Sample number(s): 6977981-6977993 N.D.	0.0011	0.0100	mg/l	103		90-110		
Batch number: 130711848004 Chromium	Sample number(s): 6977994-6978002 N.D.	0.0011	0.0100	mg/l	102		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 130711848003 Chromium	Sample number(s): 6977981-6977993 103	100	81-120	3	20	UNSPK: 6977981 0.0011 J	BKG: 6977981 N.D.	200* (1)	20
Batch number: 130711848004 Chromium	Sample number(s): 6977994-6978002 99	101	81-120	1	20	UNSPK: 6977994 N.D.	BKG: 6977994 0.0013 J	200* (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

March 20, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 03/08/2013

Group Number: 1374300

SDG: BHB02

PO Number: 4500013806

State of Sample Origin: MD

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
30905-SW11T-030813 BKG Grab Water	6978003
30905-SW11T-030813 MS Grab Water	6978004
30905-SW11T-030813 MSD Grab Water	6978005
30905-SW11T-030813 DUP Grab Water	6978006
30905-SW11B-030813 Grab Water	6978007
30905-SW12T-030813 Grab Water	6978008
30905-SW12B-030813 Grab Water	6978009
30905-SW13T-030813 Grab Water	6978010
30905-SW13B-030813 Grab Water	6978011
30905-SW14T-030813 Grab Water	6978012
30905-SW14B-030813 Grab Water	6978013
30905-SW15T-030813 Grab Water	6978014
30905-SW15B-030813 Grab Water	6978015
30905-SW16T-030813 BKG Grab Water	6978016
30905-SW16T-030813 MS Grab Water	6978017
30905-SW16T-030813 MSD Grab Water	6978018
30905-SW16T-030813 DUP Grab Water	6978019
30905-SW16B-030813 Grab Water	6978020
30905-SW17T-030813 Grab Water	6978021
30905-SW17B-030813 Grab Water	6978022
30905-SW18T-030813 Grab Water	6978023
30905-SW18M-030813 Grab Water	6978024
30905-SW18B-030813 Grab Water	6978025

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Honeywell International

Attn: Ken Biles

Sample Description: 30905-SW11T-030813 BKG Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978003
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:30 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW11T SDG#: BHB02-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 22:35	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW11T-030813 MS Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978004
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:30 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW11T SDG#: BHB02-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.192	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 22:48	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW11T-030813 MSD Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978005
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:30 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW11T SDG#: BHB02-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.192	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 22:53	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW11T-030813 DUP Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978006
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:30 by AP

Honeywell International, Inc.

101 Columbia Road

Submitted: 03/08/2013 17:25

MEY-3

Reported: 03/20/2013 15:56

Morristown NJ 07962

SW11T SDG#: BHB02-01DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 22:44	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW11B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978007
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:32 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SW11B SDG#: BHB02-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:05	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW12T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978008
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:34 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW12T SDG#: BHB02-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:17	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW12B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978009
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:36 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW12B SDG#: BHB02-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:21	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW13T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978010
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:37 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW13T SDG#: BHB02-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:25	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW13B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978011
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:38 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW13B SDG#: BHB02-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:30	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW14T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978012
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:40 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW14T SDG#: BHB02-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:34	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW14B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978013
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:41 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW14B SDG#: BHB02-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:38	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW15T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978014
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:42 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW15T SDG#: BHB02-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:42	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW15B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978015
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:44 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SW15B SDG#: BHB02-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848004	03/14/2013 23:47	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848004	03/14/2013 11:08	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW16T-030813 BKG Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978016
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:48 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW16T SDG#: BHB02-11BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:24	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW16T-030813 MS Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978017
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:48 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW16T SDG#: BHB02-11MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.187	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:36	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW16T-030813 MSD Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978018
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:48 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW16T SDG#: BHB02-11MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.191	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:40	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW16T-030813 DUP Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978019
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:48 by AP

Honeywell International, Inc.

101 Columbia Road

Submitted: 03/08/2013 17:25

MEY-3

Reported: 03/20/2013 15:56

Morristown NJ 07962

SW16T SDG#: BHB02-11DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:32	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW16B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978020
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:50 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW16B SDG#: BHB02-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:48	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW17T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978021
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:51 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW17T SDG#: BHB02-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 17:52	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW17B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978022
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:53 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW17B SDG#: BHB02-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:04	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW18T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978023
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:56 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SW18T SDG#: BHB02-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:08	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW18M-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978024
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:58 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW18B SDG#: BHB02-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:12	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW18B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978025
LLI Group # 1374300
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:00 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW18M SDG#: BHB02-17*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:16	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 03/20/13 at 03:56 PM

Group Number: 1374300

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 130721848004 Chromium	Sample number(s): 6978003-6978015 N.D.	0.0011	0.0100	mg/l	97		90-110		
Batch number: 130721848005 Chromium	Sample number(s): 6978016-6978025 N.D.	0.0011	0.0100	mg/l	97		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 130721848004 Chromium	Sample number(s): 6978003-6978015 96	96	81-120	0	20	UNSPK: 6978003 N.D.	BKG: 6978003 N.D.	0 (1)	20
Batch number: 130721848005 Chromium	Sample number(s): 6978016-6978025 93	96	81-120	2	20	UNSPK: 6978016 N.D.	BKG: 6978016 N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

March 20, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 03/08/2013

Group Number: 1374301

SDG: BHB03

PO Number: 4500013806

State of Sample Origin: MD

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
30905-SW19T-030813 BKG Grab Water	6978026
30905-SW19T-030813 MS Grab Water	6978027
30905-SW19T-030813 MSD Grab Water	6978028
30905-SW19T-030813 DUP Grab Water	6978029
30905-SW19B-030813 Grab Water	6978030
30905-SW20T-030813 Grab Water	6978031
30905-SW20B-030813 Grab Water	6978032
30905-SWCentT-030813 Grab Water	6978033
30905-SWCentB-030813 Grab Water	6978034
30905-SWLadyT-030813 Grab Water	6978035
30905-SWLadyB-030813 Grab Water	6978036
30905-SWD1-030813 Grab Water	6978037
30905-SWD2-030813 Grab Water	6978038
30905-SWD3-030813 Grab Water	6978039
30905-SWD4-030813 Grab Water	6978040
30905-SW-FB1-030813 Grab Water	6978041
30905-SW-RB1-030813 Grab Water	6978042
30905-SW-RB2-030813 Grab Water	6978043

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO
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Honeywell International
Critigen
CH2M Hill, Inc.

Attn: Ken Biles
Attn: Amy Klopper
Attn: Robert Steele

ELECTRONIC COPY TO	Honeywell	Attn: Katherine Beach
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ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Aruna Chandraskekar
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Suraj Nayak

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 30905-SW19T-030813 BKG Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978026
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:01 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW19T SDG#: BHB03-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 04:44	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW19T-030813 MS Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978027
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:01 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW19T SDG#: BHB03-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.194	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 04:57	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW19T-030813 MSD Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978028
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:01 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW19T SDG#: BHB03-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.190	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 05:02	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW19T-030813 DUP Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978029
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:01 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW19T SDG#: BHB03-01DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 04:53	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW19B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978030
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:02 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW19B SDG#: BHB03-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 05:53	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW20T-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978031
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:04 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SW20T SDG#: BHB03-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 05:57	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW20B-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978032
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:06 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SW20B SDG#: BHB03-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 06:02	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWCentT-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978033
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:47 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

CENTT SDG#: BHB03-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 06:06	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWCentB-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978034
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:49 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

CENTB SDG#: BHB03-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 06:18	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWLadyT-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978035
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:42 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

LADYT SDG#: BHB03-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 06:23	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWLadyB-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978036
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:44 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

LADYB SDG#: BHB03-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130741848002	03/18/2013 06:27	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130741848002	03/17/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWD1-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978037
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:06 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SWD1- SDG#: BHB03-09FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:20	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWD2-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978038
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:26 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SWD2- SDG#: BHB03-10FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:24	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWD3-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978039
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:44 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SWD3- SDG#: BHB03-11FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130721848005	03/14/2013 18:28	John P Hook	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130721848005	03/14/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SWD4-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978040
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:08 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SWD4- SDG#: BHB03-12FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

This sample was field filtered for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:36	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW-FB1-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978041
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 08:55 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SWFB1 SDG#: BHB03-13FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:40	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW-RB1-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978042
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 09:28 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 03/08/2013 17:25

Reported: 03/20/2013 15:56

SWRB1 SDG#: BHB03-14RB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:44	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-SW-RB2-030813 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 6978043
LLI Group # 1374301
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 03/08/2013 10:08 by AP

Honeywell International, Inc.

Submitted: 03/08/2013 17:25

101 Columbia Road

Reported: 03/20/2013 15:56

MEY-3

Morristown NJ 07962

SWRB2 SDG#: BHB03-15RB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	130711848004	03/14/2013 01:48	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	130711848004	03/13/2013 10:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 03/20/13 at 03:56 PM

Group Number: 1374301

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 130711848004 Chromium	Sample number(s): 6978040-6978043 N.D.	0.0011	0.0100	mg/l	102		90-110		
Batch number: 130721848005 Chromium	Sample number(s): 6978037-6978039 N.D.	0.0011	0.0100	mg/l	97		90-110		
Batch number: 130741848002 Chromium	Sample number(s): 6978026-6978036 N.D.	0.0011	0.0100	mg/l	102		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 130711848004 Chromium	Sample number(s): 6978040-6978043 99	101	81-120	1	20	UNSPK: P977994 N.D.	BKG: P977994 0.0013 J	200* (1)	20
Batch number: 130721848005 Chromium	Sample number(s): 6978037-6978039 93	96	81-120	2	20	UNSPK: P978016 N.D.	BKG: P978016 N.D.	0 (1)	20
Batch number: 130741848002 Chromium	Sample number(s): 6978026-6978036 97	95	81-120	2	20	UNSPK: 6978026 N.D.	BKG: 6978026 N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.


Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Appendix A-2
Chain-of-Custody Records—March 2013


acct 10651 gnp 1374299
#6977981-8002

Lancaster Laboratories 2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300											Honeywell Chain Of Custody / Analysis Request											AESI Ref: 41341.53632		
Privileged & Confidential											N		Site Name: Baltimore				Phase: Sampling Program		Surface Water Sampling		Lab Proj # (SDG):			
Sampling Co.: Maryland Environmental Service				EDD To: kenneth.biles@ch2m.com				Location of Site: BALTIMORE, MD				Lab ID: LLI		Site ID: BALTIMORE		Lab Job #:								
Client Contact: (name, co., address) Christopher French 101 Columbia Road Meyer 3 Morristown, NJ 07962											Sampler: Amanda Penafiel; Rachael Griner, Maura Morris				Preservative: 3		Authorized User: Honeywell		Text & Excel File Drive		Excel & Text File Order			
Preliminary Data To: kenneth.biles@ch2m.com; amy.klopper@critigen.com; bernice.kidd@ch2m.com											Analysis Turnaround Time (TAT): 14				Composite/Grab Field Filtered Sample ? SW6010 Chromium		Authorized User: Honeywell		Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.					
Sample Receipt Acknowledgement To: amy.klopper@critigen.com; bernice.kidd@ch2m.com											Consultant: CH2M						Authorized User: Honeywell							
Hard Copy To: Amy Klopper											Full Report TAT: 28						Authorized User: Honeywell							
Invoice To: Christopher French																								
Sample Identification											Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ppb					Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID																					
1	3T	5.5	0.0	30905-SW3T-030813	3/8/2013	0852	W-SW	WATER	REG	1	grab	Y	X											
2	3M	-	-	30905-SW3M-030813	3/8/2013	-	W-SW	WATER	REG		grab													
3	3B	5.5	4.5	30905-SW3B-030813	3/8/2013	0854	W-SW	WATER	REG	1	grab	Y	X											
4	4T	6.67	0.0	30905-SW4T-030813	3/8/2013	0857	W-SW	WATER	REG	1	grab	Y	X											
5	4M	-	-	30905-SW4M-030813	3/8/2013	-	W-SW	WATER	REG		grab													
6	4B	6.67	5.67	30905-SW4B-030813	3/8/2013	0859	W-SW	WATER	REG	1	grab	Y	X											
7	5T	5.92	0.0	30905-SW5T-030813	3/8/2013	0902	W-SW	WATER	REG	1	grab	Y	X											
8	5M	-	-	30905-SW5M-030813	3/8/2013	-	W-SW	WATER	REG		grab													
9	5B	5.92	4.92	30905-SW5B-030813	3/8/2013	0904	W-SW	WATER	REG	1	grab	Y	X											
10	6T	5.0	0.0	30905-SW6T-030813	3/8/2013	0908	W-SW	WATER	REG	1	grab	Y	X											
11	6M	-	-	30905-SW6M-030813	3/8/2013	-	W-SW	WATER	REG		grab													
12	6B	5.0	4.0	30905-SW6B-030813	3/8/2013	0910	W-SW	WATER	REG	1	grab	Y	X											
Relinquished by: <i>MES</i> Company				Date/Time: <i>3/8/13 13:35</i>				Received by: <i>[Signature]</i> Company				Date/Time: <i>3/8/13 15:30</i>				Condition: <i>Intact</i>		Custody Seals Intact: <i>Intact</i>						
Relinquished by: <i>[Signature]</i> Company				Date/Time: <i>3/8/13 15:30</i>				Received by: <i>[Signature]</i> Company				Date/Time: <i>3/8/13 17:25</i>				Condition: <i>Intact</i>		Custody Seals Intact: <i>Intact</i>						
Preservatives: (Other; Specify):											0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)													

Rel km 3/8/13 17:25

32 3/8/13 1725

acct 10651 gsp 1374299
#6977981-8002

Lancaster Laboratories		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41339.33480				
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300		Privileged & Confidential		N		Site Name: Baltimore		Phase: Sampling Program		Surface Water Sampling		COC#: 30905-030813-2				
Sampling Co.: Maryland Environmental Service		EDD To: kenneth.biles@ch2m.com		Location of Site: BALTIMORE, MD		Lab Proj # (SDG):		Lab ID: LLI		Site ID: BALTIMORE		Lab Job #:				
Client Contact: (name, co., address) Christopher French 101 Columbia Road; Meyer 3 Morristown, NJ 07962		Sampler: Amanda Penafiel; Rachael Griner, Maura Morris		Analysis Turnaround Time (TAT): 14		Consultant: CH2M		Full Report TAT: 28		Authorized User: Honeywell		Text & Excel File Drive Excel & Text File Order				
Preliminary Data To: kenneth.biles@ch2m.com, amy.klopper@critigen.com, bernice.kidd@ch2m.com		Sample Receipt: kenneth.biles@ch2m.com		Acknowledgement To: amy.klopper@critigen.com, bernice.kidd@ch2m.com		Hard Copy To: Amy Klopper		Invoice To: Christopher French		Copyright ASH: Version 3.0 Unauthorized use strictly prohibited.						
Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	SW6010 Chromium	Units	ug/L	Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID													
1	7T	4.93	0.0	30905-SW7T-030813	3/8/2013	0912	W-SW	WATER	REG	1	grab	Y	X			
2	7M	-	-	30905-SW7M-030813	3/8/2013	-	W-SW	WATER	REG		grab					
3	7B	4.83	3.83	30905-SW7B-030813	3/8/2013	0914	W-SW	WATER	REG	1	grab	Y	X			
4	8T	4.17	0.0	30905-SW8T-030813	3/8/2013	0916	W-SW	WATER	REG	1	grab	Y	X			
5	8M	-	-	30905-SW8M-030813	3/8/2013	-	W-SW	WATER	REG		grab					
6	8B	4.17	3.17	30905-SW8B-030813	3/8/2013	0918	W-SW	WATER	REG	1	grab	Y	X			
7	9T	3.75	0.0	30905-SW9T-030813	3/8/2013	0920	W-SW	WATER	REG	1	grab	Y	X			
8	9M	-	-	30905-SW9M-030813	3/8/2013	-	W-SW	WATER	REG		grab					
9	9B	3.75	2.75	30905-SW9B-030813	3/8/2013	0922	W-SW	WATER	REG	1	grab	Y	X			
10	10T	4.92	0.0	30905-SW10T-030813	3/8/2013	0924	W-SW	WATER	REG	1	grab	Y	X			
11	10M	-	-	30905-SW10M-030813	3/8/2013	-	W-SW	WATER	REG		grab					
12	10B	4.92	3.92	30905-SW10B-030813	3/8/2013	0925	W-SW	WATER	REG	1	grab	Y	X			

Relinquished by: <i>MES</i> Company	Received by: <i>CHAMBERLAIN</i> Company	Condition: <i>intact</i>	Custody Seals Intact: <i>intact</i>
<i>Amundi Penafiel</i> Date/Time: <i>3/8/13 13:35</i>	<i>CHAMBERLAIN</i> Date/Time: <i>3/8/13 13:35</i>	Cooler Temp.:	
Relinquished by: <i>CHAMBERLAIN</i> Company	Received by: <i>MES</i> Company	Condition: <i>intact</i>	Custody Seals Intact: <i>intact</i>
<i>CHAMBERLAIN</i> Date/Time: <i>3/8/13 15:30</i>	<i>MES</i> Date/Time: <i>3/8/13 15:30</i>	Cooler Temp.:	<i>0.9-1.0</i>

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 pH<2, 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2, 4Deg C); 11 (4C NaOH pH>12) & Acetic Acid; 12 (4C H2SO4 pH<2) & Na2S2O3; 13 (Zn Acetate); up (special instructions)

Rel. *Kim* 3/8/13 17:25

Kim 3/8/13 17:25

acct 10651 grp 1374300
6978003-25

Lancaster Laboratories				Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41339.33506			
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300				Privileged & Confidential		N		Site Name: Baltimore		Phase:		Lab Proj # (SDG):		COC#: 30905-030813-3			
Sampling Co.: Maryland Environmental Service		EDD To: kbiles@ornilinc.com		Location of Site: BALTIMORE, MD		Sampling Program		Surface Water Sampling		Lab ID: LLI		Site ID: BALTIMORE		Lab Job #			
Client Contact: (name, co., address) Christopher French 101 Columbia Road; Meyer 3 Morristown, NJ 07962 Preliminary Data To: kenneth.biles@ch2m.com Sample Receipt: kenneth.biles@ch2m.com Acknowledgement To: amy.klopper@critigen.com Hard Copy To: Amy Klopper Invoice To: Christopher French				Sampler: Amanda Penafiel; Rachel Griner, Maura Morris PO #: 4500013806 Analysis Turnaround Time (TAT): 14 Consultant: CH2M Full Report TAT: 28		Composite/Grab		Field Filtered Sample ?		SW6010 Chromium		Authorized User: Honeywell		Text & Excel File Drive Excel & Text File Order		Copyright AESI: Version 3.0 Unrestricted use strictly prohibited.	
Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units			Sampling Method (code)	Lab Sample Numbers			
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID														
1	11T	5.58	0.0	30905-SW11T-030813	3/8/2013	0930	W-SW	WATER	REG	1	grab	Y	X				
2	11M	-	-	30905-SW11M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
3	11B	5.58	4.58	30905-SW11B-030813	3/8/2013	0932	W-SW	WATER	REG	1	grab	Y	X				
4	12T	6.08	0.0	30905-SW12T-030813	3/8/2013	0934	W-SW	WATER	REG	1	grab	Y	X				
5	12M	-	-	30905-SW12M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
6	12B	6.08	5.08	30905-SW12B-030813	3/8/2013	0936	W-SW	WATER	REG	1	grab	Y	X				
7	13T	6.25	0.0	30905-SW13T-030813	3/8/2013	0937	W-SW	WATER	REG	1	grab	Y	X				
8	13M	-	-	30905-SW13M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
9	13B	6.25	5.25	30905-SW13B-030813	3/8/2013	0938	W-SW	WATER	REG	1	grab	Y	X				
10	14T	6.5	0.0	30905-SW14T-030813	3/8/2013	0940	W-SW	WATER	REG	1	grab	Y	X				
11	14M	-	-	30905-SW14M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
12	14B	6.5	5.5	30905-SW14B-030813	3/8/2013	0941	W-SW	WATER	REG	1	grab	Y	X				

Relinquished by: <i>MES</i> Company: <i>MES</i>	Received by: <i>CLM HRL</i> Company: <i>CLM HRL</i>	Condition: <i>intact</i>	Custody Seals Intact: <i>intact</i>
Date/Time: <i>3/8/13 13:35</i>	Date/Time: <i>03/08/13 13:35</i>	Cooler Temp.:	
Relinquished by: <i>JCB Bill</i> Company: <i>CH2M</i>	Received by: <i>K...</i> Company: <i>LLI</i>	Condition: <i>intact</i>	Custody Seals Intact: <i>intact</i>
Date/Time: <i>3/8/13 15:30</i>	Date/Time: <i>3/10/13 11:30</i>	Cooler Temp.:	<i>0.9-1.0</i>

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2, 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Red Knot 3/8/13 17:00

3/8/13 1725

acct 10651 grp 1374300
6978003-25

Lancaster Laboratories				Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41339.33535			
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300				Privileged & Confidential		N		Site Name: Baltimore		Phase: Sampling Program		Surface Water Sampling		Lab Proj # (SDG):			
Sampling Co.: Maryland Environmental Service		EDD To: kenneth.biles@ch2m.com		Location of Site: BALTIMORE, MD		Lab ID: LLI		Site ID: BALTIMORE		Lab Job #:		Authorized User: Honeywell					
Client Contact: (name, co., address) Christopher French 101 Columbia Road; Meyer 3 Morristown, NJ 07962				Sampler: Amanda Penafiel, Rachael Griner, Maura Morris		PO #: 4500013806		Analysis Turnaround Time (TAT): 14		Consultant: CH2M		Full Report TAT: 28		Text & Excel File Drive		Excel & Text File Order	
Preliminary Data To: kenneth.biles@ch2m.com				Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.		Composite/Grab	
Sample Receipt				SW6010 Chromium		Field Filtered Sample ?											
Acknowledgement To: amy.klopper@critigen.com																	
Hard Copy To: Amy Klopper																	
Invoice To: Christopher French																	
Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units				Sampling Method (code)	Lab Sample Numbers		
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID														
1	15T	6.58	0.0	30905-SW15T-030813	3/8/2013	0942	W-SW	WATER	REG	1	grab	Y	X				
2	15M	-	-	30905-SW15M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
3	15B	6.58	5.58	30905-SW15B-030813	3/8/2013	0944	W-SW	WATER	REG	1	grab	Y	X				
4	16T	8.75	0.0	30905-SW16T-030813	3/8/2013	0948	W-SW	WATER	REG	1	grab	Y	X				
5	16M	-	-	30905-SW16M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
6	16B	8.75	7.75	30905-SW16B-030813	3/8/2013	0950	W-SW	WATER	REG	1	grab	Y	X				
7	17T	6.0	0.0	30905-SW17T-030813	3/8/2013	0951	W-SW	WATER	REG	1	grab	Y	X				
8	17M	-	-	30905-SW17M-030813	3/8/2013	-	W-SW	WATER	REG		grab						
9	17B	6.0	5.0	30905-SW17B-030813	3/8/2013	0953	W-SW	WATER	REG	1	grab	Y	X				
10	18T	11.58	0.0	30905-SW18T-030813	3/8/2013	0956	W-SW	WATER	REG	1	grab	Y	X				
11	18M	11.58	5.29	30905-SW18M-030813	3/8/2013	0958	W-STW	WATER	REG	1	grab	Y	X				
12	18B	11.58	10.58	30905-SW18B-030813	3/8/2013	1000	W-SW	WATER	REG	1	grab	Y	X				
Relinquished by: M&S Company				Received by: [Signature]		Company: [Signature]		Condition: Intact		Custody Seals Intact: Intact		Cooler Temp.:					
Date/Time: 3/8/13 13:35				Date/Time: 3/8/13 15:30		Date/Time: 3/8/13 12:30		Cooler Temp.:		Cooler Temp.:		Cooler Temp.:		Cooler Temp.:			
Relinquished by: [Signature]				Received by: [Signature]		Company: [Signature]		Condition: Intact		Custody Seals Intact: Intact		Cooler Temp.:		Cooler Temp.:			
Date/Time: 3/8/13 15:30				Date/Time: 3/8/13 17:25		Date/Time: 3/8/13 17:25		Cooler Temp.:		Cooler Temp.:		Cooler Temp.:		Cooler Temp.:			
Preservatives: (Other; Specify):				0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)													

Rel [Signature] 3/8/13 17:25

[Signature] 3/8/13 17:25


acct 10651 g/rp 1374301
#6978026-43

Lancaster Laboratories										Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41339.33553									
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300										Privileged & Confidential										N		Site Name: Baltimore		Phase: Sampling Program		Lab Proj # (SDG):			
Sampling Co.: Maryland Environmental Service										EDD To: kenneth.biles@ch2m.com										Location of Site: BALTIMORE, MD		Surface Water Sampling		Lab ID: LLI					
Client Contact: (name, co., address) Christopher French 101 Columbia Road; Meyer 3 Morristown, NJ 07962										Sampler: Amanda Penafiel; Rachael Griner, Maura Morris PO # 4500013806 Analysis Turnaround Time (TAT): 14 Consultant CH2M										Field Filtered Sample ?		Site ID: BALTIMORE		Lab Job #					
Preliminary Data To: kenneth.biles@ch2m.com										Full Report TAT: 28										Composited/Grab		Authorized User: Honeywell		Text & Excel File Drive					
Sample Receipt										SW6010 Chromium										Field Filtered Sample ?		Excel & Text File Order		Copyright ASST. Version 5.0. Unauthorized use strictly prohibited.					
Acknowledgement To: amy.klopper@critigen.com; bernice.kidd@ch2m.com										Sample Date										Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.	
Hard Copy To: Honeywell; 1000 Wills Street; Baltimore, MD 21231										Sample Date										Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.	
Invoice To: Christopher French										Sample Date										Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.	
Sample Identification										Sample Date										Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.	
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composited/Grab	Field Filtered Sample ?	SW6010 Chromium	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Sampling Method (code)	Lab Sample Numbers								
1	19T	6.08	0	30905-SW19T-030813	3/8/2013	1001	W-SW	WATER	REG	1	grab	Y	X																
2	19M			30905-SW19M-030813	3/8/2013		W-SW	WATER	REG		grab																		
3	19B	6.08	5.08	30905-SW19B-030813	3/8/2013	1002	W-SW	WATER	REG	1	grab	Y	X																
4	20T	2.33	0	30905-SW20T-030813	3/8/2013	1004	W-SW	WATER	REG	1	grab	Y	X																
5	20M			30905-SW20M-030813	3/8/2013		W-SW	WATER	REG		grab																		
6	20B	2.33	1.33	30905-SW20B-030813	3/8/2013	1006	W-SW	WATER	REG	1	grab	Y	X																
7	Cent T	5.5	0	30905-SWCentT-030813	3/8/2013	0847	W-SW	WATER	REG	1	grab	Y	X																
8	Cent M			30905-SWCentM-030813	3/8/2013		W-SW	WATER	REG		grab																		
9	Cent B	5.5	4.5	30905-SWCentB-030813	3/8/2013	0849	W-SW	WATER	REG	1	grab	Y	X																
10	LADY T	4.83	0	30905-SWLadyT-030813	3/8/2013	0842	W-SW	WATER	REG	1	grab	Y	X																
11	Lady M			30905-SWLadyM-030813	3/8/2013		W-SW	WATER	REG		grab																		
12	LADY B	4.83	3.83	30905-SWLadyB-030813	3/8/2013	0844	W-SW	WATER	REG	1	grab	Y	X																

Rel. from 3/8/13 17:05

3/8/13 1725

acct 10651 gmp 1374301
6978026-43

Lancaster Laboratories 2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41339.33576	
Privileged & Confidential		N		Site Name: Baltimore		Phase: Sampling Program		Surface Water Sampling		Lab Proj # (SDG):		COC#: 30905-030813-6	
Sampling Co.: Maryland Environmental Service		EDD To: kenneth.biles@ch2m.com		Location of Site: BALTIMORE, MD		Lab ID: LLI		Site ID: BALTIMORE		Lab Job #:		Authorized User: Honeywell	
Client Contact: (name, co., address) Christopher French 101 Columbia Road Meyer 3 Morristown, NJ 07962		Sampler: Amanda Penafiel; Rachael Griner; Maura Morris PO #: 4500013806		Analysis Turnaround Time (TAT): 14 Consultant: CH2M		Full Report TAT: 28		Composite/Grab Field Filtered Sample ? SW6010 Chromium		Text & Excel File Drive		Excel & Text File Order	
Preliminary Data To: kenneth.biles@ch2m.com		Sample Receipt: kenneth.biles@ch2m.com		Acknowledgement To: amy.klopper@ch2m.com		Hard Copy To: Amy Klopper		Invoice To: Christopher French		Copyright ASH: Version 5.0. Manufactured and sold by Honeywell.			
Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ug/L	Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID										
1	5T	5.92	0	30905-SWD1-030813	3/8/2013	0906	W-SW	WATER	FD	1	grab	Y	X
2	10B	4.92	3.92	30905-SWD2-030813	3/8/2013	0926	W-SW	WATER	FD	1	grab	Y	X
3	15T	6.58	0	30905-SWD3-030813	3/8/2013	0944	W-SW	WATER	FD	1	grab	Y	X
4	20B	2.33	1.33	30905-SWD4-030813	3/8/2013	1008	W-SW	WATER	FD	1	grab	Y	X
5	FIELDQC			30905-SW-FB1-030813	3/8/2013	0855	BLKWATER	WATER	FB	1	grab	N	X
6	FIELDQC			30905-SW-RB1-030813	3/8/2013	0928	BLKWATER	WATER	EB	1	grab	N	X
7	FIELDQC			30905-SW-RB2-030813	3/8/2013	1008	BLKWATER	WATER	EB	1	grab	N	X
8	FIELDQC			30905-SW-RB3-030813	3/8/2013		BLKWATER	WATER	EB	1	grab	N	X
9													
10													
11													
12													
Relinquished by: MES Company		Date/Time: 3/8/13 13:35		Received by: JLSM Company		Date/Time: 3/8/13 13:35		Condition: Intact		Custody Seals Intact: NO			
Relinquished by: JLSM Company		Date/Time: 3/08/13 15:30		Received by: K Company		Date/Time: 3/8/13 15:30		Condition: Intact		Custody Seals Intact: NO		Cooler Temp: 0.9-1.0"	
Preservatives: (Other; Specify):		9 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2, 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)											

Rel. Am 3/8/13 17:00

3/8/13 1725

BALTIMORE INNER HARBOR

SURFACE WATER MONITORING
1st Quarter 2013

March 8, 2012

Honeywell



METER CALIBRATION LOG

FIELD NOTES



Station Home Page

Station Information

Tide / Water Level Data

Tide Predictions

Current Data

Meteorological Observations

Conductivity

PORTS

Operational Forecast System

Bench Mark Sheets

Datums

Harmonic Constituents

Sea Level Trends

Measurement Specifications

BALTIMORE, MD StationId: 8574680

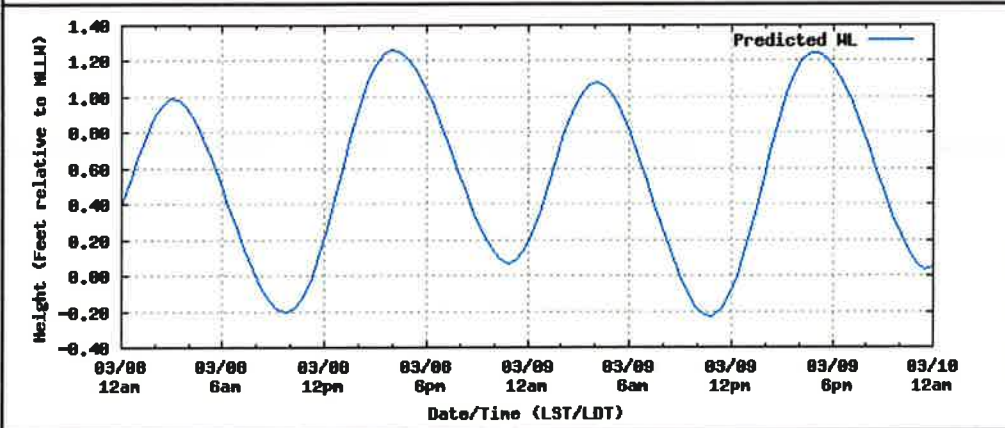
Daily Tide Prediction in Feet

Time Zone: LST/LDT

Datum: MLLW

◀ 2013/03/08 - 2013/03/09 ▶

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Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

Begin Date: ▶ Time Range: Time Zone: Data Units: [Show Advanced Options](#)

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High/Low Tide Predictions in Feet from 2013/03/08 - 2013/03/09

Download:

Date	Day	Time	Hgt
03/08	Fri	03:06 AM	0.99 H
03/08	Fri	09:42 AM	-0.2 L
03/08	Fri	04:03 PM	1.26 H
03/08	Fri	10:52 PM	0.07 L
03/09	Sat	04:05 AM	1.08 H
03/09	Sat	10:45 AM	-0.23 L
03/09	Sat	04:59 PM	1.25 H
03/09	Sat	11:37 PM	0.04 L

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BIH Surface H₂O Sampling

Date: 3/8/13

Samplers: Amanda Penafiel, Rachel Griner, Maura Morris
 Boat Capt: Tom Humbles

Weather Conditions: Partly Cloudy Upper 30s, Windy

Low Tide: ~~9:42~~ 9:42

Sample ID	Depth to Bottom (ft)	Sample depth (ft)	Time	pH	Temp	SP Cond	Int
Lady T	4' 10"	3' 10" 0	0842	7.92	4.3	17.06 _{ms}	RG
Lady B	4' 10"	3' 10"	0844	7.79	4.9	19.48 _{ms}	RG
Cent T	5' 6"	4' 6" 0	0847	7.80	5.3	17.14 _{ms}	RG
Cent B	5' 6"	4' 6"	0849	7.75	4.7	17.71 _{ms}	RG
3T	5' 5"	0	0852	7.84	3.1	15.07 _{ms}	RG
3B	5' 5"	4' 5"	0854	7.69	4.1	18.95 _{ms}	RG
FB	—	—	0855	8.61	12.7	15.5 _{ms}	RG
4T	6' 8"	0	0857	7.49	4.9	17.22 _{ms}	RG
4B	6' 8"	5' 8"	0859	7.43	4.6	164.8 _{ms}	RG
5T	5' 11"	0	0902	7.42	4.4	18.41 _{ms}	RG
5B	5' 11"	4' 11"	0904	7.41	4.4	9.78 _{ms}	RG
5TD	5' 11"	0	0906	7.46	4.4	18.86 _{ms}	RG
6T	5'	4' 0	0908	7.42	4.4	20.11 _{ms}	RG
6B	5'	4'	0910	7.44	4.5	282.2 _{ms}	RG

BIH Surface H₂O Samp (AP, RG, MM)

3/8/13

Sample ID	Depth to bottom(ft)	Sample depth(ft)	time	pH	Temp	Sp Cond	Int.
7T	4'10"	0	0912 09	7.43	4.4	20.27ms	RG
7B	4'10"	3'10"	0914	7.43	4.7	9.69ms	RG
8T	4'2"	0	0914	7.43	4.4	20.08ms	RG
8B	4'2"	3'2"	0818	7.41	4.0	2.12 20.38ms	RG
9T	3'9"	0	0920	7.42	4.5	21.21ms	RG
9B	3'9"	2'9"	0922	7.39	4.6	20.71ms	RG
10T	4'11"	0	0924	7.40	4.5	21.48ms	RG
10B	4'11"	3'11"	0925	7.40	4.7	21.3ms	RG
10BD	4'11"	3'11"	0926	7.41	4.8	21.26ms	RG
RB1	—	—	0928	8.49	11.5	3.945	RG
11T	5'7"	0	0936	7.19	5.1	21.28ms	RG
11B	5'7"	4'7"	0932	7.24	4.6	20.14ms	RG
12T	6'1"	0	0934	7.20	4.6	21.41ms	RG
12B	6'11"	5'11"	0936	7.17	4.5	20.71ms	RG
13T	6'3"	0	0937	7.24	4.5	21.44ms	RG
13B	6'3"	5'3"	0938	7.16	4.2	21.55ms	RG
14T	6'6"	0	0940	7.22	4.4	21.31ms	RG
14B	6'6"	5'6"	0941	7.19	4.3	21.4ms	RG

B1H Surface (H₂O) Samp (AP, RG, MM) 3/8/13

Sample ID	Depth to Bottom (ft)	Sample depth (ft)	time	pH	temp.	Spand	Int
15T	6' 7"	0	0942	7.27	4.4	21.36 ms	RG
15TD	6' 7"	0	0944	7.24	4.3	13.61 ms	RG
15B	6' 7"	5' 7"	0945	7.25	4.1	11.03 ms	RG
16T	8' 9"	0	0948	7.28	4.3	10.17 ms	RG
16B	8' 9"	7' 9"	0950	7.27	4.3	20.67 ms	RG
17T	6'	0	0951	7.27	4.4	20.42	RG
17B	6'	5'	0953	7.27	4.3	21.63 ms	RG
18T	11' 7"	0	7.27 ⁰⁹⁵⁶	7.27	4.6	21.24 ms	RG
18M	11' 7"	5' 3"	0958	7.28	4.5	10.59 ms	RG
18B	11' 7"	10' 7"	1000	7.30	4.4	21.68 ms	RG
19T	6' 1"	0	1001	7.28	4.4	21.62 ms	RG
19B	6' 1"	5' 1"	1002	7.27	4.3	21.8 ms	RG
20T	2' 4"	0	1004	7.49	4.5	20.99 ms	RG
20B	2' 4"	1' 4"	1006	7.28	4.7	18.35 ms	RG
20BD	2' 4"	1' 4"	1008	7.28	4.6	21.2 ms	RG
RB2	—	—	1010	8.90	10.0	49.7 us	RG

CHAIN of CUSTODY

Lancaster Laboratories
 425 New Holland Pike
 Lancaster, PA 17605-2425
 717) 656-2300

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41341.53632
 COC#: 30905-030813-1

Sampling Co.: Maryland Environmental Service

Privileged & Confidential N
EDD To: kenneth.biles@ch2m.com

Site Name: Baltimore
Location of Site: BALTIMORE, MD
Phase:
Sampling Program: Surface Water Sampling

Lab Proj # (SDG):
Lab ID: LLI
Site ID: BALTIMORE

Client Contact: (name, co., address)

Sampler: Amanda Penafiel; Rachael Griner, Maura Morris

Preservative: 3

Lab Job #:

Christopher French
 01 Columbia Road Meyer 3

PO #: 4500013806

Analysis Turnaround Time (TAT): 14

Authorized User: Honeywell

Morristown, NJ 07962

Consultant: CH2M

Text & Excel File Drive: Excel & Text File Order

Preliminary Data To: kenneth.biles@ch2m.com;

Full Report TAT: 28

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Sample Receipt Acknowledgement To: amy.klopper@critigen.com; bernice.kidd@ch2m.com;

Composite/Grab
Field Filtered Sample ?
 SW6010 Chromium



Hard Copy To: Amy Klopper

Units:

Lab Sample Numbers

Invoice To: Christopher French

Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ppb	Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID										
1	3T	5.5	0.0	30905-SW3T-030813	3/8/2013	0852	W-SW	WATER	REG	1	grab	Y X	
2	3M	-	-	30905-SW3M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
3	3B	5.5	4.5	30905-SW3B-030813	3/8/2013	0854	W-SW	WATER	REG	1	grab	Y X	
4	4T	6.67	0.0	30905-SW4T-030813	3/8/2013	0857	W-SW	WATER	REG	1	grab	Y X	
5	4M	-	-	30905-SW4M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
6	4B	6.67	5.67	30905-SW4B-030813	3/8/2013	0859	W-SW	WATER	REG	1	grab	Y X	
7	5T	5.92	0.0	30905-SW5T-030813	3/8/2013	0902	W-SW	WATER	REG	1	grab	Y X	
8	5M	-	-	30905-SW5M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
9	5B	5.92	4.92	30905-SW5B-030813	3/8/2013	0904	W-SW	WATER	REG	1	grab	Y X	
10	6T	5.0	0.0	30905-SW6T-030813	3/8/2013	0908	W-SW	WATER	REG	1	grab	Y X	
11	6M	-	-	30905-SW6M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
12	6B	5.0	4.0	30905-SW6B-030813	3/8/2013	0910	W-SW	WATER	REG	1	grab	Y X	

Relinquished by: *MES* Company
Amanda Penafiel Date/Time: 3/5/13 13:35

Received by: *UTAMAZ* Company
7/15/11 Date/Time: 3/6/13 13:55

Condition:
Custody Seals Intact:
Cooler Temp.:

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Lancaster Laboratories

2425 New Holland Pike
Lancaster, PA 17605-2425
(717) 656-2300

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41339.33480

COC# 30905-030813-2

Privileged & Confidential

N

Site Name: Baltimore

Phase:

Lab Proj # (SDG):

Sampling Co.: Maryland Environmental Service

EDD To: kenneth.biles@ch2m.com

Location of Site: BALTIMORE, MD

Sampling Program: Surface Water Sampling

Lab ID: LLI

Client Contact: (name, co., address)

Sampler: Amanda Penafiel; Rachael Griner, Maura Morris

Preservative: 3

Site ID: BALTIMORE

Christopher French

PO #: 4500013806

Composite/Grab

Lab Job #

101 Columbia Road; Meyer 3

Analysis Turnaround Time (TAT): 14

Field Filtered Sample ?

Authorized User: Honeywell

Morristown, NJ 07962

Consultant: CH2M

SW6010 Chromium

Text & Excel File Drive: Excel & Text File Order

Preliminary Data To: kenneth.biles@ch2m.com;

amy.klopper@critigen.com; bernice.kidd@ch2m.com

Sample Receipt: kenneth.biles@ch2m.com;

amy.klopper@critigen.com; bernice.kidd@ch2m.com

Acknowledgement To: amy.klopper@critigen.com; bernice.kidd@ch2m.com

Hard Copy To: Amy Klopper

Invoice To: Christopher French

Full Report TAT: 28

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Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ug/L	Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID										
1	7T	4.83	0.0	30905-SW7T-030813	3/8/2013	0912	W-SW	WATER	REG	1	grab	Y X	
2	7M	-	-	30905-SW7M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
3	7B	4.83	3.83	30905-SW7B-030813	3/8/2013	0914	W-SW	WATER	REG	1	grab	Y X	
4	8T	4.17	0.0	30905-SW8T-030813	3/8/2013	0916	W-SW	WATER	REG	1	grab	Y X	
5	8M	-	-	30905-SW8M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
6	8B	4.17	3.17	30905-SW8B-030813	3/8/2013	0918	W-SW	WATER	REG	1	grab	Y X	
7	9T	3.75	0.0	30905-SW9T-030813	3/8/2013	0920	W-SW	WATER	REG	1	grab	Y X	
8	9M	-	-	30905-SW9M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
9	9B	3.75	2.75	30905-SW9B-030813	3/8/2013	0922	W-SW	WATER	REG	1	grab	Y X	
10	10T	4.92	0.0	30905-SW10T-030813	3/8/2013	0924	W-SW	WATER	REG	1	grab	Y X	
11	10M	-	-	30905-SW10M-030813	3/8/2013	-	W-SW	WATER	REG		grab		
12	10B	4.92	3.92	30905-SW10B-030813	3/8/2013	0925	W-SW	WATER	REG	1	grab	Y X	

Relinquished by: <i>Amanda Penafiel</i> Company: <i>MES</i> Date/Time: <i>3/8/13 13:35</i>	Received by: <i>Charmelle</i> Company: <i>CH2M HILL</i> Condition: <i>3/8/13 13:35</i> Cooler Temp. <i>75</i> Custody Seals Intact
Relinquished by: _____ Company: _____ Date/Time: _____	Received by: _____ Company: _____ Condition: _____ Cooler Temp. _____ Custody Seals Intact

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Lancaster Laboratories

2425 New Holland Pike
Lancaster, PA 17605-2425
(717) 656-2300

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41339.33506

COC# 30905-030813-3

Privileged & Confidential

N

Site Name:

Baltimore

Phase:

Surface Water Sampling

Lab Proj # (SDG):

Sampling Co.: Maryland Environmental Service

EDD To: kbiles@omiinc.com

Location of Site:

BALTIMORE, MD

Lab ID

LLI

Client Contact: (name, co., address)

Sampler: Amanda Penafiel; Rachel Griner, Maura Morris

Site ID

BALTIMORE

Christopher French

PO # 4500013806

Preservative

3

Lab Job #

Authorized User: Honeywell

101 Columbia Road; Meyer 3
Morristown, NJ 07962

Analysis Turnaround Time (TAT): 14

Consultant CH2M

Text & Excel File Drive
Excel & Text File Order

Preliminary Data To: kenneth.biles@ch2m.com

Sample Receipt Acknowledgement To: amy.klopper@critigen.com, bernice.kidd@ch2m.com

Hard Copy To: Amy Klopper

Invoice To: Christopher French

Full Report TAT: 28

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Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units											Sampling Method (code)	Lab Sample Numbers					
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID																								
1	11T	5.58	0.0	30905-SW11T-030813	3/8/2013	0930	W-SW	WATER	REG	1	grab	Y	X														
2	11M	-	-	30905-SW11M-030813	3/8/2013	-	W-SW	WATER	REG		grab																
3	11B	5.58	4.58	30905-SW11B-030813	3/8/2013	0932	W-SW	WATER	REG	1	grab	Y	X														
4	12T	6.08	0.0	30905-SW12T-030813	3/8/2013	0934	W-SW	WATER	REG	1	grab	Y	X														
5	12M	-	-	30905-SW12M-030813	3/8/2013	-	W-SW	WATER	REG		grab																
6	12B	6.08	5.08	30905-SW12B-030813	3/8/2013	0936	W-SW	WATER	REG	1	grab	Y	X														
7	13T	6.25	0.0	30905-SW13T-030813	3/8/2013	0937	W-SW	WATER	REG	1	grab	Y	X														
8	13M	-	-	30905-SW13M-030813	3/8/2013	-	W-SW	WATER	REG		grab																
9	13B	6.25	5.25	30905-SW13B-030813	3/8/2013	0938	W-SW	WATER	REG	1	grab	Y	X														
10	14T	6.5	0.0	30905-SW14T-030813	3/8/2013	0940	W-SW	WATER	REG	1	grab	Y	X														
11	14M	-	-	30905-SW14M-030813	3/8/2013	-	W-SW	WATER	REG		grab																
12	14B	6.5	5.5	30905-SW14B-030813	3/8/2013	0941	W-SW	WATER	REG	1	grab	Y	X														


Relinquished by	MES	Company	Received by	Company	Condition	Custody Seals Intact
Amanda Penafiel	3/5/13	13:35	[Signature]	CLM/HTL		
Relinquished by		Company	Received by	Company	Condition	Custody Seals Intact

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41339.33535
 COC#: 30905-030813-4

Privileged & Confidential		N	Site Name: Baltimore	Phase: Sampling Program	Surface Water Sampling	Lab Proj # (SDG):
Sampling Co.: Maryland Environmental Service	EDD To: kenneth.biles@ch2m.com	Location of Site: BALTIMORE, MD	Lab ID: LLI	Site ID: BALTIMORE	Lab Job #:	Authorized User: Honeywell
Client Contact: (name, co., address) Christopher French 101 Columbia Road; Meyer 3 Morristown, NJ 07962	Sampler: Amanda Penafiel, Rachael Griner, Maura Morris PO #: 4500013806	Analysis Turnaround Time (TAT): 14 Consultant: CH2M	Preservative: 3	Text & Excel File Drive Excel & Text File Order		
Preliminary Data To: kenneth.biles@ch2m.com	Sample Receipt: kenneth.biles@ch2m.com	Full Report TAT: 28	Copyright AESI: Version 5.0 Unauthorized use strictly prohibited.			
Acknowledgement To: amy.klopper@critigen.com; bernice.kidd@ch2m.com	Hard Copy To: Amy Klopper					
Invoice To: Christopher French						

Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID									
1	15T	6.58	0.0	30905-SW15T-030813	3/8/2013	0942	W-SW	WATER	REG	1	grab	Y X
2	15M	-	-	30905-SW15M-030813	3/8/2013	-	W-SW	WATER	REG		grab	
3	15B	6.58	5.58	30905-SW15B-030813	3/8/2013	0944	W-SW	WATER	REG	1	grab	Y X
4	16T	8.75	0.0	30905-SW16T-030813	3/8/2013	0948	W-SW	WATER	REG	1	grab	Y X
5	16M	-	-	30905-SW16M-030813	3/8/2013	-	W-SW	WATER	REG		grab	
6	16B	8.75	7.75	30905-SW16B-030813	3/8/2013	0950	W-SW	WATER	REG	1	grab	Y X
7	17T	6.0	0.0	30905-SW17T-030813	3/8/2013	0951	W-SW	WATER	REG	1	grab	Y X
8	17M	-	-	30905-SW17M-030813	3/8/2013	-	W-SW	WATER	REG		grab	
9	17B	6.0	5.0	30905-SW17B-030813	3/8/2013	0953	W-SW	WATER	REG	1	grab	Y X
10	18T	11.58	0.0	30905-SW18T-030813	3/8/2013	0956	W-SW	WATER	REG	1	grab	Y X
11	18M	11.58	5.29	30905-SW18M-030813	3/8/2013	0958	W-STW	WATER	REG	1	grab	Y X
12	18B	11.58	10.58	30905-SW18B-030813	3/8/2013	1000	W-SW	WATER	REG	1	grab	Y X

Relinquished by: <i>MES</i> Company	Received by: <i>CH2M HILL</i> Company	Condition:	Custody Seals Intact
Date/Time: <i>3/8/13 13:35</i>	Date/Time: <i>3/8/13</i>	Cooler Temp.:	
Relinquished by: <i>Amanda Bengtson</i> Company	Received by: <i>Chloe B</i> Company	Condition:	Custody Seals Intact
Date/Time:	Date/Time:	Cooler Temp.:	

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41339.33553
 COC# 30905-030813-5

Sampling Co.: Maryland Environmental Service

Privileged & Confidential N

Site Name: Baltimore

Lab Proj # (SDG):

Client Contact: (name, co., address)
 Christopher French
 101 Columbia Road; Meyer 3
 Morristown, NJ 07962

EDD To: kenneth.biles@ch2m.com

Location of Site: BALTIMORE, MD

Lab ID: LLJ

Preliminary Data To: kenneth.biles@ch2m.com
 amy.klopper@critigen.com; bernice.kidd@ch2m.com

Sampler: Amanda Penafiel; Rachael Griner, Maura Morris

Phase: Sampling Program Surface Water Sampling

Site ID: BALTIMORE

Sample Receipt Acknowledgement To: kenneth.biles@ch2m.com
 amy.klopper@critigen.com; bernice.kidd@ch2m.com

PO #: 4500013806

Preservative: 3

Lab Job #:

Hard Copy To: Honeywell; 1000 Wills Street; Baltimore, MD 21231

Analysis Turnaround Time (TAT): 14
Consultant: CH2M

Composite/Grab: Field Filtered Sample ?
 SW6010 Chromium

Authorized User: Honeywell


Invoice To: Christopher French

Full Report TAT: 28

Text & Excel File Drive Excel & Text File Order

Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units											Sampling Method (code)	Lab Sample Numbers					
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID																								
1	19T	6.08	0	30905-SW19T-030813	3/8/2013	1001	W-SW	WATER	REG	1	grab	Y	X														
2	19M			30905-SW19M-030813	3/8/2013		W-SW	WATER	REG		grab																
3	19B	6.08	5.08	30905-SW19B-030813	3/8/2013	1002	W-SW	WATER	REG	1	grab	Y	X														
4	20T	2.33	0	30905-SW20T-030813	3/8/2013	1004	W-SW	WATER	REG	1	grab	Y	X														
5	20M			30905-SW20M-030813	3/8/2013		W-SW	WATER	REG		grab																
6	20B	2.33	1.33	30905-SW20B-030813	3/8/2013	1006	W-SW	WATER	REG	1	grab	Y	X														
7	Cent T	5.5	0	30905-SWCentT-030813	3/8/2013	0847	W-SW	WATER	REG	1	grab	Y	X														
8	Cent M			30905-SWCentM-030813	3/8/2013		W-SW	WATER	REG		grab																
9	Cent B	5.5	4.5	30905-SWCentB-030813	3/8/2013	0849	W-SW	WATER	REG	1	grab	Y	X														
10	LADY T	4.83	0	30905-SWLadyT-030813	3/8/2013	0842	W-SW	WATER	REG	1	grab	Y	X														
11	Lady M			30905-SWLadyM-030813	3/8/2013		W-SW	WATER	REG		grab																
12	LADY B	4.83	3.83	30905-SWLadyB-030813	3/8/2013	0844	W-SW	WATER	REG	1	grab	Y	X														

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Relinquished by <i>Amanda Penafiel</i>	MES Date/Time 3/8/13 13:35	Company	Received by <i>LLJ</i>	Company CWA Hall	Condition	Custody Seals Intact
Relinquished by	Date/Time	Company	Received by	Company	Condition	Custody Seals Intact
	Date/Time				Cooler Temp.	

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2, 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41339.33576
 COC# 30905-030813-6

Sampling Co.: Maryland Environmental Service
Client Contact: (name, co., address)
 Christopher French
 101 Columbia Road Meyer 3
 Morristown, NJ 07962
Preliminary Data To: kenneth.biles@ch2m.com, amy.klopper@critigen.com, bernice.kidd@ch2m.com
Sample Receipt Acknowledgement To: kenneth.biles@ch2m.com, amy.klopper@critigen.com, bernice.kidd@ch2m.com
Hard Copy To: Amy Klopper
 2044 G.W. Hillside Road
Invoice To: Christopher French

Privileged & Confidential N
Site Name: Baltimore
Location of Site: BALTIMORE, MD
Phase: Sampling Program
Surface Water Sampling
EDD To: kenneth.biles@ch2m.com
Sampler: Amanda Penafiel; Rachael Griner, Maura Morris
PO #: 4500013806
Analysis Turnaround Time (TAT): 14
Consultant: CH2M
Full Report TAT: 28
Preservative: 3
Composite/Grab:
Field Filtered Sample ?
 SW6010 Chromium

Lab Proj # (SDG):
Lab ID: LLI
Site ID: BALTIMORE
Lab Job #:
Authorized User: Honeywell
 Text & Excel File Drive Excel & Text File Order
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Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ug/L	Sampling Method (code)	Lab Sample Numbers
1	5T	5.92	0	3/8/2013	0906	W-SW	WATER	FD	1	grab	Y X		
2	10B	4.92	3.92	3/8/2013	0926	W-SW	WATER	FD	1	grab	Y X		
3	15T	6.58	0	3/8/2013	0944	W-SW	WATER	FD	1	grab	Y X		
4	20B	2.33	1.33	3/8/2013	1008	W-SW	WATER	FD	1	grab	Y X		
5	FIELDQC			3/8/2013	0855	BLKWATER	WATER	FB	1	grab	N X		
6	FIELDQC			3/8/2013	0928	BLKWATER	WATER	EB	1	grab	N X		
7	FIELDQC			3/8/2013	1008	BLKWATER	WATER	EB	1	grab	N X		
8	FIELDQC			3/8/2013		BLKWATER	WATER	EB	1	grab	N X		
9													
10													
11													
12													

Relinquished by: MES Company Date/Time 3/8/13 13:35
Received by: Company Date/Time 3/8/13 13:35
 Condition Cooler Temp. Custody Seals Intact

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Appendix B
Groundwater Sampling Program Data

Appendix B-1
Raw Laboratory Data—April 2013

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

May 08, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 04/18/2013

Group Number: 1384038

SDG: BHB04

PO Number: 4500013806

State of Sample Origin: MD

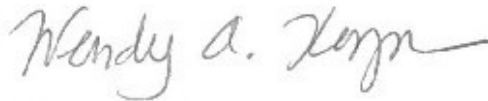
<u>Client Sample Description</u>	<u>Lancaster Labs (LLD) #</u>
30905-GW-OP7-041713 Grab Groundwater	7027668
30905-GW-OP11-041713 Grab Groundwater	7027669
30905-GW-OP5-041713 Grab Groundwater	7027670
30905-GW-OP2-041713 Grab Groundwater	7027671
30905-GW-OP3-041713 Grab Groundwater	7027672
30905-GW-OP4-041713 Grab Groundwater	7027673
30905-GW-OP9-041713 Grab Groundwater	7027674
30905-GW-NMW27-041713 Grab Groundwater	7027675
30905-GWD1-041713 Grab Groundwater	7027676
30905-GWD2-041713 Grab Groundwater	7027677
30905-GW-FB1-041713 Grab Water	7027678
30905-GW-RB1-041713 Grab Water	7027679

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Honeywell International	Attn: Ken Biles
ELECTRONIC COPY TO	Critigen	Attn: Amy Klopper
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Robert Steele
ELECTRONIC COPY TO	Honeywell	Attn: Katherine Beach
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Rakesh Singh
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Peeyush Gupta

ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Bernice Kidd
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Bindu Lingaiah
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Lakshmi Devi
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Parthiban P
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Aruna Chandrashekar
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Suraj Nayak

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

REVISED

Sample Description: 30905-GW-OP7-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027668
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 09:30 by AP

Honeywell International, Inc.

101 Columbia Road

Submitted: 04/18/2013 19:52

MEY-3

Reported: 05/08/2013 11:49

Morristown NJ 07962

BIH07 SDG#: BHB04-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0018 J	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 08:48	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-OP11-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027669
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 10:41 by AP

Honeywell International, Inc.

101 Columbia Road

Submitted: 04/18/2013 19:52

MEY-3

Reported: 05/08/2013 11:49

Morristown NJ 07962

BIH11 SDG#: BHB04-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.869	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 08:52	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-OP5-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027670
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 11:42 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH05 SDG#: BHB04-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	3.95	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 08:08	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-GW-OP2-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027671
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 12:45 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH02 SDG#: BHB04-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 5.77	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1
The holding time was not met. The client was notified and the data reported.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 08:56	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1
08255	Total Cyanide (water)	SW-846 9012A	2	13112117101B	05/03/2013 16:15	Venia B McFadden	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13112117101B	05/03/2013 10:05	Nancy J Shoop	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-OP3-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027672
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 13:49 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH03 SDG#: BHB04-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 137	mg/l 0.0110	mg/l 0.100	10
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 09:00	Joanne M Gates	10
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1
08255	Total Cyanide (water)	SW-846 9012A	1	13112117101B	04/23/2013 09:03	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13122117101B	04/22/2013 09:55	Nancy J Shoop	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-OP4-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027673
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 14:40 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH04 SDG#: BHB04-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	2.69	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 09:04	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-GW-OP9-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027674
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 15:37 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH09 SDG#: BHB04-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	1,900	0.220	2.00	200

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/30/2013 07:02	Tara L Snyder	200
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-NMW27-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027675
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 16:37 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIH27 SDG#: BHB04-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	2,450	0.220	2.00	200

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/30/2013 07:07	Tara L Snyder	200
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GWD1-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027676
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 11:45 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIHD1 SDG#: BHB04-09FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	3.96	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 09:15	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-GWD2-041713 Grab Groundwater
Baltimore Inner Harbor

LLI Sample # WW 7027677
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 12:50 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIHD2 SDG#: BHB04-10FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry						
		SW-846 9012A	mg/l	mg/l	mg/l	
08255	Total Cyanide (water)	57-12-5	N.D.	0.0050	0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08255	Total Cyanide (water)	SW-846 9012A	1	13112117101B	04/23/2013 09:04	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13122117101B	04/22/2013 09:55	Nancy J Shoop	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 30905-GW-FB1-041713 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7027678
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 09:20 by AP

Honeywell International, Inc.

Submitted: 04/18/2013 19:52

101 Columbia Road

Reported: 05/08/2013 11:49

MEY-3

Morristown NJ 07962

BIHF1 SDG#: BHB04-11FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 09:20	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1
08255	Total Cyanide (water)	SW-846 9012A	2	13115117101A	04/26/2013 10:21	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13115117101A	04/25/2013 14:50	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905-GW-RB1-041713 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7027679
LLI Group # 1384038
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/17/2013 09:45 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 04/18/2013 19:52

Reported: 05/08/2013 11:49

BIHR1 SDG#: BHB04-12RB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l N.D.	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131141848005	04/29/2013 09:23	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131141848005	04/24/2013 23:30	Annamaria Stipkovits	1
08255	Total Cyanide (water)	SW-846 9012A	1	13112117101B	04/23/2013 09:06	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13122117101B	04/22/2013 09:55	Nancy J Shoop	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 05/08/13 at 11:49 AM

Group Number: 1384038

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 131141848005 Chromium	Sample number(s): 7027668-7027676, 7027678-7027679 N.D.	0.0011	0.0100	mg/l	104		90-110		
Batch number: 13112117101B Total Cyanide (water)	Sample number(s): 7027671-7027672, 7027677, 7027679 N.D.	0.0050	0.010	mg/l	95		90-110		
Batch number: 13115117101A Total Cyanide (water)	Sample number(s): 7027678 N.D.	0.0050	0.010	mg/l	101	91	90-110	10	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 131141848005 Chromium	Sample number(s): 7027668-7027676, 7027678-7027679 99 (2)	88 (2)	81-120	1	20	3.95	4.00	1	20
Batch number: 13112117101B Total Cyanide (water)	Sample number(s): 7027671-7027672, 7027677, 7027679 0*		43-137			N.D.	N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.


Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Appendix B-2
Chain-of-Custody Records—April 2013

acct# 10651 Cup# 1384038 sample# 7027668-19

Lancaster Laboratories		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41376.38020				
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300		Privileged & Confidential		N		Site Name: Baltimore		Phase:		Lab Proj # (SDG):		COC# 30905-041713-01				
Sampling Co.: Maryland Environmental Service		EDD To: Locus Focus(kennethbiles@ch2m.com)		Location of Site: BALTIMORE, MD		Sampling Program:		Lab ID: LLI		Site ID: BALTIMORE		Lab Job #:				
Client Contact: (name, co., address) Christopher French 101 Columbia Road Meyer 3 Morristown, NJ 07962		Sampler: Amanda Penafiel PO # 4500013806		Analysis Turnaround Time (TAT): 14 Consultant: CH2M		Preservative: 3 5		Authorized User: Honeywell		Text & Excel File Drive		Excel & Text File Order				
Preliminary Data To: kenneth.biles@ch2m.com		Sample Receipt Acknowledgement To: kenneth.biles@ch2m.com		Hard Copy To: Amy Klopper		Invoice To: Christopher French		Full Report TAT: 28		Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.						
Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Units	ppm	ppb	Sampling Method (code)	Lab Sample Numbers
1	OP7	6.90'	0.39'	30905-GW-OP7-041713	4/17/2013	09:30	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
2	OP11	4.15'	4.10'	30905-GW-OP11-041713	4/17/2013	10:41	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
3	OP5	5.15'	5.20'	30905-GW-OP5-041713	4/17/2013	11:42	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
4	OP2	13.00'	13.03'	30905-GW-OP2-041713	4/17/2013	12:45	GW-GWS	WATER	REG	2	grab	Y	X	X	BladPump	
5	OP3	12.45'	12.60'	30905-GW-OP3-041713	4/17/2013	1:49	GW-GWS	WATER	REG	2	grab	Y	X	X	BladPump	
6	OP4	8.67'	8.92'	30905-GW-OP4-041713	4/17/2013	2:40	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
7	OP9	6.33'	6.30'	30905-GW-OP9-041713	4/17/2013	3:37	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
8	NWM-27	7.30'	20.10'	30905-GW-NWM27-041713	4/17/2013	4:37	GW-GWS	WATER	REG	1	grab	Y	X		BladPump	
9	OP5	5.15'	5.20'	30905-GWD1-041713	4/17/2013	11:45	GW-GWS	WATER	FD	1	grab	Y	X		BladPump	
10	OP2	13.00'	13.05'	30905-GWD2-041713	4/17/2013	12:50	GW-GWS	WATER	FD	1	grab	Y		X		
11	FIELDQC	-	-	30905-GW-FB1-041713	4/17/2013	09:20	BLKWATER	WATER	FB	2	grab	Y	X	X		
12	FIELDQC	-	-	30905-GW-RB1-041713	4/17/2013	09:45	BLKWATER	WATER	EB	2	grab	Y	X	X		

Relinquished by	MES Company	Received by	Company	Condition	Custody Seals Intact
Amanda Penafiel	4/17/13 17:08 Date/Time	[Signature]	CH2M HILL	Cooler Temp.	
[Signature]	4/18/13 09:43 Date/Time	[Signature]	CH2M HILL	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate; sp (special instructions))

Escherichia coli 1952

[Signature] 4/18/13 1952
Mark U1 1.0-1.4

Appendix B-3
Field Report—April 2013

BALTIMORE INNER HARBOR

GROUNDWATER WELL
MONITORING

April 17, 2013



METER CALIBRATION LOG

Date	Time	Meter	Buffer	Int	Comments
3/8/13	0730	YSI 63	7,4,10	AP	BIT Surface Water
3/9/13	0840	YSI 63	7,4,10	RDD	DMT Dry weather
3/13/13	0822	YSI 63	7,4,10	J.E.	DMT WET
4/17/13	0800	Horiba	Auto Cal	AP	BIT GW Monitoring

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

FIELD NOTES

BIT GW Well Sampling

4/17/13

Amanda Penickel, Tim Jett, Richard Pouns
Josh Chapman

Well OP7 - 30905-GW-OP7-041713

Arrival time: 0850

meterological conditions:

Finish time: 0950

partly sunny 60's

Well diameter: 4"

Beginning water level: 6.90'

FB Collection time: 0920

ending water level: 6.39'

RBI Collection time: 0945

Sample collection time: 9:30

Time (hrs.)	Temp (°C)	pH (units)	Cond (mc/cm)	DO (mg/L)	turb (NTU)	ORP (mv)	Water level (ft.)
909	14.78	8.88	10.4	4.06	0.2	133	6.03
913	14.06	8.70	12.1	5.13	0.2	-19	6.03
916	13.93	8.85	12.2	4.43	0.2	-41	6.03
919	13.90	8.88	12.2	4.21	0.2	-51	6.00
922	13.92	8.89	12.1	3.95	0.3	-58	6.00
925	13.86	8.90	12.2	3.84	0.1	-65	6.00
928	13.92	8.90	12.1	3.75	0.2	-67	6.00

Bit GW Well Sampling

AP, JJ, RD, JC

4/17/13

Well OP11 - 30905 - GW - OP11 - 041713

Arrival time: 1010

Finish time: 1055

Well Diameter: 4"

Beginning water level 4.15'

Ending water level: 4.10'

Sample collection time: 1041

Time (hrs)	Temp (°C)	pH (units)	Cond (µS/cm)	DO (mg/L)	turb (NTU)	ORP (mV)	Water level (ft)
1024	17.98	6.36	5.29	4.20	5.5	224	4.20
1027	17.36	6.36	5.34	3.67	5.7	214	4.22
1030	17.15	6.36	5.35	3.41	4.4	208	4.25
1033	17.02	6.36	5.37	3.35	3.4	204	4.26
1036	16.88	6.37	5.37	3.29	2.9	201	4.28
1039	17.01	6.27	5.38	3.26	2.6	200	4.27

BITGW Well Sampling

4/17/13

AP, JJ, RD, JC

Well OP3 - 30905 - GW - OP3 - 041713

Arrival time: 1:20

Finish time: 2:10

Well Diameter: 6"

Beginning water level: 12.45'

Ending water level: ~~12.49~~ AP 12.60'

Sample collection time: 1:49

Time (hrs)	Temp (°C)	pH (Units)	cond (µS/cm)	DO (mg/L)	turb (Ntu)	ORP (mV)	Water level (ft)
1:36	21.86	7.88	7.89	8.14	0.7	189	12.70
1:38	20.27	6.83	7.67	6.50	0.3	205	12.71
1:40	19.69	6.76	7.65	6.26	0.3	210	12.71
1:42	19.24	6.72	7.69	6.05	0.3	213	12.71
1:44	18.88	6.67	7.73	5.95	0.4	218	12.71
1:46	18.70	6.64	7.77	5.75	0.7	222	12.73

Bit GW Well Sampling

4/17/13

AP, JS, RD, JC

Well OP9 - 30905-GW-OP9-041713

Arrival time: 3:00

Finish time: 3:55

Well Diameter: 4"

Beginning water level: 6.33'

ending water level: 6.30'

Sample collection time: 3:37

Time (hrs.)	Temp (°C)	pH (units)	Cond (µs/cm)	DO (mg/L)	turb (Ntu)	ORP (mV)	water level (ft)
3:12	18.74	6.52	16.7	6.88	16.6	255	6.30'
3:14	18.08	6.55	17.1	6.03	16.7	253	6.29
3:16	18.18	6.49	16.1	4.77	16.9	257	6.29
3:18	18.16	6.42	18.9	3.93	17.4	262	6.29
3:20	18.11	6.40	19.2	3.69	15.6	265	6.30
3:22	17.93	6.37	19.4	3.55	19.4	268	6.30
3:24	17.87	6.36	19.5	3.45	19.5	271	6.30
3:26	15.93	6.36	19.6	3.61	19.7	274	6.36
3:28	15.56	6.36	20.1	3.75	8.8	276	6.38
3:30	15.50	6.35	20.1	3.90	5.0	277	6.40
3:32	15.43	6.35	20.1	3.85	4.6	278	6.42
3:34	15.48	6.36	20.2	3.82	4.2	278	6.42

BIT GW Well Sampling

4/17/13

AP, JT, RD, JC

Well Nwm 27 - 30905 - GW - Nwm27 - 041713

Arrival time: 4:05
Finish time: 5:00

Well Diameter: 2"
Beginning water level: 7.30'
ending water level: 20.10'

Sample collection time: 4:37

Time (hrs.)	Temp (°C)	pH (units)	Cond (ms/cm)	DO (mg/L)	turb (NTU)	ORP (mV)	Water level (ft)
4:17	17.95	10.64	20.2	4.25	384	59	9.30
4:19	17.00	10.86	20.8	3.95	796	27	10.10
4:21	16.56	10.89	21.0	3.59	531	9	11.50
4:23	16.56	10.90	21.1	3.39	284	-3	13.10
4:25	16.53	10.91	21.1	3.24	574	-13	14.10
4:27	16.51	10.90	21.0	3.13	751	-25	15.10
4:29	16.50	10.87	20.9	3.02	1000	-55	16.60
4:31	16.72	10.87	20.9	2.89	1000	-82	—
4:33	16.58	10.90	21.1	2.87	1000	-93	18.75
4:35 ^{AP}	16.53	10.92	21.3	2.81	1000	-97	20.10

CHAIN of CUSTODY

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300



Chain Of Custody / Analysis Request

AESI Ref: 41376.38020
 COC# 30905-041713-01

Sampling Co.: Maryland Environmental Service

Privileged & Confidential N
Site Name: Baltimore
Location of Site: BALTIMORE, MD

Phase: Sampling Program

Lab Proj # (SDG):
Lab ID: LLI
Site ID: BALTIMORE

Client Contact: (name, co., address)
 Christopher French
 101 Columbia Road Meyer 3
 Morristown, NJ 07962

Sampler: Amanda Penafiel
PO #: 4500013806

Preservative: 3 5

Lab Job #:
Authorized User: Honeywell

Preliminary Data To: kenneth.biles@ch2m.com
Sample Receipt Acknowledgement To: kenneth.biles@ch2m.com
Hard Copy To: Amy Klopfer
Invoice To: Christopher French

Analysis Turnaround Time (TAT): 14
Consultant: CH2M
Full Report TAT: 28

Composite/Grab
Field Filtered Sample ?
 SW6010 Chromium
 SW9010/9012 Total Cyanide (auto)

Text & Excel File Drive
 Excel & Text File Order

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.



Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ppm	ppb	Sampling Method (code)	Lab Sample Numbers
1	OP7	6.90'	6.39'	30905-GW-OP7-041713	4/17/2013	09:30	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
2	OP11	4.15'	4.10'	30905-GW-OP11-041713	4/17/2013	10:41	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
3	OP5	6.15'	5.20'	30905-GW-OP5-041713	4/17/2013	11:42	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
4	OP2	13.00'	13.03'	30905-GW-OP2-041713	4/17/2013	12:45	GW-GWS	WATER	REG	2	grab	Y X X	BladPump	
5	OP3	12.45'	12.60'	30905-GW-OP3-041713	4/17/2013	1:49	GW-GWS	WATER	REG	2	grab	Y X X	BladPump	
6	OP4	8.67'	8.92'	30905-GW-OP4-041713	4/17/2013	2:40	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
7	OP9	6.33'	6.30'	30905-GW-OP9-041713	4/17/2013	3:37	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
8	NWM-27	7.30'	20.10'	30905-GW-NWM27-041713	4/17/2013	4:37	GW-GWS	WATER	REG	1	grab	Y X	BladPump	
9	OP5	5.15'	5.20'	30905-GWD1-041713	4/17/2013	11:45	GW-GWS	WATER	FD	1	grab	Y X	BladPump	
10	OP2	13.00'	13.05'	30905-GWD2-041713	4/17/2013	12:50	GW-GWS	WATER	FD	1	grab	Y X	BladPump	
11	FIELDQC	-	-	30905-GW-FB1-041713	4/17/2013	09:20	BLKWATER	WATER	FB	2	grab	Y X X		
12	FIELDQC	-	-	30905-GW-RB1-041713	4/17/2013	09:45	BLKWATER	WATER	EB	2	grab	Y X X		

Relinquished by *MES* Company
Amanda Penafiel
 Date/Time: 4/17/13 17:08

Received by *Ch2M Hill* Company
Ch2M Hill
 Date/Time: 4/17/13 17:08

Condition
 Cooler Temp.
 Custody Seals Intact

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Appendix C
Drainage Layer Sampling Program Data

Appendix C-1
Raw Laboratory Data—April 2013

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

May 06, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 04/25/2013

Group Number: 1385651

SDG: BHB05

PO Number: 4500013806

State of Sample Origin: MD

<u>Client Sample Description</u>	<u>Lancaster Labs (LLD) #</u>
30905_DLF_1_42413 Grab Surface Water	7035287
30905_DL_1_42413 Grab Surface Water	7035288
30905_DLF_2_42413 Grab Surface Water	7035289
30905_DL_2_42413 Grab Surface Water	7035290
30905_DLF_3_42413 Grab Surface Water	7035291
30905_DL_3_42413 Grab Surface Water	7035292
30905_DLF_4_42413 Grab Surface Water	7035293
30905_DL_4_42413 Grab Surface Water	7035294
30905_DLDF_4_42413 Grab Surface Water	7035295
30905_DLD_4_42413 Grab Surface Water	7035296
30905_FBF_1_42413 Grab Water	7035297
30905_EBF_1_42413 Grab Water	7035298
30905_FB_1_42413 Grab Water	7035299
30905_EB_1_42413 Grab Water	7035300

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Honeywell International	Attn: Ken Biles
ELECTRONIC COPY TO	Critigen	Attn: Amy Klopper
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Robert Steele
ELECTRONIC COPY TO	Honeywell	Attn: Katherine Beach
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Rakesh Singh

ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Peeyush Gupta
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Bernice Kidd
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Bindu Lingaiah
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Lakshmi Devi
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Parthiban P
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Aruna Chandrashekar
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Suraj Nayak

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 30905_DLF_1_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035287
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 12:25 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905F1 SDG#: BHB05-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0033 J	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:33	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:26	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_1_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035288
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 12:25 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905D1 SDG#: BHB05-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0072 J	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:37	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_2_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035289
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:55 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905F2 SDG#: BHB05-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0078 J	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:49	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:27	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_2_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035290
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:55 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905D2 SDG#: BHB05-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0100	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:52	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_3_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035291
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:25 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905F3 SDG#: BHB05-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0082 J	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:56	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:30	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_3_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035292
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:25 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905D3 SDG#: BHB05-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0235	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:00	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_4_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035293
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:20 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905F4 SDG#: BHB05-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.106	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 03:11	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:32	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_4_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035294
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:20 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905D4 SDG#: BHB05-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.121	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:05	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLDF_4_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035295
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:23 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

F05F4 SDG#: BHB05-09FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	SW-846 6010B 7440-47-3	mg/l 0.0105	mg/l 0.0011	mg/l 0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	mg/l N.D.	mg/l 0.0050	mg/l 0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:08	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:33	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLD_4_42413 Grab Surface Water
Baltimore Inner Harbor

LLI Sample # WW 7035296
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:23 by AP

Honeywell International, Inc.

101 Columbia Road

Submitted: 04/25/2013 16:45

MEY-3

Reported: 05/06/2013 08:11

Morristown NJ 07962

D05D4 SDG#: BHB05-10FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0116	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:12	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_FBF_1_42413 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7035297
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:50 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905FF SDG#: BHB05-11FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	57-12-5	N.D.	0.0050	0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:16	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:34	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_EBF_1_42413 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7035298
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:00 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905EF SDG#: BHB05-12EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1
Wet Chemistry						
08255	Total Cyanide (water)	57-12-5	N.D.	0.0050	0.010	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:20	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13120117101A	05/01/2013 08:37	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	2	13120117101A	04/30/2013 11:10	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_FB_1_42413 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7035299
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 10:50 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 04/25/2013 16:45

Reported: 05/06/2013 08:11

905FB SDG#: BHB05-13FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:24	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_EB_1_42413 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7035300
LLI Group # 1385651
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 04/24/2013 11:00 by AP

Honeywell International, Inc.

Submitted: 04/25/2013 16:45

101 Columbia Road

Reported: 05/06/2013 08:11

MEY-3

Morristown NJ 07962

905EB SDG#: BHB05-14EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0011	0.0100	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131201848006	05/04/2013 04:35	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131201848006	05/01/2013 11:00	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 05/06/13 at 08:11 AM

Group Number: 1385651

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 131201848006 Chromium	Sample number(s): 7035287-7035300 N.D.	0.0011	0.0100	mg/l	107		90-110		
Batch number: 13120117101A Total Cyanide (water)	Sample number(s): 7035287,7035289,7035291,7035293,7035295,7035297-7035298 N.D.	0.0050	0.010	mg/l	93		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 131201848006 Chromium	Sample number(s): 7035287-7035300 UNSPK: 7035293 BKG: 7035293 109	106	81-120	2	20	0.106	0.106	0	20
Batch number: 13120117101A Total Cyanide (water)	Sample number(s): 7035287,7035289,7035291,7035293,7035295,7035297-7035298 UNSPK: 7035289 BKG: 7035289 89		43-137			N.D.	N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers	Inorganic Qualifiers
A TIC is a possible aldol-condensation product	B Value is $<$ CRDL, but \geq IDL
B Analyte was also detected in the blank	E Estimated due to interference
C Pesticide result confirmed by GC/MS	M Duplicate injection precision not met
D Compound quantitated on a diluted sample	N Spike sample not within control limits
E Concentration exceeds the calibration range of the instrument	S Method of standard additions (MSA) used for calculation
N Presumptive evidence of a compound (TICs only)	U Compound was not detected
P Concentration difference between primary and confirmation columns $>$ 25%	W Post digestion spike out of control limits
U Compound was not detected	* Duplicate analysis not within control limits
X,Y,Z Defined in case narrative	+ Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Appendix C-2
Chain-of-Custody Records—April 2013

10651 / 1385651 / 7035287-300

Lancaster Laboratories 2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 41386.34866					
		Privileged & Confidential		N		Site Name: Baltimore		Baltimore		Phase: Sampling Program		COC#: 30905-42413-02					
Sampling Co.: Maryland Environmental Service		EDD To: Locus Focus EIM		Location of Site: BALTIMORE, MD								Lab Proj # (SDG):					
Client Contact: (name, co., address) Christopher French 101 Columbia Raod, Meyer 3 Morristown, NJ 07982		Sampler: Amanda Peñafiel		PO #: 4500013806		Preservative: 3 5 0						Lab ID: LLI					
Preliminary Data To: kennethbiles@ch2m.com		Analysis Turnaround Time (TAT): 14		Consultant: CH2M								Site ID: BALTIMORE					
Sample Receipt Acknowledgement To: kennethbiles@ch2m.com		Full Report TAT: 28										Lab Job #					
Hard Copy To: Kenneth Biles												Authorized User: Honeywell					
Invoice To: Christopher French												Text & Excel File Drive Excel & Text File Order					
Sample Identification												Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.					
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	SW6010 Chromium	SW9010/9012 Total Cyanide (auto)	SW9010/9012 Total Cyanide (auto)	Sampling Method (code)	Lab Sample Numbers	
1	FIELDQC	0.0	0.0	30905_FB_1_42413	4/24/2013	10:50	BLKWATER	WATER	FB	1	grab	N	X				
2	FIELDQC	0.0	0.0	30905_EB_1_42413	4/24/2013	11:00	BLKWATER	WATER	EB	1	grab	N	X				
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
Relinquished by: <i>Amanda Peñafiel</i> Company: <i>MES</i> Date/Time: <i>4/23/13 12:50</i>		Received by: <i>[Signature]</i> Company: <i>LLI</i> Date/Time: <i>4-25-13 10:55</i>		Condition: Cooler Temp.		Custody Seals Intact											
Relinquished by: <i>[Signature]</i> Company: <i>MES</i> Date/Time: <i>4/25/13 10:55</i>		Received by: <i>[Signature]</i> Company: <i>LLI</i> Date/Time: <i>4/25/13 16:45</i>		Condition: Cooler Temp. <i>1.0 °C</i>		Custody Seals Intact		<i>✓</i>									
Preservatives: (Other; Specify):																	
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)																	

BALTIMORE INNER HARBOR DRAINAGE LAYER MONITORING

April 24, 2013



METER CALIBRATION LOG

FIELD NOTES

BlH Drainage Layer Sampling

Amanda Penafiel, Rachel Griner

4/27/13

SSMP 4

30905-DLF-4-42413

Sample Number: 30905-DL-4-42413 Meteorological conditions:
Sample Collection Time: 10:20 Sunny, 70's

Depth to Bottom: 5.90'

Depth to Water: 3.70' ending water level: 7.10'

pH (units): 6.70

DO (mg/L): 8.85

Specific Conductance (ms/us): 1.90

Turbidity (NTU): 1.4

ORP (Mv): 143

Temperature (°C): 15.97

Equipment Blank

30905-EBF-1-42413

Sample #: 30905-EB-1-42413

Sample Collection time: 11:00

Sample Number: 30905-DL-3-42313

Sample Collection Time: 11:25

pH (units): 7.83

DO (mg/L): 10.52

Sp. cond. (ms/us): 0.023

turb (NTU): 0.0

ORP (mv): 27

Temp (°C): 20.75

Depth to Bottom: 7.05'

Depth to Water: 2.75'

pH (units): 6.89

DO (mg/L): 3.92

Specific Conductance (ms/us): 12.0

Turbidity (NTU): 0.5

ORP (Mv): -34

Temperature (°C): 19.07°C

ending water level - 2.80'

Field Blank

30905-FBF-1-42413

Sample #: 30905-FB-1-42413

Sample collection time: 10:50

Duplicate Sample

Location: SSMP 4

Sample #: 30905-DLDF-4-42413, 30905-DLD-4-42413

Sample Collection time: 10:23

BIH Drainage Layer Sampling
Amanda Peñañiel, Rachel Griner

4/24/13

SSMP 2

Weather Conditions:
sunny, breezy, 70's

30905-DLF-2-42313

Sample Number: 30905-DL-2-42313

sample Collection Time: 11:55

Depth to Bottom: 4.85'

Depth to Water: 2.15'

ending water level: 2.40'

pH (units): 6.85

DO (mg/L): 6.54

Specific Conductance (ms/us): 1.16

Turbidity (NTU): 0.2

ORP (Mv): 144

Temperature (°C): 17.77

SSMP 1

30905-DLF-1-42313

Sample number: 30905-DL-1-42313

Sample Collection Time: 12:25

pH (units): 6.76

DO (mg/L): 5.67

Specific Conductance (ms/us): 0.986

Turbidity (NTU): 5.8

ORP (Mv): 159

Temperature (°C): 16.81

depth to water: 4.20'

ending water level: 4.40'

depth to bottom: 4.60'

CHAIN of CUSTODY

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

Honeywell
 Chain Of Custody / Analysis Request

Lancaster Laboratories
 41386.36042
 COC# 30905-042413-01

Privileged & Confidential N

Site Name: Baltimore

Location of Site: BALTIMORE, MD

Phase: Sampling Program

Lab Proj # (SDG):

Lab ID: LLI

Site ID: BALTIMORE

Lab Job #:

Authorized User: Honeywell

Text & Excel File Drive
Excel & Text File Only

Sample Co.: Maryland Environmental Service

Client Contact: (name, co., address)
 Christopher French
 101 Columbia Road, Meyer 3
 Morristown, NJ 07982
 kennethblies@ch2m.com
 kennethblies@ch2m.com

Sample Receipt Acknowledgment To
 Kenneth Blies
 Christopher French

Hard Copy To

Invoice To:

Full Report TAT: 28

Analysis Turnaround Time (TAT): 14
 CH2M

Sampler: Amanda Petrafel
 PO # 4500019806
 Consultant

EDD To: Locus Focus EIM

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Units	Field Filtered Sample ?	Preservative	Location of Site:	Phase:	Sampling Program	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)															
1	SSMP1	4.80' 4.40'	30905_DLF_1_42413	4/24/2013	12:25	W-SW	WATER	REG	2		ug/L	Y	X	BALTIMORE, MD			
2	SSMP1	4.80' 4.40'	30905_DL_1_42413	4/24/2013	12:25	W-SW	WATER	REG	1		ug/L	N	X	BALTIMORE, MD			
3	SSMP2	2.15' 2.40'	30905_DLF_2_42413	4/24/2013	11:55	W-SW	WATER	REG	2		ug/L	Y	X	BALTIMORE, MD			
4	SSMP2	2.15' 2.40'	30905_DL_2_42413	4/24/2013	11:55	W-SW	WATER	REG	1		ug/L	N	X	BALTIMORE, MD			
5	SSMP3	2.75' 7.05'	30905_DLF_3_42413	4/24/2013	11:25	W-SW	WATER	REG	2		ug/L	Y	X	BALTIMORE, MD			
6	SSMP3	2.75' 7.05'	30905_DL_3_42413	4/24/2013	11:25	W-SW	WATER	REG	1		ug/L	N	X	BALTIMORE, MD			
7	SSMP4	3.70' 7.10'	30905_DLF_4_42413	4/24/2013	10:20	W-SW	WATER	REG	2		ug/L	Y	X	BALTIMORE, MD			
8	SSMP4	3.70' 7.10'	30905_DL_4_42413	4/24/2013	10:20	W-SW	WATER	REG	1		ug/L	N	X	BALTIMORE, MD			
9	SSMP4	3.70' 7.10'	30905_DLDF_4_42413	4/24/2013	10:23	W-SW	WATER	FD	2		ug/L	Y	X	BALTIMORE, MD			
10	SSMP4	3.70' 7.10'	30905_DLD_4_42413	4/24/2013	10:23	W-SW	WATER	FD	1		ug/L	N	X	BALTIMORE, MD			
11	FIELD QC	- -	30905_FBF_1_42413	4/24/2013	10:50	W-SW	BLKWATER	FB	2		ug/L	Y	X	BALTIMORE, MD			
12	FIELD QC	- -	30905_EBF_1_42413	4/24/2013	11:00	W-SW	BLKWATER	EB	2		ug/L	Y	X	BALTIMORE, MD			

Relinquished by Amanda Petrafel
 Date/Time: 4/23/13 12:50
 Company: M&E

Received by [Signature]
 Date/Time: 4/24/13 13:28
 Company: LLI/MD/LL

Relinquished by
 Date/Time:
 Company:

Received by
 Date/Time:
 Company:

Condition: Cooler Temp.
Condition: Cooler Temp.

Custody Seals Intact
Custody Seals Intact

Preservatives: (Other, Specify):
 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH<12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3 (pH<2), 4 Deg C); 11 (4C NaOH (pH<12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate), sp (special instructions)

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

Honeywell
 Chain Of Custody / Analysis Request

Lancaster Laboratories
 2425 New Holland Pike
 Lancaster, PA 17605-2425
 (717) 656-2300

AESI Ref: 41386.34866
COC# 30905-42413-02

Privileged & Confidential N

Site Name: Baltimore

Location of Site: BALTIMORE, MD

Phase: Sampling Program

Lab ID: LLI

Site ID: BALTIMORE

Lab Job #: Honeywell

Authorized User: Excel & Text File Order

Text & Excel File Drive

Copyright AESI: Version 3.0 Unauthorized use strictly prohibited.

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ug/L	ug/L	ug/L	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)													
1	FIELDQC	0.0	0.0	4/24/2013	10:50	BLKWATER	WATER	FB	1	grab	N	X	SW9010/9012 Total Cyanide (auto)		
2	FIELDQC	0.0	0.0	4/24/2013	11:00	BLKWATER	WATER	EB	1	grab	N	X	SW6010 Chromium		
3													Field Filtered Sample ?		
4													Composite/Grab		
5													SW9010/9012 Total Cyanide (auto)		
6													SW9010/9012 Total Cyanide (auto)		
7															
8															
9															
10															
11															
12															

Relinquished by: Amanda Penafiel
Received by: MMS
Date/Time: 4/23/13 12:50
Company: Company

Relinquished by:
Received by:
Date/Time:
Company:

Preservatives: (Other, Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH, Zn Acetate); 6 (NaOH, Zn Acetate); 7 (H2SO4 pH<2); 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2SO9); 13 (Zn Acetate); sp (special Instructions)

Appendix D
Drainage Layer Sampling Program Data

Appendix D-1
Raw Laboratory Data—May 2013

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

June 05, 2013

Project: Baltimore Inner Harbor, MD

Submittal Date: 05/23/2013

Group Number: 1392211

SDG: BHB09

PO Number: 4500013806

State of Sample Origin: MD

<u>Client Sample Description</u>	<u>Lancaster Labs (LLD) #</u>
30905_DLF_1_052313 Grab Water	7068410
30905_DL_1_052313 Grab Water	7068411
30905_DLF_2_052313 Grab Water	7068412
30905_DL_2_052313 Grab Water	7068413
30905_DLF_3_052313 Grab Water	7068414
30905_DL_3_052313 Grab Water	7068415
30905_DLF_4_052313 Grab Water	7068416
30905_DL_4_052313 Grab Water	7068417
30905_DLDF_4_052313 Grab Water	7068418
30905_DLD_4_052313 Grab Water	7068419
30905_FBF_1_052313 Grab Water	7068420
30905_EBF_1_052313 Grab Water	7068421
30905_FB_1_052313 Grab Water	7068422
30905_EB_1_052313 Grab Water	7068423

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Honeywell International	Attn: Ken Biles
ELECTRONIC COPY TO	Critigen	Attn: Amy Klopper
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Robert Steele
ELECTRONIC COPY TO	Honeywell	Attn: Katherine Beach
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Rakesh Singh

ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Peeyush Gupta
ELECTRONIC COPY TO	CH2M Hill, Inc.	Attn: Bernice Kidd
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Bindu Lingaiah
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Lakshmi Devi
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Parthiban P
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Aruna Chandrashekar
ELECTRONIC COPY TO	Honeywell International, Inc.	Attn: Suraj Nayak

Respectfully Submitted,



Wendy A. Kozma
Principal Specialist Group Leader

(717) 556-7257

Sample Description: 30905_DLF_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068410
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:55 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DL121 SDG#: BHB09-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved							
07051	Chromium	7440-47-3	1.8 J	ug/l	1.1	10.0	1
Wet Chemistry							
08255	Total Cyanide (water)	57-12-5	N.D.	ug/l	5.0	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848007	05/27/2013 21:00	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848007	05/27/2013 09:30	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:42	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068411
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:55 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DF121 SDG#: BHB09-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	3.1 J	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848007	05/27/2013 21:04	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848007	05/27/2013 09:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_2_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068412
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:35 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DL221 SDG#: BHB09-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1
Wet Chemistry						
08255	Total Cyanide (water)	57-12-5	N.D.	5.0	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848007	05/27/2013 21:09	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848007	05/27/2013 09:30	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:46	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_2_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068413
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:35 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DF221 SDG#: BHB09-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848007	05/27/2013 19:31	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848007	05/27/2013 09:30	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_3_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068414
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:20 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DL321 SDG#: BHB09-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved							
07051	Chromium	SW-846 6010B 7440-47-3	1.2 J	ug/l	ug/l	10.0	1
Wet Chemistry							
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	N.D.	ug/l	ug/l	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 20:42	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:47	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_3_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068415
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:20 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DF321 SDG#: BHB09-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 20:46	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLF_4_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068416
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 08:40 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DL421 SDG#: BHB09-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved							
07051	Chromium	SW-846 6010B 7440-47-3	6.9 J	ug/l	ug/l	10.0	1
Wet Chemistry							
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	N.D.	ug/l	ug/l	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 19:32	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:50	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DL_4_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068417
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 08:40 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 05/23/2013 15:10

Reported: 06/05/2013 08:17

DF421 SDG#: BHB09-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	8.3 J	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 20:58	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLDF_4_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068418
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 08:45 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DD421 SDG#: BHB09-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved							
07051	Chromium	SW-846 6010B 7440-47-3	7.3 J	ug/l	ug/l 1.1	ug/l 10.0	1
Wet Chemistry							
08255	Total Cyanide (water)	SW-846 9012A 57-12-5	N.D.	ug/l	ug/l 5.0	ug/l 10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:02	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:49	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_DLD_4_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068419
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 08:45 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

DDF21 SDG#: BHB09-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Limit of Quantitation	Dilution Factor
Metals		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	7.7 J	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:06	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_FBF_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068420
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:00 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

FB121 SDG#: BHB09-11FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1
Wet Chemistry						
08255	Total Cyanide (water)	57-12-5	N.D.	5.0	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:10	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:48	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_EBF_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068421
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:10 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

EB121 SDG#: BHB09-12EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1
Wet Chemistry						
08255	Total Cyanide (water)	57-12-5	N.D.	5.0	10	1

General Sample Comments

This sample was field filtered for dissolved metals and cyanide.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:14	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1
08255	Total Cyanide (water)	SW-846 9012A	1	13154117101A	06/04/2013 11:54	K Robert Caulfeild-James	1
08256	Cyanide Water Distillation	SW-846 9012A	1	13154117101A	06/03/2013 14:30	Carolyn M Mastropietro	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_FB_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068422
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:00 by AP

Honeywell International, Inc.
101 Columbia Road
MEY-3
Morristown NJ 07962

Submitted: 05/23/2013 15:10

Reported: 06/05/2013 08:17

FF121 SDG#: BHB09-13FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:17	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1

*=This limit was used in the evaluation of the final result

Sample Description: 30905_EB_1_052313 Grab Water
Baltimore Inner Harbor

LLI Sample # WW 7068423
LLI Group # 1392211
Account # 10651

Project Name: Baltimore Inner Harbor, MD

Collected: 05/23/2013 09:10 by AP

Honeywell International, Inc.

Submitted: 05/23/2013 15:10

101 Columbia Road

Reported: 06/05/2013 08:17

MEY-3

Morristown NJ 07962

EF121 SDG#: BHB09-14EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	ug/l	ug/l	ug/l	
07051	Chromium	7440-47-3	N.D.	1.1	10.0	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07051	Chromium	SW-846 6010B	1	131441848006	05/27/2013 21:21	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	131441848006	05/27/2013 09:22	James L Mertz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Honeywell International, Inc.
Reported: 06/05/13 at 08:17 AM

Group Number: 1392211

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 131441848006 Chromium	Sample number(s): 7068414-7068423 N.D.	1.1	10.0	ug/l	103		90-110		
Batch number: 131441848007 Chromium	Sample number(s): 7068410-7068413 N.D.	1.1	10.0	ug/l	102		90-110		
Batch number: 13154117101A Total Cyanide (water)	Sample number(s): 7068410,7068412,7068414,7068416,7068418,7068420-7068421 N.D.	5.0	10	ug/l	93		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 131441848006 Chromium	Sample number(s): 7068414-7068423 102	101	81-120	1	20	UNSPK: 7068416 6.9	BKG: 7068416 J 7.6	J 10 (1)	20
Batch number: 131441848007 Chromium	Sample number(s): 7068410-7068413 102	104	81-120	1	20	UNSPK: 7068413 N.D.	BKG: 7068413 N.D.	0 (1)	20
Batch number: 13154117101A Total Cyanide (water)	Sample number(s): 7068410,7068412,7068414,7068416,7068418,7068420-7068421 78		43-137			UNSPK: 7068410 BKG: 7068410 N.D.	N.D.	0 (1)	20

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but \geq IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>$ 25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA $<$ 0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Appendix D-2
Chain-of-Custody Records—May 2013

10651/1392211 / 7068410-23

30905-052813-22

Lancaster Laboratories											Honeywell Chain Of Custody / Analysis Request											AESI Ref: 41417.36403	
2425 New Holland Pike Lancaster, PA 17605-2425 (717) 656-2300																						COC#: 40905 42410 02	
Sampling Co.: Maryland Environmental Service											Site Name: Baltimore											Lab Proj # (SDG):	
Client Contact: (name, co., address) Christopher French 101 Columbia Road, Meyer 3 Morristown, NJ 07982 Preliminary Data To: kennethbiles@ch2m.com Sample Receipt Acknowledgement To: kennethbiles@ch2m.com Hard Copy To: Kenneth Biles Invoice To: Christopher French											Location of Site: BALTIMORE, MD											Lab ID: LLI	
EDD To: Locus Focus EIM											Phase: Sampling Program											Site ID: BALTIMORE	
Sampler: Amanda Peñafiel, Rachel Griner											Analysis Turnaround Time (TAT): 14											Lab Job #:	
PO #: 4500013806											Consultant: CH2M											Authorized User: Honeywell	
Full Report TAT: 28											SW6010 Chromium											Text & Excel File Drive Order	
SW9010/9012 Total Cyanide (auto)											SW9010/9012 Total Cyanide (auto)											Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.	
Sample Identification																						Excel & Text File Order	
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	ug/L	ug/L	ug/L									Sampling Method (code)	Lab Sample Numbers
1	FIELDQC	-	-	30905_FB_1_52313	5/23/2013	0900	BLKWATER	WATER	FB	1	grab	N	X										
2	FIELDQC	-	-	30905_EB_1_52313	5/23/2013	0910	BLKWATER	WATER	EB	1	grab	N	X										
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Relinquished by: <i>MES</i> Company	Received by: <i>CH2M</i> Company	Condition: Intact	Custody Seals Intact
<i>Amanda Peñafiel</i> Date/Time: 5/23/13 1140	<i>R. Griner</i> Date/Time: 5/23/13 1134	Cooler Temp.	
Relinquished by: <i>CH2M</i> Company	Received by: <i>LVE</i> Company	Condition: Intact	Custody Seals Intact
<i>R. Griner</i> Date/Time: 5/23/13 1520	<i>Tom</i> Date/Time: 5/23/13 1520	Cooler Temp. 5.4	13.2

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Relinquished time 5/23/13 1520

5/23/13 1510

BALTIMORE INNER HARBOR DRAINAGE LAYER MONITORING

May 23, 2013



METER CALIBRATION LOG

Date	Time	Meter	Buffer	Int	Comments
3/8/13	0730	YSI 63	7,4,10	AP	BIH Surface Water
3/9/13	0840	YSI 63	7,4,10	RDD	DMT Dry weather
3/13/13	0822	YSI 63	7,4,10	J.E.	DMT WET
4/17/13	0800	Horiba 1	Auto Cal	AP	BIH GW Monitoring
4/20/13	0803	YSI 63	7,4,10	RDD	DMT wet
4/24/13	0830	Horiba 1	7,4,10	RG	BIH drainage layer samp.
4/30/13	0845	YSI 63	7,4,10	RG	NPDES wet weather
5/6/13	0930	YSI 63	7,4,10	mm	BIH Surface Water
5/8/13	1000	YSI 63	7,4,10	RG	NPDES wet weather
5/23/13	0745				
5/23/13	0745	Horiba 1	Auto Cal	AP	BIH Toe drain

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

FIELD NOTES

BIT Drainage Layer Sampling

5/23/13

Amanda Penahiel, Rachel Griner

SSMP 1

Sample #: 30905-DLF-1-52313
30905-DL-1-52313

Sample collection time: 0955

beginning depth to water: 4.20'

ending depth to water: 4.50'

depth to bottom: 4.60'

pH: 6.98 units

DO: 5.14 mg/L

Sp. cond: 0.75 mS/cm

Turbidity: 4.5 NTU

ORP: 146 mV

temperature: 21.19°C

Equipment Blank

Sample #: 30905-EBF-1-52313

30905-EB-1-52313

Sample collection time: 0916

pH: 7.52 units

DO: 9.98 mg/L

Sp. cond: 0.014 mS/cm

turb: 0.0 NTU

ORP: 48 mV

temperature: 23.56°C

SSMP 2

Sample #: 30905-DLF-2-52313

30905-DL-2-52313

Sample collection time: 0935

beginning depth to water: 2.50'

ending depth to water: 2.80'

depth to bottom: 4.90'

pH: 6.90 units

DO: 3.80 mg/L

Sp. cond: 1.20 mS/cm

turbidity: 1.9 NTU

ORP: 78 mV

temperature: 21.65°C

BH Drainage Layer Sampling continued
AP, R67

5/23/13

SSMP 3

Sample #: 30905 - DLF - 3 - 52313
30905 - DL - 3 - 52313

Sample collection time: 0920
beginning depth to water: 3.40'
ending depth to water: 3.45'
depth to bottom: 7.10'
pH: 7.00 units
DO: 8.05 mg/L
Sp. Cond: 18.9 ms/cm
turbidity: 1.3 NTU
ORP: -98 mV
temperature: 22.54°C

Field Blank

Sample #: 30905 - FBF - 1 - 52313
30905 - FB - 1 - 52313
Sample collection time: 0900

SSMP 4

Sample #: 30905 - DLF - 4 - 52313
30905 - DL - 4 - 52313

Sample collection time: 0840
beginning depth to water: 3.75'
ending depth to water: 4.10'
depth to bottom: 8.85'
pH: 6.51 units
DO: 8.64 mg/L
Sp. Cond: 1.83 ms/cm
turbidity: 0.0 NTU
ORP: 218 mV
temperature: 20.05°C

SSMP 4 DUP

Sample #: 30905 - DLDF - 4 - 52313
30905 - DLD - 4 - 52313

Sample collection time: 0845

CHAIN of CUSTODY

Lancaster Laboratories

2425 New Holland Pike
Lancaster, PA 17605-2425
(717) 656-2300

Honeywell

Chain Of Custody / Analysis Request

ACESI Ref: 41417.36922

COC# 30905-042413-01

Privileged & Confidential
EDD To: Locus Focus EIM
Sampler: Amanda Peñañiel, Rachel Griner
PO #: 4500013806
Analyst Turnaround Time (TAT): Consultant
Analysis Turnaround Time (TAT): 14
CH2M

Site Name: Baltimore
Location of Site: BALTIMORE, MD

Phase: Sampling Program

Lab Proj # (SDG): LLI
Lab ID: BALTIMORE
Authorized User: Honeywell

Client Contact: (name, co., address)
Christopher French
101 Columbia Road, Meyer 3
Morristown, NJ 07982
Preliminary Data To: kennethbiles@ch2m.com
Sample Receipt: kennethbiles@ch2m.com
Acknowledgement To: kennethbiles@ch2m.com
Hard Copy To: Kenneth Biles
Invoice To: Christopher French

Full Report TAT: 28

Composite/Grab	Field Filtered Sample ?	ug/L	ug/L
SW6010 Chromium		3	5
SW9010/9012 Total Cyanide (auto)			

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Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab		Phase
										Units	ug/L	
1	4.2	4.5	30905_DLF_1_52313	5/29/2013	0755	W-SW	WATER	REG	2	grab	Y	X
2	4.2	4.5	30905_DL_1_52313	5/29/2013	0755	W-SW	WATER	REG	1	grab	N	X
3	2.5	2.8	30905_DLF_2_52313	5/29/2013	0755	W-SW	WATER	REG	2	grab	Y	X
4	2.5	2.8	30905_DL_2_52313	5/29/2013	0735	W-SW	WATER	REG	1	grab	N	X
5	3.4	3.45	30905_DLF_3_52313	5/29/2013	0720	W-SW	WATER	REG	2	grab	Y	X
6	3.4	3.45	30905_DL_3_52313	5/29/2013	0720	W-SW	WATER	REG	1	grab	N	X
7	3.75	4.10	30905_DLF_4_52313	5/29/2013	0840	W-SW	WATER	REG	2	grab	Y	X
8	3.75	4.10	30905_DL_4_52313	5/29/2013	0840	W-SW	WATER	REG	1	grab	N	X
9	3.75	4.10	30905_DLF_4_52313	5/29/2013	0845	W-SW	WATER	FD	2	grab	Y	X
10	3.75	4.10	30905_DL_4_52313	5/29/2013	0845	W-SW	WATER	FD	1	grab	N	X
11	FIELD QC	-	30905_FBF_1_52313	5/29/2013	0900	BLK WATER	WATER	FB	2	grab	Y	X
12	FIELD QC	-	30905_EBF_1_52313	5/29/2013	0940	BLK WATER	WATER	EB	2	grab	Y	X

Relinquished by: MFS Company Date/Time: 5/23/13 1140
 Relinquished by: [Signature] Company Date/Time: 5/23/13 1140
 Received by: [Signature] Company Date/Time: 5/23/13 1140
 Condition: Cooler Temp.
 Custody Seals Intact

Preservatives: (Other: Specify):
 0: (none); 1: (4 Deg C); 2: (HCl pH<2); 3: (HNO3 pH<2); 4: (H2SO4 pH<2); 5: (NaOH pH>12); 6: (NaOH, Zn Acetate); 7: (H2SO4 (pH<2), 4 Deg C)); 8: (HCl pH<2); 9: (HCl 4 Deg C); 10: (HNO3 (pH<2), 4 Deg C); 11: (4C NaOH (pH>12) & Ascorbic Acid); 12: (4C H2SO4 (pH<2) & Na2S2O3); 13: (Zn Acetate); sp: (special instructions)

Lancaster Laboratories

2425 New Holland Pike
Lancaster, PA 17605-2425
(717) 656-2300

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 4141736403

COG#: 30905-4243-02

Lab Proj # (SDG):

LLI

Lab ID

BALTIMORE

Site ID

BALTIMORE

Lab Job #

Honeywell

Authorized User:

Excel & Text File Order

Text & Excel File Drive

Excel & Text File Order

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Client Contact: (name, co., address)
Christopher French
101 Columbia Road, Meyer 3
Morristown, NJ 07982
Preliminary Data To: kennethbliss@ch2m.com
Sample Receipt Acknowledgement To: kennethbliss@ch2m.com
Hard Copy To: Kenneth Bliss
Christopher French

Privileged & Confidential
EDD To: Locus Focus EIM
Sampler: Amanda Penafiel, Rachel Griner
PO #: 4500013806
Analysis Turnaround Time (TAT): 14
Consultant
Full Report TAT: 28

Site Name: Baltimore
Location of Site: BALTIMORE, MD
Phase: Sampling Program
SW6010 Chromium: 3 ug/L
SW9010/9012 Total Cyanide (auto): 5 ug/L
SW9010/9012 Total Cyanide (auto): 0 ug/L

Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab		Field Filtered Sample ?	SW6010 Chromium	SW9010/9012 Total Cyanide (auto)	SW9010/9012 Total Cyanide (auto)
										Units	ug/L				
1			30905_FB_1_52313	5/29/2013	0910b	BLKWATER	WATER	FB	1	grab	N	X			
2			30905_EB_1_52313	5/29/2013	0910	BLKWATER	WATER	EB	1	grab	N	X			
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Relinquished by: MWS
Company: CH2M
Date/Time: 5/23/13 1140
Received by: [Signature]
Date/Time: 5/23/13 1140
Condition: Cooler Temp.
Custody Seals Intact: Yes

Preservatives: (Other, Specify):
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4 Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate), sp (Special Instructions)

Appendix E
Quarterly Validation Report

Appendix E-1
Quality Control Summary—Second Quarter 2013

QUALITY CONTROL SUMMARY

This section is a summary of the quality control (QC) review results for samples collected on March 8, April 17, and May 23, 2013, for the Honeywell, Baltimore Inner Harbor project. Lancaster Laboratories of Lancaster, Pennsylvania performed the chemical analyses for all samples. The samples were verified in accordance with National Functional Guidelines for Inorganic Review (U.S. EPA 2002) as applicable to the specification contained in SW-846 methodologies, and the project specific requirements set forth in the Work Plan. Five sample delivery groups (SDG's) were associated with this data set: BHB01, BHB02, BHB03, BHB04, and BHB09. All field samples and associated QC samples were analyzed for total and/or dissolved chromium by SW-846 6010B. Samples were filtered in the field for dissolved metals analysis. Samples in BHB04 and BHB09 were also analyzed for cyanide by SW-846 9012A.

The quality of the data was assessed according to the U.S. EPA's PARCC (precision, accuracy, representativeness, completeness, and comparability) parameters. These criteria were used to identify unacceptable or biased data that could result in corrective actions being implemented or otherwise require qualification of the data. The following is a brief summary of PARCC criteria that were reviewed during verification of the data.

PRECISION AND ACCURACY

Precision and accuracy were evaluated based on the QC results generated from laboratory matrix spike and matrix spike duplicate (MS/MSD) samples, laboratory control samples (LCS), laboratory control duplicate (LCSD) samples, and laboratory duplicate samples. In addition, initial and continuing calibration results were used to assess accuracy.

REPRESENTATIVENESS

Representativeness was evaluated through the analysis of method blank samples, field blank samples, and calibration blank samples. Analysis of these types of samples is important to distinguish between ambient sampling and analytical levels, and actual site contamination.

COMPLETENESS

Data completeness was evaluated based on the samples requested on the chain-of-custody documentation and the samples reported by the laboratory.

COMPARABILITY

Comparability was achieved by analyzing the samples according to the specified standard methods. Lancaster laboratory used U.S. EPA methods for the analysis of the samples. The reporting limits were elevated if the sample was analyzed at a dilution.

The following paragraphs summarize the review of data based on the PARCC criteria.

FIELD DUPLICATES

Seven chromium and two cyanide field duplicate samples were collected during this sampling event and analyzed. All acceptance criteria for precision were met.

LABORATORY REPLICATES

Two cyanide and seven chromium laboratory replicates were analyzed during this sampling round. All acceptance criteria for precision were met.

LABORATORY BLANKS

Chromium and cyanide were not detected in the calibration or laboratory method blanks.

FIELD BLANKS

Four chromium and two cyanide equipment rinsate blank samples and three chromium and two cyanide field blank samples were collected during these sampling events. Neither chromium nor cyanide were not detected in the field blank samples.

MATRIX SPIKE/MATRIX SPIKE DUPLICATES

One MS/MSD set was analyzed during this sampling event. All acceptance criteria for precision were met, with the following exception:

Cyanide was recovered below acceptance criteria in the matrix spike associated with sample 30905-GW-OP2-041713. The parent sample result was qualified as an estimated non-detect, "UJ".

SAMPLE RECEIPT, HOLDING TIMES AND PRESERVATION

The samples were received at the recommended temperature of $4\pm 2^{\circ}\text{C}$. All samples were prepared and analyzed within holding time criteria.

SUMMARY OF DATA QUALITY AND RELIABILITY

The evaluation of the data against PARCC criteria provided information on the data quality and reliability. All data are of known and acceptable quality based on the laboratory-established acceptance control limits or U.S. EPA guidance.

Table 1 – Data Qualification Summary

Field Sample ID	Method	Analyte	Result	Units	Final Flag	Reason
30905-GW-OP2-041713	SW9012	Total Cyanide	5	ug/l	UJ	MSL

Notes:

MSL = The compound was recovered below criteria in the matrix spike sample.

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SDG BHB01

Calibration Verification

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1720	600	612.42	102.070	102.1	90 110	
ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1724	15	0.61	0.08	0.61	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1741	500	502.11	100.422	100.4	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1745	15	0.61	-0.08	0.61	U	ug/l
PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1749	15	1.1	0.05	1.1	U	µg/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1832	500	499.68	99.936	99.9	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1836	15	0.61	0	0.61	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1937	500	492.94	98.588	98.6	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1941	15	0.61	0.1	0.61	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	2012	500	499.33	99.866	99.9	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2025	15	0.61	0.13	0.61	U	ug/l
ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0008	600	600.52	100.087	100.1	90 110	
ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0012	15	0.61	0.03	0.61	U	ug/l

(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(N/A) Not Applicable

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SDG BHB01

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0027	500	496.72	99.344	99.3	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0031	15	0.61	0.08	0.61	U	ug/l

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0035	15	1.1	0.01	1.1	U	µg/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0116	500	494.18	98.836	98.8	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0120	15	0.61	0.12	0.61	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0203	500	491.75	98.350	98.4	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0207	15	0.61	-0.3	0.61	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0247	500	504.2	100.840	100.8	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0251	15	0.61	-0.14	0.61	U	ug/l

Interference Check Samples (ICS)

Initial	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		500	476.6	95.320	95.3	80 120

Final	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		500	478.8	95.760	95.8	80 120

Initial	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		500	477.1	95.420	95.4	80 120

Final	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		500	485.3	97.060	97.1	80 120

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SDG BHB01

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Client Sample ID: 6977981BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	1.1	207.46	202	200	200	103.180	100.450	103	101	81 120	2.667	3	20

Client Sample ID: 6977994BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	198.89	201.27	200	200	99.445	100.635	99	101	81 120	1.190	1	20

Duplicates (Dup)

Client Sample ID: 6977981BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	1.1	0	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Client Sample ID: 6977994BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	0	0	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	205.1	102.550	103	80 120

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	204.53	102.265	102	80 120

Serial Dilutions

Client Sample ID: 6977981BKG

Element	Raw Sample Result	Raw Ser. Dil. Result	(%D)	Reported % Rec.	Limits (%D)
Cr	1.1	0	N/A	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Client Sample ID: 6977994BKG

Element	Raw Sample Result	Raw Ser. Dil. Result	(%D)	Reported % Rec.	Limits (%D)
Cr	0	0	N/A	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

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SDG BHB02

Calibration Verification

(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(N/A) Not Applicable

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1642	600	598.78	99.797	99.8	90 110

ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1646	15	1.2	-0.4	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1701	500	486.75	97.350	97.4	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1705	15	1.2	-0.22	1.2	U	ug/l

PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1716	15	1.1	-0.44	1.1	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1756	500	488.82	97.764	97.8	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1800	15	1.2	-0.07	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1844	500	497.66	99.532	99.5	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1847	15	1.2	-0.62	1.2	U	ug/l

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2159	600	583.73	97.288	97.3	90 110

ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2203	15	1.2	-0.2	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2219	500	487.34	97.468	97.5	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2223	15	1.2	0.12	1.2	U	ug/l

PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2227	15	1.1	0.23	1.1	U	ug/l

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SDG BHB02

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2309	500	504.91	100.982	101	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2313	15	1.2	0.44	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2359	500	492.81	98.562	98.6	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0002	15	1.2	-0.48	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0022	500	490.09	98.018	98	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0026	15	1.2	-0.11	1.2	U	ug/l

Interference Check Samples (ICS)

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	472.6	94.520	94.5	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	476.6	95.320	95.3	80 120

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	481.5	96.300	96.3	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	478.3	95.660	95.7	80 120

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Client Sample ID: 6978003BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	192.29	191.84	200	200	96.145	95.920	96	96	81 120	0.234	0	20

Client Sample ID: 6978016BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	186.5	191.15	200	200	93.250	95.575	93	96	81 120	2.463	2	20

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SDG BHB02

Duplicates (Dup)

Client Sample ID: 6978003BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	0	0	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Client Sample ID: 6978016BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	0	0	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	193.59	96.795	97	80 120

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	193.88	96.940	97	80 120

Serial Dilutions

Client Sample ID: 6978003BKG

Element	Raw Sample Result	Raw Ser. Dil. Result (%D)	Reported % Rec.	Limits (%D)
Cr	0	0	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Client Sample ID: 6978016BKG

Element	Raw Sample Result	Raw Ser. Dil. Result (%D)	Reported % Rec.	Limits (%D)
Cr	0	0	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

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SDG BHB03

Calibration Verification

(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(NA) Not Applicable

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0008	600	600.52	100.087	100.1	90 110	
ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0012	15	1.2	0.03	1.2	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0027	500	496.72	99.344	99.3	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0031	15	1.2	0.08	1.2	U	ug/l
PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0035	15	1.1	0.01	1.1	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0116	500	494.18	98.836	98.8	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0120	15	1.2	0.12	1.2	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0203	500	491.75	98.350	98.4	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0207	15	1.2	-0.3	1.2	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	0247	500	504.2	100.840	100.8	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0251	15	1.2	-0.14	1.2	U	ug/l
ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1642	600	598.78	99.797	99.8	90 110	
ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1646	15	1.2	-0.4	1.2	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1701	500	486.75	97.350	97.4	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1705	15	1.2	-0.22	1.2	U	ug/l
PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1716	15	1.1	-0.44	1.1	U	ug/l
CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits	
Cr	1756	500	488.82	97.764	97.8	90 110	
CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1800	15	1.2	-0.07	1.2	U	ug/l

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SDG BHB03

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1844	500	497.66	99.532	99.5	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1847	15	1.2	-0.62	1.2	U	ug/l

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0407	600	584.95	97.492	97.5	90 110

ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0412	15	1.2	-0.05	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0428	500	476.45	95.290	95.3	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0432	15	1.2	-0.61	1.2	U	ug/l

PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0438	15	1.1	-0.37	1.1	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0519	500	492.87	98.574	98.6	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0523	15	1.2	-0.3	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0610	500	484.21	96.842	96.8	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0614	15	1.2	-0.29	1.2	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	0700	500	482.46	96.492	96.5	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	0704	15	1.2	-0.94	1.2	U	ug/l

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SDG BHB03

Interference Check Samples (ICS)

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	477.1	95.420	95.4	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	485.3	97.060	97.1	80 120

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	472.6	94.520	94.5	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	476.6	95.320	95.3	80 120

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	460.1	92.020	92	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	462.2	92.440	92.4	80 120

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Client Sample ID: *77994BK

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	198.89	201.27	200	200	99.445	100.635	99	101	81 120	1.190	1	20

Client Sample ID: *78016BK

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	186.5	191.15	200	200	93.250	95.575	93	96	81 120	2.463	2	20

Client Sample ID: 6978016BK

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	193.98	190.1	200	200	96.990	95.050	97	95	81 120	2.020	2	20

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SDG BHB03

Duplicates (Dup)

Client Sample ID: 77994BK

Element	Raw Sample		Dup Result	RPD	Reported RPD	RPD Limits
	Result	Result				
Cr	0	1.3 B	N/A	0	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Client Sample ID: 78016BK

Element	Raw Sample		Dup Result	RPD	Reported RPD	RPD Limits
	Result	Result				
Cr	0	0	N/A	0	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Client Sample ID: 8978016BK

Element	Raw Sample		Dup Result	RPD	Reported RPD	RPD Limits
	Result	Result				
Cr	0	0	N/A	0	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found		% Rec.	Reported % Rec.	Limits
		Found	% Rec.			
Cr	200	204.53	102.265	102	80	120

Element	True	Raw Found		% Rec.	Reported % Rec.	Limits
		Found	% Rec.			
Cr	200	193.88	96.940	97	80	120

Element	True	Raw Found		% Rec.	Reported % Rec.	Limits
		Found	% Rec.			
Cr	200	204.31	102.155	102	80	120

Serial Dilutions

Client Sample ID: 77994BK

Element	Raw Sample		Ser. Dil.	Result	(%D)	Reported % Rec.	Limits (%D)
	Sample	Result					
Cr	0	0	N/A	N/A	N/A	10	

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Client Sample ID: 78016BK

Element	Raw Sample		Ser. Dil.	Result	(%D)	Reported % Rec.	Limits (%D)
	Sample	Result					
Cr	0	0	N/A	N/A	N/A	10	

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Client Sample ID: 8978016BK

Element	Raw Sample		Ser. Dil.	Result	(%D)	Reported % Rec.	Limits (%D)
	Sample	Result					
Cr	0	0	N/A	N/A	N/A	10	

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

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SDG BHB04 - Chromium

Calibration Verification

*(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(NA) Not Applicable*

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0733	600	583.73	97.288	97.3	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0737	15	1.6	-0.2	1.6	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0752	500	494.35	98.870	98.9	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0756	15	1.6	-0.51	1.6	U	ug/l

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0800	15	1.1	-1.56	-1.56	B	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0840	500	490.44	98.088	98.1	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0844	15	1.6	-1.94	-1.94	B	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0927	500	492	98.400	98.4	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0931	15	1.6	-1.2	1.6	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0946	500	495.18	99.036	99	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0950	15	1.6	-0.88	1.6	U	ug/l

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0530	600	591.99	98.665	98.7	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0535	15	1.6	0.55	1.6	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr		0556	500	491.06	98.212	98.2	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr		0601	15	1.6	0.53	1.6	U	ug/l

Level 4 Verification Spreadsheet for Metals
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SDG BHB04 - Chromium

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	0653	500	499.59	99.918	99.9	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cr	0658	15	1.6	0.42	1.6	U	ug/l

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	0727	500	491.7	98.340	98.3	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cr	0732	15	1.6	1.14	1.6	U	ug/l

Interference Check Samples (ICS)

Initial	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	500	487.1	97.420	97.4	80 120

Final	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	500	488.5	97.700	97.7	80 120

Initial	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	500	481.1	96.220	96.2	80 120

Final	Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cr	500	478.3	95.660	95.7	80 120

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Client Sample ID: 7027670BKGG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	3949.43	4147.06	4124.47	200	200	98.815	87.520	99	88	81 120	0.546	1	20

Duplicates (Dup)

Client Sample ID: 7027670BKGG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	3949.43	3997.78	1.216779	1	20

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	207.29	103.645	104	80 120

Serial Dilutions

Client Sample ID: 7027670BKGG

Element	Raw Sample Result	Raw Ser. Dil. Result	(%D)	Reported % Rec.	Limits (%D)
Cr	3949.43	3842.35	2.711277	3	10

Level 4 Verification Spreadsheet for Metals
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SDG BHB04 - Cyanide

Calibration Verification

*(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(NA) Not Applicable*

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0731	0.15	0.14	93.333	93	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0732	0.01	0.005	-0.0018	0.005	U	mg/L

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0735	0.01	0.005	-0.001	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0745	0.15	0.1513	100.867	101	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0746	0.01	0.005	-0.0018	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0900	0.15	0.1574	104.933	105	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0902	0.01	0.005	-0.0018	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0909	0.15	0.1463	97.533	98	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0910	0.01	0.005	-0.0018	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0914	0.15	0.1536	102.400	102	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0916	0.01	0.005	-0.0026	0.005	U	mg/L

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1428	0.15	0.1485	99.000	99	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1429	0.01	0.005	-0.0018	0.005	U	mg/L

Level 4 Verification Spreadsheet for Metals
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SDG BHB04 - Cyanide

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1433	0.01	0.005	-0.0009	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1442	0.15	0.1448	96.533	97	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1443	0.01	0.005	-0.0018	0.005	U	mg/L

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	0954	0.15	0.1364	90.933	91	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0955	0.01	0.005	-0.0014	0.005	U	mg/L

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	0957	0.01	0.005	-0.0018	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1008	0.15	0.1594	106.267	106	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1009	0.01	0.005	-0.0014	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1022	0.15	0.1506	100.400	100	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1023	0.01	0.005	-0.0014	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1045	0.15	0.148	98.667	99	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1046	0.01	0.005	-0.0014	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1058	0.15	0.144	96.000	96	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1059	0.01	0.005	-0.0014	0.005	U	mg/L

Level 4 Verification Spreadsheet for Metals
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SDG BHB04 - Cyanide

Matrix Spikes (MS)

Client Sample ID: 7027671 MS

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cyanide	0.005	0.005	n/a	0.2	n/a	0.000	n/a	0	n/a	83 111	n/a	n/a	20

Duplicates (Dup)

Client Sample ID: 7027671

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cyanide	0	0	N/A	N/A	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the POL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cyanide	0.2	0.19	95.000	95	80 120

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cyanide	0.2	0.2	100.000	101	80 120

Level 4 Verification Spreadsheet for Metals
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SDG BHB09 - Chromium

Calibration Verification

*(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(NA) Not Applicable*

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1855	600	595.93	99.322	99.3	90 110

ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1859	15	1.6	0.17	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1915	500	493.28	98.656	98.7	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1919	15	1.6	-0.07	1.6	U	ug/l

PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1923	15	1.1	0.22	1.1	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2003	500	502.31	100.462	100.6	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2007	15	1.6	-0.02	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2052	500	503.37	100.674	100.7	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2056	15	1.6	0.33	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2138	500	504.23	100.846	100.8	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2142	15	1.6	0.01	1.6	U	ug/l

ICV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1858	600	588.46	98.077	98.1	90 110

ICB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1902	15	1.6	-0.84	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	1917	500	491.34	98.268	98.3	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1921	15	1.6	-0.24	1.6	U	ug/l

Level 4 Verification Spreadsheet for Metals
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SDG BHB09 - Chromium

PBW Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	1925	15	1.1	-0.22	1.1	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2003	500	491.97	98.394	98.4	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2007	15	1.6	-0.96	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2051	500	495.68	99.136	99.1	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2054	15	1.6	-0.43	1.6	U	ug/l

CCV Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	2137	500	495.03	99.006	99	90 110

CCB Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
Cr	2140	15	1.6	-0.88	1.6	U	ug/l

Interference Check Samples (ICS)

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	492.2	98.440	98.4	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	494.8	98.960	99	80 120

Initial Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	485.7	97.140	97.1	80 120

Final Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	500	493.9	98.780	98.8	80 120

Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

Client Sample ID: 7068413BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	0	204.83	207.38	200	200	102.415	103.690	102	104	81 120	1.237	1	20

Client Sample ID: 7068416BKG

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cr	6.9	209.99	207.98	200	200	101.545	100.540	102	101	81 120	0.962	1	20

Level 4 Verification Spreadsheet for Metals
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SDG BHB09 - Chromium

Duplicates (Dup)

Client Sample ID: 7068413BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	0	0	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Client Sample ID: 7068416BKG

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cr	6.9	7.6	N/A	0	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	205.85	102.925	103	80 120

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cr	200	204.4	102.200	102	80 120

Serial Dilutions

Client Sample ID: 7068413BKG

Element	Raw Sample Result	Raw Ser. Dil. Result	(%D)	Reported % Rec. (%D)	Limits
Cr	0	0	N/A	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Client Sample ID: 7068416BKG

Element	Raw Sample Result	Raw Ser. Dil. Result	(%D)	Reported % Rec. (%D)	Limits
Cr	6.9	0	N/A	N/A	10

Comment: Serial dilution is not applicable (N/A), sample concentrations less than fifty times the MDL.

Level 4 Verification Spreadsheet for Metals
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SDG BHB09 - Cyanide

Calibration Verification

ICV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1137	0.15	0.1554	103.600	104	90 110

ICB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1139	0.01	0.005	0.0011	0.005	U	mg/L

PBW	Element	ID(time)	RL	MDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1141	0.01	0.005	0.0013	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1151	0.15	0.1406	93.867	94	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1153	0.01	0.005	0.0011	0.005	U	mg/L

CCV	Element	ID(time)	True	Raw Found	% Rec.	Reported % Rec.	Limits
	Cyanide	1205	0.15	0.1577	105.133	105	90 110

CCB	Element	ID(time)	RL	IDL	Raw Conc.	Reported Conc.	Lab Flag	Units
	Cyanide	1206	0.01	0.005	0.0011	0.005	U	mg/L

(ICV) Initial Calibration Verification
(ICB) Initial Calibration Blank
(CCB) Continuing Calibration Blank
(PBW) Preparation Blank
(CCV) Continuing Calibration Verification
(IDL) Instrument Detection Limit
(MDL) Method Detection Limit
(RL) Reporting Limit
(N/A) Not Applicable

Matrix Spikes (MS)

Client Sample ID: 7068410 MS

Element	Sample Result	Raw MS Result	Raw MSD Result	MS Spike Amount	MSD Spike Amount	MS % Rec.	MSD % Rec.	Reported MS % Rec.	Reported MSD % Rec.	% Rec. Limits	RPD	Reported RPD	RPD Limits
Cyanide	0.005	0.16	n/a	0.2	n/a	77.500	n/a	78	n/a	83 111	n/a	n/a	20

Duplicates (Dup)

Client Sample ID: 7068410

Element	Raw Sample Result	Raw Dup Result	RPD	Reported RPD	RPD Limits
Cyanide	0	0	N/A	N/A	20

Comment: RPD is not applicable (N/A), sample concentrations less than five times the PQL of 5 µg/l.

Laboratory Control Samples

Element	True	Raw Found	% Rec.	Reported % Rec.	Limits
Cyanide	0.2	0.19	95.000	95	80 120