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SOUTH POINT PLANT SUPERFUND SITE
2011 ANNUAL GROUNDWATER MONITORING REPORT
South Point, Ohio

Prepared for:

Honeywell

1985 Douglas Drive N
Golden Valley, MN 55422

Prepared by:

AMEC Environment & Infrastructure
Edina, Minnesota

April 2012

Project 3293111429

April 20, 2012

Project 3293111429

Mr. Nabil Fayoumi
Remedial Project Manager
Superfund Division
U.S. EPA – Region V
77 West Jackson Blvd.
Chicago, IL 60604

Dear Mr. Fayoumi:

Subject: SOUTH POINT PLANT SUPERFUND SITE
2011 ANNUAL GROUNDWATER MONITORING REPORT

On behalf of Honeywell International Inc. (Honeywell), Amec Environment & Infrastructure (Amec) is pleased to provide you with one copy of the 2011 Annual Groundwater Monitoring Report, South Point Plant Superfund Site, South Point, Ohio. This submittal is the tenth annual report and presents the groundwater quality and groundwater flow evaluations for two semi-annual sampling events in 2011.

Groundwater flow continues to be generally to the southwest toward the Ohio River. Ammonia and/or nitrate were detected in groundwater samples above their respective Performance Standards (PSs) in a total of two monitoring wells (SPMW-07 and SMPW-09). Beryllium, cadmium, and manganese were detected in an isolated occurrence above their respective PSs in monitoring well SPMW-09 and only manganese in SPMW-08 and SMPW-09.

Please contact Steve Conn at 952-806-0660 should you have any questions regarding this report.

Sincerely yours,
AMEC Environment & Infrastructure

Steve Conn
Senior Principal Scientist

Erin Siewert
Staff Scientist

Enclosed:

South Point Plant Superfund Site, 2011 Annual Groundwater Monitoring Report, South Point, Ohio

cc: Chuck Geadelmann, Honeywell
Kevin O'Hara, Ohio EPA (1 copy)

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1.0 INTRODUCTION

This document presents the annual report for the groundwater monitoring program conducted at the South Point Plant Superfund Site (Site) in South Point, Ohio during the year 2011. This report was prepared, in accordance with the Final Design Report for the South Point Plant Superfund Site (Parsons Engineering Science, 2001). Groundwater quality and flow conditions are monitored semi-annually. The objective of this monitoring is to assess the flow and groundwater quality at the Site until the remedial goals for groundwater are met.

This report presents the site setting, the field methods used for groundwater monitoring, the results of the groundwater monitoring, the National Pollutant Discharge Elimination System (NPDES) permitted discharge trends, and the conclusions and recommendations for monitoring in 2012.

In 2006, a 5-Year Review for the Site, as required by Section 121 of CERCLA, was conducted by the United States Environmental Protection Agency (USEPA) and the Ohio Environmental Protection Agency (Ohio EPA). As a result of the review, the USEPA issued a 5-Year Review Report on May 8, 2006. The report concluded with USEPA requesting the following actions be performed:

- Submittal of an Institutional Controls (ICs) Plan,
- USEPA will work with Honeywell International Inc. (Honeywell) on potential optimization strategies for the groundwater capture system as recommended in the Groundwater Evaluation and Optimization System (GEOS) Report, which was part of the 5-Year Report.
- USEPA and Honeywell will work with Lawrence Economic Development Corporation (LEDC) on issues related to redeveloping their portion of the Northern Fly Ash Ponds for cargo container storage. USEPA's Remedial Program will communicate with the Regional Redevelopment Coordinator to discuss the potential for the LEDC portion of the Site to be nominated for a national redevelopment award.

USEPA and Honeywell have work together to develop the IC plan and draft environmental covenants for property owners located on the site. In March 2012, the USEPA provided final acceptance of the proposed covenants for individual property owners.

On October 2006, MACTEC Engineering and Consulting, Inc. (Mactec), now known as AMEC Environment and Infrastructure, Inc. (Amec), submitted to USEPA a response letter to the findings listed in the GEOS report review of the South Point Superfund Site 5-Year Review

Report. The letter summarized the GEOS findings and provided responses to each, which included clarifying the historic basis for some of the apparent inconsistencies noted by GEOS. In an October 2009 email, USEPA provided comments on Mactec's response letter, which in turn, Mactec provided further response to USEPA comments (December 12, 2009 email).

A Pumping Well Modification Investigation Work Plan was submitted by Mactec to the USEPA and Ohio EPA in June 2010 to provide additional response to the GEOS report. The work plan proposed actions to be taken to prepare for, monitor, and evaluate the effect of temporary cessation of containment wells SPIS-23 and SPIS-24 in the Central Well Field on local groundwater flow directions. Under the existing conditions, the pumping was believed to have no direct benefits, and may even prevent natural attenuation of the Site's plume that would occur as it migrated along the distance from the pumping wells to the Ohio River. These investigation activities included:

- Installation of six monitoring wells at six locations;
- Temporary shutdown of Site pumping wells;
- Installation of two replacement monitoring wells;
- Low-flow groundwater sampling of select monitoring wells; and
- Potentiometric surface mapping.

In March 2011 Mactec submitted a Pumping Well Modification Report to USPEA and Ohio EPA, which summarized the investigation activities, results and recommendation for permanently shutting down the two containment wells at the Site. In September 2011, the USEPA provided conditional approval of the recommendations presented in the Pumping Well Modification Report. The USEPA requested the following actions be performed:

- Shutdown of containment wells SPIS-23 and SPIS-24
- Monitoring wells SPMW-04, SPMW-12, and SPMW-13 to be sampled quarterly for a minimum of two years following containment wells' shutdown
- Analytical results (summary tables) for each monitoring event to be submitted following data validation

On October 14, 2011 both Site containment wells were shutdown in accordance with USEPA's approval letter and the requested quarterly groundwater monitoring program was initiated.

2.0 SITE SETTING

The Site is located on a relatively flat part of an Ohio River terrace, within the eastern flood plain of the Ohio River (Figure 2-1). The Site is situated on 70 to 100 feet of unconsolidated alluvium and glacial outwash sediment resting on bedrock. The glacial sediments comprise the principal

area aquifer. Overlying the bedrock is a relatively uniform silt and fine sand unit which is generally seven to ten feet thick.

Groundwater in the unconsolidated aquifer is present under unconfined conditions. The water table (phreatic surface) occurs at an average elevation of 514 feet above mean sea level (msl) in Site observation wells. This corresponds to an average depth-to-water of 45 feet. The average saturated thickness of the aquifer is 38 feet. Pumping test results indicate that the transmissivity of the aquifer is approximately 13,500 ft^2/day and the average hydraulic conductivity is 386 ft/day. Using an effective porosity of 0.2, groundwater velocities were calculated to range from 3.9 ft/day to 19 ft/day during the Remedial Investigation (RI) (Geraghty & Miller, 1994).

The results from the Site's remedial investigation (RI) indicated that the Site's groundwater was impacted by elevated levels of waste-specific compounds (nitrate and ammonia), sulfate, iron, manganese, and other metals from on-site sources. Contaminant plumes were identified beneath the Site and centered on the Site's Central Well Field and Disposal Area D. Results of a borehole conductivity survey conducted during the RI indicated that contaminant concentrations are highest, in general, near the top of the aquifer and diminish with depth. Preliminary remedial goals (PRGs) were developed for constituents of concern in both soil and groundwater based on the findings of the RI, a Baseline Risk Assessment, and an Ecological Risk Assessment. The PRGs were adopted as Performance Standards (PS) for groundwater. These standards are presented in Table 2-1.

The following remedial action objectives address groundwater and soil for protection of human health and the environment:

- Prevent ingestion of contaminated groundwater (nitrates, ammonia, metals) under the Site by future human receptors,
- Restore quality of the local groundwater under the Site,
- Minimize potential ingestion and dermal contact of contaminated surface soils by current and future human receptors,
- Excavate arsenic contaminated soils in the Mid-Plant Area which exceeds the arsenic PS for soils, and
- Excavate coke-oven gas line drip pots and their surrounding soils which contain contaminants of concern at concentrations exceeding the soil PSs.

The selected remedy for groundwater, as proposed by Remedial Alternative RA-5A in USEPA's Proposed Plan (USEPA, 1997), consisted of:

- Institutional controls,
- Containment through pumping of the existing containment system,
- Discharge to the Ohio River, and
- Groundwater monitoring and submittal of an annual monitoring report.

The remedy for soils, completed in December 2001, consisted of:

- Institutional controls,
- Excavation of wastes from Disposal Area D,
- Excavation of arsenic contaminated soils from the Mid-Plant Area,
- Excavation of the coke-oven gas line drip pots and contaminated soils,
- Consolidation of wastes within the Eastern Disposal Area,
- Construction of an onsite landfill in the Eastern Disposal Area for wastes from Disposal Area D and arsenic contaminated soils from the Mid-Plant Area having concentrations less than 400 milligrams per kilogram (mg/kg), and
- Offsite disposal of the coke-oven gas line drip pots and contaminated soils associated with the drip pots, and arsenic contaminated soils from the Mid-Plant Area having concentrations greater than 400 mg/kg.

3.0 FIELD METHODS

The field activities of the semi-annual groundwater monitoring program were conducted in April and October 2011. The locations of the wells used for containment, water-level monitoring, and groundwater quality monitoring are presented on Figure 3-1.

3.1 WELL NETWORK STATUS

The site's well network consists of:

- Eleven inactive production wells for water level measurement only;
- Two containment wells for groundwater containment and groundwater quality monitoring;
- Fifteen monitoring wells for water level measurement and groundwater quality monitoring;
- Twelve monitoring wells for water level measurement only; and
- One Ohio River water level measuring point.

The status of the well network is summarized in Table 3-1.

The two containment wells, SPIS-23 and SPIS-24, are connected to a remote monitoring system and are inspected at least weekly to monitor their performance throughout the year. Well pressure and production rates were monitored for both wells throughout the year.

On August 5, 2010 the Site's two containment wells were temporarily shut down as part of the pumping well shutdown evaluation program. The purpose of this program was to evaluate the effect of temporary cessation of the Site's containment wells on local groundwater flow directions. The wells were shut down for a total of three months. In addition, a total of six new observation wells were installed on-site to provide adequate data points for hydrologic analysis, with two of the observation wells located adjacent to SPIS-23 and SPIS-24. A report on the result of well shutdown program was submitted to USEPA and Ohio EPA in March 2011. In September 2011 USEPA approved the shutdown of the two containment wells along with requiring additional groundwater sampling activity.

Biomass indicated that monitoring wells SPMW-06R and SPMW-10R were located in an area where they planned to expand a railroad spur on their property. They requested that the wells be removed and installed at other locations to complete their work. In October 2010, Honeywell properly abandoned the two existing wells and relocated them approximately 50 feet from their corresponding original well location.

3.2 WATER LEVEL MEASUREMENTS

Groundwater levels were measured in April and October 2011 to determine the direction of groundwater flow. Static groundwater-level measurements were collected from the monitoring well network during each sampling episode. An electronic water-level indicator was used to measure the distance between the surveyed measuring point and the groundwater surface. These measurements were subtracted from surveyed elevations to determine groundwater elevations, which in turn were used to generate groundwater flow maps. Table 3-2 provides the water-level measurements and elevations collected during 2011.

3.3 GROUNDWATER SAMPLING

The wells used for collection of groundwater samples are indicated on Table 3-1. A change of laboratory occurred between the April and October sampling events. Samples from the April event were submitted to Lancaster Laboratories (LL) in Lancaster, Pennsylvania. Samples from the October event were submitted to TestAmerica Laboratories - Buffalo (TAL) in Amherst, New York for analyses. Analytical data from both sampling events were validated and found to be acceptable. The data validation tables for the individual constituents, as well as a compact-disc

containing a printable version of the laboratory certificates from LL and TAL, are included in Appendix B.

Prior to initiation of purging and sampling activities, static water levels were measured in all monitoring wells as described above. Low-flow sampling methodology was performed to collect groundwater samples from each of the monitoring wells. Production wells were purged and sampled while operating. Water sampling logs are provided in Appendix A. A series of readings were recorded from each of the monitoring wells to evaluate stabilization of field parameters prior to sample collection. These parameters include depth to water, temperature, pH, dissolved oxygen (DO), specific conductance, oxidation-reduction potential (ORP), and turbidity. The recorded values for each of the parameters during stabilization are included in the field sample collection logs contained in Appendix A.

4.0 RESULTS

This section discusses the results of the field activities and laboratory analyses obtained for the 2011 groundwater monitoring program. The discussions include: groundwater flow; groundwater quality; extracted groundwater and contaminant mass; and hydraulic containment.

4.1 GROUNDWATER FLOW

Groundwater level data collected during 2011 are provided in Table 3-2. The groundwater elevation data from the two semi-annual monitoring events were used to generate water-table maps which show the direction of groundwater flow on-site. Figures 4-1 and 4-2 show that groundwater flow is primarily to the southwest, toward the Ohio River and a groundwater depression is formed by the containment wells SPIS-23 and SPIS-24. The hydraulic gradient of the groundwater surface was 0.001939 and 0.002780 in April and October 2011, respectively. Based on a hydraulic conductivity of 386 ft/day and an effective porosity of 0.2 (Geraghty & Miller, 1994), groundwater flow velocity of 3.74 ft/day in April and 5.37 ft/day in October 2011 were calculated.

4.2 GROUNDWATER QUALITY

Analytical results for the two semi-annual 2011 sampling events are provided in Table 4-1. Analytical data sheets and the data validation report are provided in Appendix B. Concentrations of ammonia, manganese, beryllium, cadmium and Nitrate were reported above their respective PS in groundwater collected during both sampling events. Arsenic, copper, and

nickel concentrations were detected below their respective PS. Details of the exceedance are discussed below.

4.2.1 Ammonia

Although ammonia is present in many of the groundwater samples analyzed, it was detected above the site-specific PS of 30 milligrams per liter (mg/L) at one location during 2011. It was detected at SPMW-07 at 35.1 mg/L in April; and 35.0 mg/L (duplicate) in October.

Figures 4-3 and 4-4 depict the aerial distribution of ammonia in the Site's groundwater. Identified on these figures are the inferred extents of the ammonia plumes that exceed the PS of 30 mg/L. Figure 4-5 presents a comparison of ammonia concentration trends for selected wells since the monitoring program began in 2000. The 2011 monitoring results for ammonia show a general decline or little change in concentration in the wells.

4.2.2 Nitrate/Nitrite

Although nitrate/nitrite is present in most of the groundwater samples analyzed, it was detected above the site-specific PS of 10 mg/L at SPMW-02 in April and SPMW-09 in October. Nitrate/nitrate was detected at a concentration of 49.8 mg/L in the sample from SPMW-02. Nitrate/nitrate was detected at a concentration of 3,580 mg/L in the sample from SPMW-09, which is downgradient of Disposal Area D. It is unknown at this time why nitrate/nitrite was detected at this level since the average detected concentration since 2000 has been approximately 14 mg/L. Evaluation of nitrate/nitrite level in SPMW-09 will be conducted during the April 2012 sampling program.

Figure 4-4 depicts the aerial distribution of nitrate/nitrite in groundwater at the Site. Identified on this figure is the inferred extent of the nitrate/nitrite plume that exceeds the 10 mg/l PS.

Figure 4-6 presents a comparison of nitrate/nitrite concentration trends for selected wells since the monitoring program began in 2000. The 2011 data shows that, in general, nitrate/nitrite concentrations increased in monitoring well SPMW-09 and for the other wells there was a decrease or little change in nitrate/nitrite concentrations during 2011.

4.2.3 Manganese

Manganese was present in all groundwater samples analyzed during the year. However, it was detected at or above the site-specific PS of 1.4 mg/L at two locations (Table 4-1). These locations are:

- SPMW-08 4.46 mg/L in April; 2.9 mg/L in October

- SPMW-09 4.92 mg/L in April; 11.9 mg/L in October

Figures 4-3 and 4-4 depict the aerial distribution of manganese in Site groundwater. These occurrences are consistent with previous sampling events. Figure 4-7 presents a comparison of manganese concentration trends for selected wells since the monitoring program began in 2000. Manganese concentrations appear to be stable or on a general decline. Manganese concentrations in SPMW-09 fluctuated considerably during 2002, 2003, and 2004 following excavation activities at Disposal Area D. The current trend indicates that the affects of the excavation on the groundwater system may be waning, as also seen in the ammonia data (Figure 4-5).

4.2.4 Beryllium

Beryllium was detected in 2011 above the site-specific PS of 0.004 mg/L during both sampling events at SPMW-09 (Table 4-1). The detection of beryllium at 0.0037 mg/L and 0.005 mg/L occurred in April and October, respectively. The pH of the water in SPMW-09 has historically been low. In April the pH was 1.01, and in October the pH was 4.07. The pH for the site generally ranges from 6.5 to 7.2. The contaminants in groundwater at SPMW-09 likely represent a small and separate plume which is pH dependent. Accordingly, as the plume migrates the pH is restored to neutral and it is believed that the concentrations of dissolved metals naturally decline.

4.2.5 Cadmium

Cadmium was detected in samples collected from monitoring well SPMW-09 in 2011 above the site-specific PS of 0.005 mg/l. Cadmium was detected at 0.0083 mg/L in October (Table 4-1). As stated under Section 4.2.4, the groundwater pH in the area of SPMW-09 is normally lower than the general site, and it is believed that the concentration of cadmium declines below the PS a short distance from SPMW-09 as the pH adjusts to a higher pH.

4.3 EXTRACTED GROUNDWATER AND CONTAMINANT MASS

In-line cumulative flow meter readings show that a combined total of approximately 189 million gallons of groundwater was extracted by the containment wells SPIS-23 and SPIS-24 during the year 2011. This amount is less than the Site's average yearly amount of extracted groundwater due to the pumping well shutdown program conducted in 2011. Individual totals for SPIS-23 and SPIS-24 were approximately 41 million gallons and 148 million gallons, respectively (Table 4-2).

Using the groundwater extraction information and the groundwater quality results, the mass of contaminants removed from the groundwater beneath the Site can be calculated. The summarized calculations are provided in Table 4-3. The calculated extracted mass of specific contaminants of concern detected above PSs during the year 2011 is as follows:

- Ammonia – 9,364 kg;
- Nitrate/Nitrite - 323 kg; and
- Manganese – 5,161 kg.

4.4 HYDRAULIC CONTAINMENT

The feasibility study for the Site (Geraghty & Miller, 1997) included a groundwater modeling simulation that demonstrated that pumping SPIS-23 and SPIS-24 would provide a capture zone capable of capturing the present day plume. This capture zone model was based on a pumping rate of 150 gallons per minute (gpm) for each extraction well. During 2011, SPIS-23 and SPIS-24 pumped at average rates of 101 gpm and 372 gpm, respectively.

5.0 NPDES DISCHARGE TRENDS

Groundwater from the Site's containment wells and storm water runoff are combined and then discharged through an outfall to the Ohio River. This outfall is permitted under Ohio EPA National Pollutant Discharge Elimination System (NPDES), which details effluent limitations and monitoring requirements.

The Site's NPDES permit is maintained and monitored by the Lawrence Economic Development Corporation. The NPDES 5-year permit (Number 0IN00088*HD) was issued on December 26, 2006. The permit requires daily monitoring of the flow rate, monthly sampling for ammonia and nitrate concentrations, and semi-annual sampling for pH and acute toxicity at Outfall 007. This outfall is equipped with an automated monitoring system. There are currently no permit limits for ammonia and nitrate. The permitted range for pH is 6.5 to 9.0 standard units. The permit limit for acute toxicity is 3.1 acute toxicity units. Discharge during 2011 was within these limits.

Discharge data for ammonia and nitrate/nitrite from January 1997 through December 2011 are provided in Table 5-1 and presented graphically on Figure 5-1. The data shows an average discharge concentration of ammonia at 9.12 mg/l and an average nitrate concentration at 4.54 mg/l for 2011.

6.0 SUMMARY AND RECOMMENDATIONS

Groundwater flow continues to be generally to the southwest toward the Ohio River. Ammonia and/or nitrate/nitrite were detected in groundwater samples above their respective PSs in a total of two monitoring wells (SPMW-07 and SPMW-09). Beryllium, cadmium, and manganese were detected in an isolated occurrence above their respective PSs in monitoring well SPMW-09 and only manganese in SPMW-08 and SPMW-09. The quarterly groundwater sampling program requested by USEPA in their September 2011 letter of approval of the Pumping Well Modification Report will be conducted during 2012.

7.0 REFERENCES

Geraghty & Miller, Inc., 1994. Remedial Investigation Report, South Point Plant Site, South Point, Ohio. Unpublished Consultant's Report.

Geraghty & Miller, Inc., 1997. Final South Point Feasibility Study, South Point, Ohio. Unpublished Consultant's Report.

Parsons Engineering Science, Inc., 1998. Remedial Design Workplan, South Point Superfund Site, South Point, Ohio. Unpublished Consultant's Report.

Parsons Engineering Science, Inc., 2001. Final Design Report, South Point Superfund Site, South Point, Ohio. Unpublished Consultant's Report.

United States Environmental Protection Agency, 1997. Record of Decision (ROD), Allied Signal South Point Plant Site, South Point, Ohio.

TABLES

Table 2-1
Constituents of Concern and Groundwater Performance Standards
South Point Plant Superfund Site
South Point, Ohio

Constituents of Concern	Performance Standards (PS) mg/L
Arsenic	0.05
Beryllium	0.004
Cadmium	0.005
Copper	3.8
Manganese	1.4
Nickel	2.0
Ammonia (as Nitrogen)	30
Nitrate/Nitrite	10

mg/L = milligram per liter

Prepared by: MJT 2/17/12
Reviewed by: EDS 2/21/12

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Table 3-1
Well Status
South Point Plant Superfund Site
South Point, Ohio

Name	Well Type	Water Levels	Water Quality
Cassion	River Level Measuring Point	Yes	
SPIS-01	Inactive Production	Yes	
SPIS-02	Inactive Production	Yes	
SPIS-05	Inactive Production	Yes	
SPIS-06	Inactive Production	Yes	
SPIS-10	Inactive Production	Yes	
SPIS-15	Inactive Production	Yes	
SPIS-15A	Inactive Production	Yes	
SPIS-18	Inactive Production	Yes	
SPIS-22	Inactive Production	Yes	
SPIS-23*	Containment		Yes
SPIS-24*	Containment		Yes
SPIS-26	Inactive Production	Yes	
SPIS-28	Inactive Production	Yes	
SPMW-01	Monitor	Yes	Yes
SPMW-02	Monitor	Yes	Yes
SPMW-03	Monitor	Yes	Yes
SPMW-04	Monitor	Yes	Yes
SPMW-05	Monitor	Yes	Yes
SPMW-06R**	Inactive Monitor		
SPMW-06R2	Monitor	Yes	Yes
SPMW-07	Monitor	Yes	Yes
SPMW-08	Monitor	Yes	Yes
SPMW-09	Monitor	Yes	Yes
SPMW-10R**	Inactive Monitor		
SPMW-10R2	Monitor	Yes	Yes
SPMW-11R	Monitor	Yes	Yes
SPMW-12	Monitor	Yes	Yes
SPMW-13	Monitor	Yes	Yes
SPMW-14	Monitor	Yes	
SPMW-15	Monitor	Yes	
SPMW-16	Monitor	Yes	
SPMW-17	Monitor	Yes	
SPMW-18	Monitor	Yes	
SPMW-19	Monitor	Yes	
SPOB-12R2	Observation	Yes	Yes
SPOB-15R2	Observation	Yes	
SPOB-17R	Observation	Yes	
SPOB-18R	Observation	Yes	
SPOB-26	Observation	Yes	
SPOB-29	Observation	Yes	
SPOB-34	Observation	Yes	Yes
T2-B	Piezometer	Yes	

* Active Production Well.
** Transitioned to replacement wells in October 2010

Prepared by: MJT 1/6/12
Reviewed by: EDS 1/18/12

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Table 3-2
Depth to Groundwater and Calculated Groundwater Elevation
South Point Superfund Site
South Point, Ohio

Name	Depth-To-Water (1)		Water Level Elevation (2)	
	4/11/2011	10/10/2011	4/11/2011	10/10/2011
Caisson	25.82	34.02	524.47	516.27
SPIS-01	40.90	42.35	520.56	519.11
SPIS-02	41.52	42.25	520.39	519.66
SPIS-05	40.91	42.57	520.83	519.17
SPIS-06	45.72	47.98	520.85	518.59
SPIS-10	41.72	43.75	520.83	518.80
SPIS-15	40.11	41.96	523.58	521.73
SPIS-15A	33.48	36.15	525.71	523.04
SPIS-18	34.32	36.75	524.96	522.53
SPIS-22	43.29	44.87	520.08	518.50
SPIS-26	45.22	43.84	523.54	524.92
SPIS-28	43.44	44.95	519.75	518.24
SPMW-01	36.98	35.31	526.34	528.01
SPMW-02	46.32	45.26	522.30	523.36
SPMW-03	41.45	42.45	521.02	520.02
SPMW-04	45.39	47.94	520.78	518.23
SPMW-05	60.33	59.42	522.80	523.71
SPMW-06R2*	64.40	62.68	524.02	525.74
SPMW-07	41.49	41.68	520.64	520.45
SPMW-08	40.74	40.27	524.20	524.67
SPMW-09	37.71	39.55	526.41	524.57
SPMW-10R2*	69.67	67.98	524.47	526.16
SPMW-11R	46.62	48.29	519.21	517.54
SPMW-12	45.38	47.14	520.19	518.43
SPMW-13	44.75	46.87	520.54	518.42
SPMW-14	NM	NM	NM	NM
SPMW-15	NM	NM	NM	NM
SPMW-16	NM	NM	NM	NM
SPMW-17	NM	NM	NM	NM
SPMW-18	NM	NM	NM	NM
SPMW-19	NM	NM	NM	NM
SPOB-12R2	46.68	48.53	519.70	517.85
SPOB-15R2	41.79	43.63	521.19	519.35
SPOB-17R	28.70	33.10	519.80	515.40
SPOB-18R	30.68	30.72	521.03	520.99
SPOB-26	30.27	34.60	522.09	517.76
SPOB-29	40.35	41.83	522.58	521.10
SPOB-34	44.31	46.00	520.19	518.50
T2-B	15.97	15.86	526.57	526.68

Notes:
(1) Depth to Water in Feet
(2) Water Level Elevation in Feet above Mean Sea Level
NM - Not Measured

Prepared by: MJT 1/5/12
Reviewed by: EDS 1/13/12

Table 4-1
Analytical Results for Year 2011 Monitoring
South Point Plant Superfund Site
South Point, Ohio

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPIS-23**	**SPIS-23-DUPLICATE**	**SPIS-23**	**SPIS-23-DUPLICA**	**SPIS-24**	**SPIS-24-DUPLICA**	**SPIS-24**	**SPIS-24 DUPLICA**	**SPMW-01**
Sample Date			4/14/2011	4/14/2011	10/11/2011	10/11/2011	4/13/2011	4/13/2011	10/12/2011	10/12/2011	4/12/2011
Sample Type			Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Lancaster Labs	Lancaster Labs	Test America	Test America	Lancaster Labs	Lancaster Labs	Test America	Test America	Lancaster Labs
Ammonia as Nitrogen	MG/L	30	0.6U	0.6U	0.19	0.19	14.4	13.1	18.7	18.1	0.6U
Arsenic	MG/L	0.05	0.02U	0.02U	0.0056U	0.0056U	0.02U	0.02U	0.0056U	0.0056U	0.02U
Beryllium	MG/L	0.004	0.005U	0.005U	0.0003U	0.0003U	0.005U	0.005U	0.0003U	0.0003U	0.005U
Cadmium	MG/L	0.005	0.005U	0.005U	0.00033U	0.00033U	0.005U	0.005U	0.00037J	0.00033U	0.005U
Copper	MG/L	3.8	0.01U	0.01U	0.0016J	0.0015U	0.0053J	0.005J	0.005J	0.0044J	0.01U
Manganese	MG/L	1.4	0.237	0.234	0.24	0.24	0.474	0.49	0.54	0.54	0.0144
Nickel	MG/L	2	0.01U	0.01U	0.0025J	0.0021J	0.0039J	0.0038J	0.0034J	0.0034J	0.01U
Nitrate/Nitrite	MG/L	10	1.6	1.6	2.2	2.2	7.6	7.5	9.2	9.7	2.9

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-01**	**SPMW-02**	**SPMW-02**	**SPMW-03**	**SPMW-03**	**SPMW-04**	**SPMW-04**	**SPMW-05**	**SPMW-05**
Sample Date			10/12/2011	4/12/2011	10/11/2011	4/13/2011	10/11/2011	4/13/2011	10/12/2011	4/12/2011	10/12/2011
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America
Ammonia as Nitrogen	MG/L	30	0.009U	0.6U	0.009U	0.6U	0.009U	0.6U	0.009U	0.6U	0.009U
Arsenic	MG/L	0.05	0.0056U	0.02U	0.0056U	0.02U	0.0056U	0.02U	0.0056U	0.02U	0.0056U
Beryllium	MG/L	0.004	0.0003U	0.005U	0.0003U	0.005U	0.0003U	0.005U	0.0003U	0.005U	0.0003U
Cadmium	MG/L	0.005	0.00033U	0.005U	0.00035J	0.005U	0.00033U	0.005U	0.00033U	0.005U	0.00033U
Copper	MG/L	3.8	0.0015U	0.0028J	0.0015U	0.01U	0.0015U	0.01U	0.0015U	0.01U	0.0015U
Manganese	MG/L	1.4	0.013	0.105	0.23	0.107	0.09	0.0483	0.044	0.0098	0.01
Nickel	MG/L	2	0.002J	0.01U	0.0021J	0.0069J	0.0027J	0.0032J	0.0052J	0.0051J	0.0053J
Nitrate/Nitrite	MG/L	10	2.6	**49.8**	4.7	2.7	2.6	1.9	2.2	1.9	1.8

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-06R2**	**SPMW-06R2**	**SPMW-07**	**SPMW-07-DUPLICA**	**SPMW-07**	**SPMW-07 DUPLICA**	**SPMW-08**	**SPMW-08**
Sample Date			4/12/2011	10/11/2011	4/13/2011	4/13/2011	10/11/2011	10/11/2011	4/12/2011	10/11/2011
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Lancaster Labs	Test America	Lancaster Labs	Lancaster Labs	Test America	Test America	Lancaster Labs	Test America
Ammonia as Nitrogen	MG/L	30	5	11.1	**32.1**	**35.1**	**30.1**	**35**	5.5	0.38
Arsenic	MG/L	0.05	0.02U	0.0056U	0.02U	0.02U	0.0056U	0.0056U	0.02U	0.0056U
Beryllium	MG/L	0.004	0.005U	0.0003U	0.005U	0.005U	0.0003U	0.0003U	0.005U	0.0003U
Cadmium	MG/L	0.005	0.005U	0.00033U	0.005U	0.005U	0.0005J	0.00033U	0.005U	0.00072J
Copper	MG/L	3.8	0.01U	0.0015U	0.01U	0.01U	0.0015U	0.0015U	0.0027J	0.0015U
Manganese	MG/L	1.4	0.352	0.51	0.357	0.387	0.39	0.39	**4.46**	**2.9**
Nickel	MG/L	2	0.0207	0.0013U	0.01U	0.01U	0.0025J	0.0014J	0.0176	0.0067J
Nitrate/Nitrite	MG/L	10	1.6	5.7	3.4	3.4	3.7	3.8	0.34	0.03J

Qualifiers preceding the value are flags determined by the lab. Qualifiers following the value are designated upon in-house validation.

U	Compound analyzed but not detected at or above the indicated reporting limit.
Bold Concentrations	Represent values above the PS.
PS	Performance Standards
B	Estimated. (preceding value).
J	Estimated. (following value).
MG/L	Milligrams per Liter

Prepared by: MJT 1/5/12
Reviewed by: EDS 1/13/12

Table 4-1
Analytical Results for Year 2011 Monitoring
South Point Plant Superfund Site
South Point, Ohio

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-09**	**SPMW-09**	**SPMW-10R2**	**SPMW-10R2**	**SPMW-11R**	**SPMW-11R**	**SPMW-12**	**SPMW-12**
Sample Date			4/12/2011	10/12/2011	4/13/2011	10/11/2011	4/13/2011	10/12/2011	4/13/2011	10/12/2011
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Lancaster Labs	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America
Ammonia as Nitrogen	MG/L	30	0.51J	12.5	0.6U	0.009U	0.63	0.35	0.6	0.17
Arsenic	MG/L	0.05	0.02U	0.0056U	0.02U	0.0056U	0.02U	0.0056U	0.02U	0.0056U
Beryllium	MG/L	0.004	0.0037	0.005	0.005U	0.0003U	0.005U	0.0003U	0.005U	0.0003U
Cadmium	MG/L	0.005	0.0041J	**0.0083**	0.005U	0.00077J	0.005U	0.00033U	0.005U	0.00033U
Copper	MG/L	3.8	2.04	2.3	0.0104	0.0015U	0.01U	0.0015U	0.01U	0.0015U
Manganese	MG/L	1.4	**4.92**	**11.9**	0.269	0.13	0.03	0.038	0.0171	0.034
Nickel	MG/L	2	0.264	0.5	0.0349	0.015	0.0098J	0.0096J	0.0031J	0.0057J
Nitrate/Nitrite	MG/L	10	2.7	**3580**	1.6	1.1	3	2.4	1.7	4

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-13**	**SPMW-13**	**SPOB-12R2**	**SPOB-12R2**	**SPOB-34**	**SPOB-34**
Sample Date			4/13/2011	10/12/2011	4/13/2011	10/11/2011	4/14/2011	10/11/2011
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Lancaster Labs	Test America	Lancaster Labs	Test America	Lancaster Labs	Test America
Ammonia as Nitrogen	MG/L	30	0.6U	0.009U	4.6	3	0.6J	0.55
Arsenic	MG/L	0.05	0.02U	0.0056U	0.02U	0.0056U	0.012J	0.0094J
Beryllium	MG/L	0.004	0.005U	0.0003U	0.005U	0.0003U	0.005U	0.0003U
Cadmium	MG/L	0.005	0.005U	0.00033U	0.005U	0.00033U	0.005U	0.00033U
Copper	MG/L	3.8	0.01U	0.0015U	0.01U	0.0015U	0.01U	0.0015U
Manganese	MG/L	1.4	0.188	0.24	0.023	0.017	0.423	0.43
Nickel	MG/L	2	0.01U	0.0013U	0.0032J	0.0037J	0.01U	0.0013U
Nitrate/Nitrite	MG/L	10	1.1	0.69	2.2	1.5	0.1	0.011U

Qualifiers preceding the value are flags determined by the lab. Qualifiers following the value are designated upon in-house validation.

U	Compound analyzed but not detected at or above the indicated reporting limit.
Bold Concentrations	Represent values above the PS.
PS	Performance Standards
B	Estimated. (preceding value).
J	Estimated. (following value).
MG/L	Milligrams per Liter

Prepared by: MJT 1/5/12
Reviewed by: EDS 1/13/12

Table 4-2
Extracted Groundwater Volume During Year 2011
South Point Superfund Site
South Point, Ohio

Date	SPIS-23			SPIS-24		
	Pressure (PSI)	Flow Rate (GPM)	Cumulative Flow Reading (Gal.)	Pressure (PSI)	Flow Rate (GPM)	Cumulative Flow Reading (Gal.)
Jan-11	6	106	491,485,000	12	379	851,332,000
Feb-11	5	109	499,215,000	12	379	877,417,000
Mar-11	6	106	505,123,000	11	387	896,208,000
Apr-11	7	113	509,603,000	11	374	911,250,000
May-11	9	108	513,817,000	11	378	925,905,000
Jun-11	11	100	518,944,000	11	380	945,052,000
Jul-11	11	93	522,945,000	11	373	959,736,000
Aug-11	11	93	527,457,000	11	360	977,265,000
Sep-11	11	93	531,340,000	11	364	992,641,000
Oct-11	11	93	533,153,000	11	358	999,806,000
Nov-11	Not Pumping			Not Pumping		
Dec-11	Not Pumping			Not Pumping		
Annual Flow (Gallons)			**41,668,000**			**148,474,000**
Average Flow (GPM) *			**104**			**383**
Total Annual System Flow (Gallons)			**190,142,000**			

GPM = gallons per minute
PSI = pounds per square inch
Gal. = gallons
* = Average GPM when pumping

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Prepared by: MJT 1/6/12
Reviewed by: EDS 1/18/12

Table 4-3
Extracted Contaminant Mass During Year 2011
South Point Plant Superfund Site
South Point, Ohio

Well ID and Contaminant	Contaminant Concentrations (mg/l)			Extracted Groundwater Volume (gallons)	Extracted Contaminant Mass (Kg)
	Apr-11	Oct-11	Average		
SPIS-23					
Ammonia as Nitrogen	0.6 U	0.19	0.395	41,668,000	62
Manganese	0.237	0.24	0.2385	41,668,000	38
Nitrate/Nitrite	1.6	2.2	1.9	41,668,000	300
SPIS-24					
Ammonia as Nitrogen	14.4	18.7	16.55	148,474,000	9,302
Manganese	0.474	0.54	0.507	148,474,000	285
Nitrate/Nitrite	7.6	9.7	8.65	148,474,000	4,862
TOTALS					
Ammonia as Nitrogen					**9,364**
Nitrate/Nitrite					**323**
Manganese					**5,161**

1 gallon = 3.78541 liters

Concentration (mg/l) * Conversion (l/gal) * Volume (gal) * Conversion (Kg/mg)

Kg = kilogram

mg/L = milligrams per liter

U = non-detect

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Prepared by: MJT 1/6/12
Prepared by: EDS 1/18/12

Table 5-1
NPDES Discharge Data
South Point Plant Superfund Site
South Point, Ohio

Date	Flow Rate MGD	Nitrate MG/L	Ammonia MG/L
1/1/1997	0.41	16.45	23.4
2/1/1997	0.43	17.4	33
3/1/1997	0.49	18.61	28.7
4/1/1997	0.57	19.42	28.4
5/1/1997	0.28	17.65	34.9
6/1/1997	0.40	24.94	37.4
7/1/1997	0.35	20.51	6.5
9/1/1997	0.34	19.1	46.4
10/1/1997	0.25	18.16	54.5
11/1/1997	0.29	15.77	34.3
12/1/1997	0.43	16.98	33.5
1/1/1998	1.14	21.89	13.4
2/1/1998	0.86	7.7	13.9
3/1/1998	1.98	7.74	16.1
4/1/1998	2.08	9.77	15.1
5/1/1998	1.71	9.8	17.2
6/1/1998	2.10	8.93	22.4
7/1/1998	0.81	19.5	18.5
8/1/1998	0.86	14.8	19.9
9/1/1998	1.41	14.63	24.8
10/1/1998	1.26	13.45	24.6
11/1/1998	1.28	14.3	19.6
12/1/1998	1.18	16.01	26.8
1/1/1999	1.21	16.74	24.5
2/1/1999	1.32	10.9	16.7
3/1/1999	ND	13.5	23.4
4/1/1999	ND	20.4	24
5/1/1999	0.27	11.9	18.6
6/1/1999	0.46	20.3	38.4
7/1/1999	0.46	14.3	32.8
8/1/1999	0.47	5.5	9
9/1/1999	0.87	13	32
10/1/1999	0.68	0.1	9.8
11/1/1999	1.70	4	4.5
12/1/1999	0.69	17	32
1/1/2000	0.72	4.6	5.6
2/1/2000	1.10	10	14
3/1/2000	1.06	11	30
4/1/2000	1.41	8	19
5/1/2000	1.24	8.2	9.94
6/1/2000	1.26	9.2	21.4
7/1/2000	2.06	13	7.3
8/1/2000	1.13	10	19.9
9/1/2000	1.16	9	17
10/1/2000	1.36	9	18
11/1/2000	1.14	9	15
12/1/2000	1.02	0	21
1/1/2001	1.27	0.1	17
2/1/2001	1.33	0.1	16
3/1/2001	1.17	8.5	14
4/1/2001	0.74	10.7	22
5/1/2001	1.07	4.4	1.3
6/1/2001	1.23	7.4	13
7/1/2001	1.24	8.5	13
8/1/2001	1.35	6.4	11
9/1/2001	1.16	8.5	14
10/1/2001	1.29	8.4	15
11/1/2001	1.27	8.7	13
12/1/2001	1.25	9.1	14

ND = no data
MGD = Million gallons per day
MG/L = Milligram per Liter

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Reviewed by: EDS 2/21/12

Table 5-1
NPDES Discharge Data
South Point Plant Superfund Site
South Point, Ohio

Date	Flow Rate MGD	Nitrate MG/L	Ammonia MG/L
1/1/02	1.39	8.8	13
2/1/02	1.35	8.8	14
3/1/02	1.71	8.3	14
4/1/02	1.62	6.67	13
5/1/02	1.55	6.5	13
6/1/02	1.45	7.31	14
7/1/02	1.20	7.8	13
8/1/02	1.36	6.55	12
9/1/02	1.41	7.7	14
10/1/02	1.74	7.4	16
11/1/02	1.26	4.68	8.4
12/1/02	0.93	8.8	16
1/1/03	1.45	8.2	15
2/1/03	1.82	8.9	12
3/1/03	1.55	7.5	16
4/1/03	1.59	9.4	16
5/1/03	1.52	8.1	18
6/1/03	2.05	7.8	17
7/1/03	1.38	9.5	13.7
8/1/03	1.26	9.2	13
9/1/03	1.29	10	4.3
10/1/03	1.11	9.7	3.5
11/1/03	2.15	3.9	5
12/1/03	1.4	7.1	12
1/1/04	3.14	7.69	11
2/1/04	1.83	2.93	16
3/1/04	1.6	10.8	15
4/1/04	0.92	10.8	18
5/1/04	1.38	9.46	11
6/1/04	0.37	1.8	1.5
7/1/04	1.46	12.9	17
8/1/04	2.03	10.7	22
9/1/04	1.45	8.3	47
10/1/04	1.24	9.5	17
11/1/04	2.2	10.3	24
12/1/04	2.87	2.79	4.1
1/1/05	1.65	5	7.1
2/1/05	2.22	8.16	14
3/1/05	2.85	8.77	15
4/1/05	2.09	9.06	15
5/1/05	0.92	10.3	21
6/1/05	0.87	11.8	21
7/1/05	0.95	9.35	22
8/1/05	0.56	9.26	21
9/1/05	1.23	2.81	1
10/1/05	0.93	10.3	16
11/1/05	1.21	3.17	1
12/1/05	3.62	3.48	1
1/1/06	2.2	4.66	1
2/1/06	2.86	4.2	1.6
3/1/06	3.83	0.1	1
4/1/06	3.58	12.2	13
5/1/06	2.89	9.04	15
6/1/06	2.62	10.9	19
7/1/06	3.75	6.34	13
8/1/06	3.52	7.84	16
9/1/06	2.27	7.25	16
10/1/06	2.31	8.06	7.3
11/1/06	2.22	8.07	5.6
12/1/06	1.9	7.91	1

ND = no data
MGD = Million gallons per day
MG/L = Milligram per Liter

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Prepared by : MJT 2/17/12
Reviewed by: EDS 2/21/12

Table 5-1
NPDES Discharge Data
South Point Plant Superfund Site
South Point, Ohio

Date	Flow Rate MGD	Nitrate MG/L	Ammonia MG/L
1/1/07	1.84	16.3	17
2/1/07	1.62	8.05	10
3/1/07	1.74	7.18	14
4/1/07	1.54	6.26	15
5/1/07	1.82	6.4	14
6/1/07	1.35	7.48	1.14
7/1/07	ND	2.26	1
8/1/07	2.29	7.35	14
9/1/07	2.05	7.68	11
10/1/07	2.39	9.68	3.9
11/1/07	ND	9.47	16
12/1/07	ND	8.15	2.52
1/1/08	1.9	0.171	10
2/1/08	1.33	4.4	9.4
3/1/08	2.67	5.65	11
4/1/08	2.58	6.22	4.9
5/1/08	1.22	6.2	13
6/1/08	1.24	ND	4.2
7/1/08	0.81	3.27	16
8/1/08	1.55	8.14	5.7
9/1/08	2.09	7.43	6.3
10/1/08	1.89	6.89	6.2
11/1/08	2.45	8.06	8.4
12/1/08	1.68	6.91	11
1/1/09	3.67	5.86	12
2/1/09	2.42	4.18	7.2
3/1/09	3.28	7.5	11
4/1/09	3.45	7.57	11
5/1/09	4.13	3.15	4.6
6/1/09	3.85	4.62	6.6
7/1/09	3.53	7.76	11
8/1/09	4.13	7.64	11
9/1/09	3.02	8.64	12
10/1/09	1.71	7.6	10
11/1/09	1.70	8.64	9.5
12/1/09	1.12	7.55	13
1/1/10	1.01	8.58	9.6
2/1/10	1.18	7.77	9.78
3/1/10	1.26	8.91	8.29
4/1/10	0.89	5.2	8.79
5/1/10	3.13	3.6	12.87
6/1/10	2.63	3.1	10.07
7/1/10	3.45	3.1	10.07
8/1/10	2.25	5.1	10.2
9/1/10	ND	ND	ND
10/1/10	ND	ND	ND
11/1/10	AE	1.6	10.8
12/1/10	AE	1	12.5
1/1/11	0.69	3.5	11.5
2/1/11	0.70	3.9	11
3/1/11	3.83	5.8	12
4/1/11	3.58	5.33	11
5/1/11	2.40	5.5	11.1
6/1/11	2.11	3.9	9
7/1/11	2.05	5.5	10
8/1/11	2.44	5.5	11
9/1/11	3.83	7.2	11.1
10/1/11	2.77	3.8	11.3
11/1/11	0.77	3.1	0.3
12/1/11	0.38	1.5	0.25

ND = no data
MGD = Million gallons per day
MG/L = Milligram per Liter
AE = Analytical Data Not Valid

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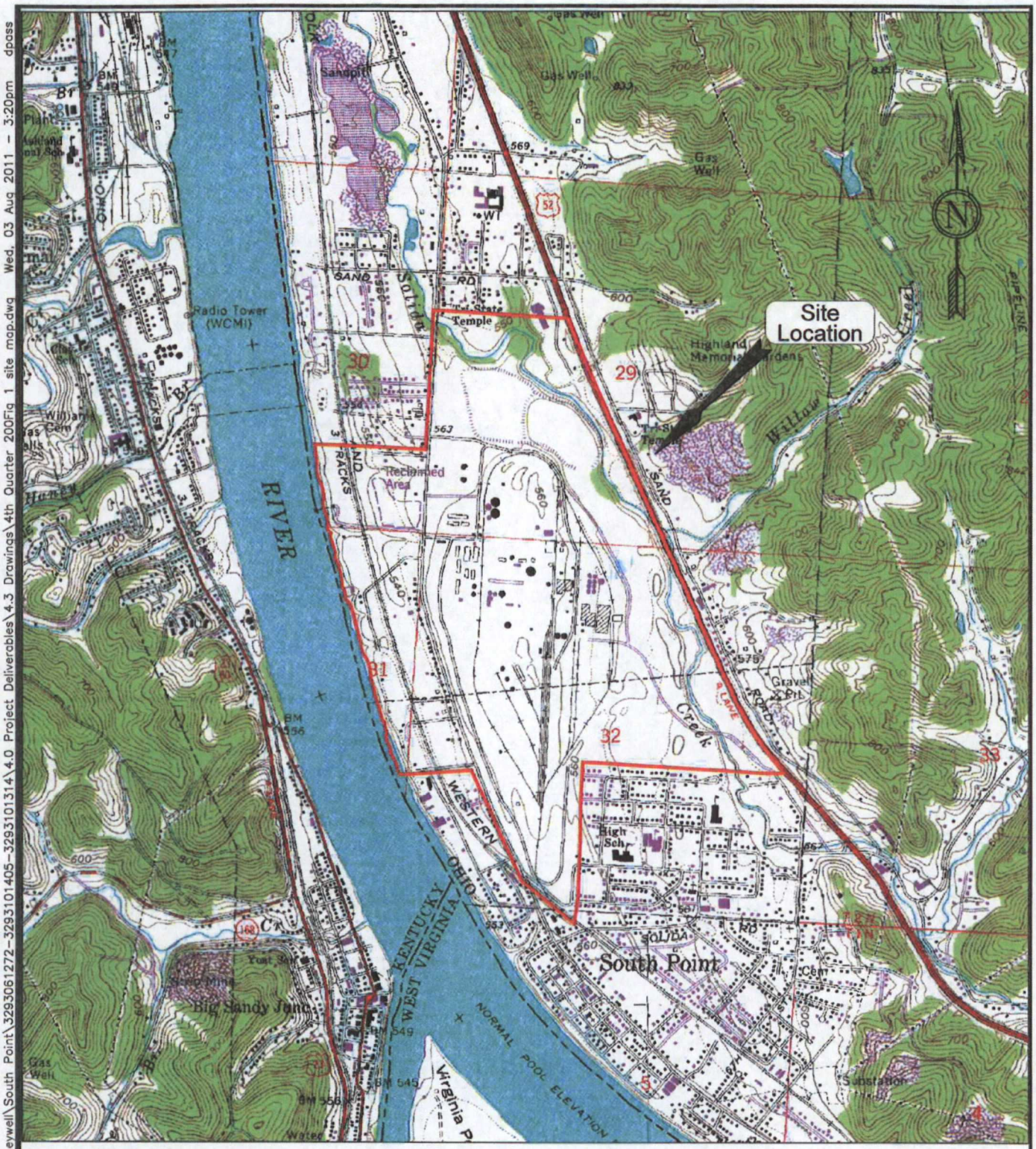
Prepared by: MJT 2/17/12
Reviewed by: EDS 2/21/12

FIGURES



Taken from the Catlettsburg, Kentucky, 7.5 Series U.S.G.S. Topographic Quadrangle Map

SCALE (FT)

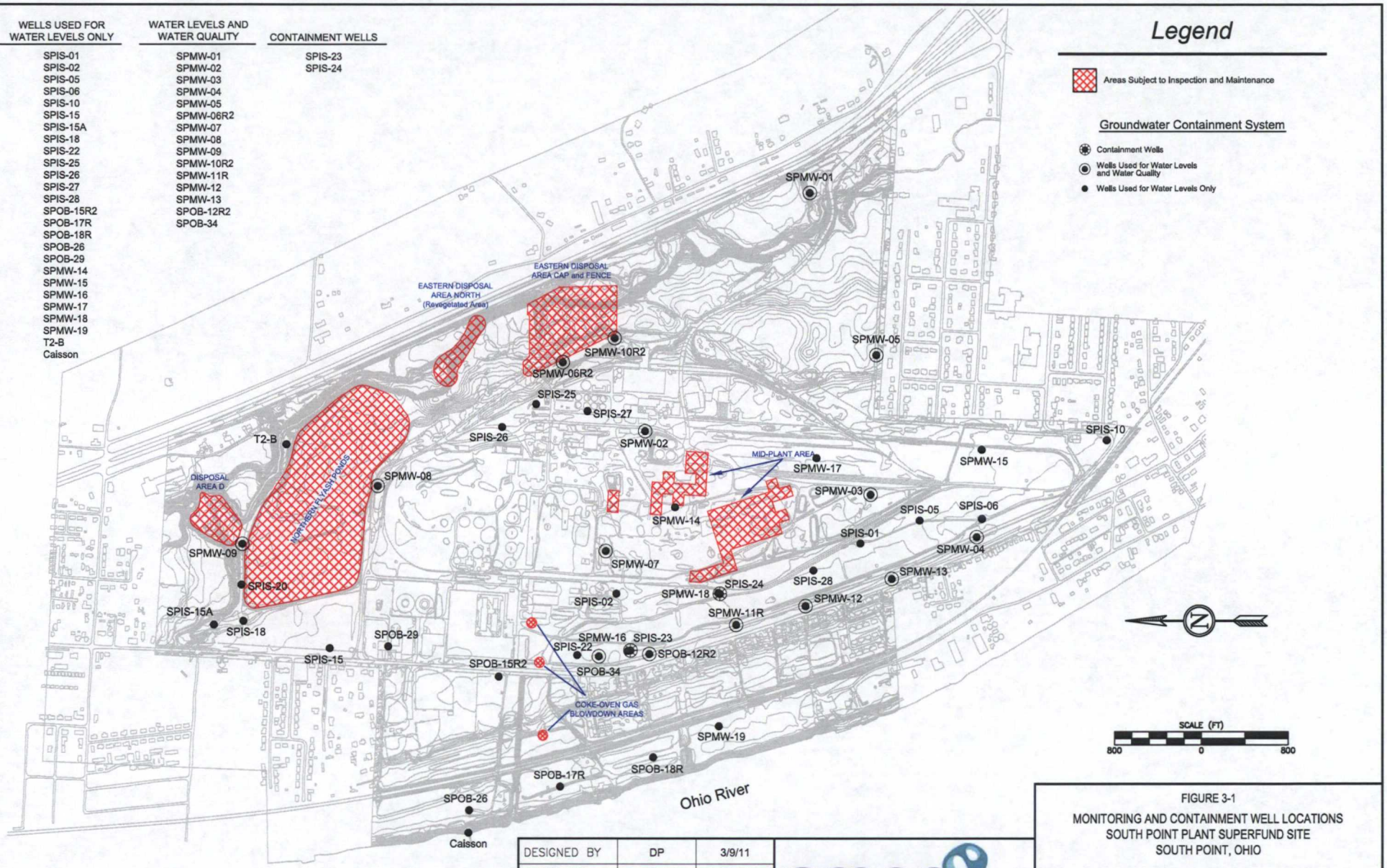
24,000 0 24,000

Prepared/Date: JK 8/3/11
Checked/Date: BW 8/3/11

HONEYWELL INTERNATIONAL INC. IRONTON, OHIO	amec 7225 Ohms Lane, Suite 125 Edina, MN 55439	SITE LOCATION SOUTHPOINT PLANT SUPERFUND SITE SOUTHPOINT, OHIO PROJECT 3293111429 FIGURE 2-1

P:\INDUSTRIAL PROJECTS\Honeywell\South Point\3293061272-3293101405-3293101314\4.0 Project Deliverables\4.3 Drawings\4th Quarter 200Fig 1 site map.dwg Wed, 03 Aug 2011 - 3:20pm dpass

WELLS USED FOR WATER LEVELS ONLY	WATER LEVELS AND WATER QUALITY	CONTAINMENT WELLS
SPIS-01	SPMW-01	SPIS-23
SPIS-02	SPMW-02	SPIS-24
SPIS-05	SPMW-03	
SPIS-06	SPMW-04	
SPIS-10	SPMW-05	
SPIS-15	SPMW-06R2	
SPIS-15A	SPMW-07	
SPIS-18	SPMW-08	
SPIS-22	SPMW-09	
SPIS-25	SPMW-10R2	
SPIS-26	SPMW-11R	
SPIS-27	SPMW-12	
SPIS-28	SPMW-13	
SPOB-15R2	SPOB-12R2	
SPOB-17R	SPOB-34	
SPOB-18R		
SPOB-26		
SPOB-29		
SPMW-14		
SPMW-15		
SPMW-16		
SPMW-17		
SPMW-18		
SPMW-19		
T2-B		
Caisson		



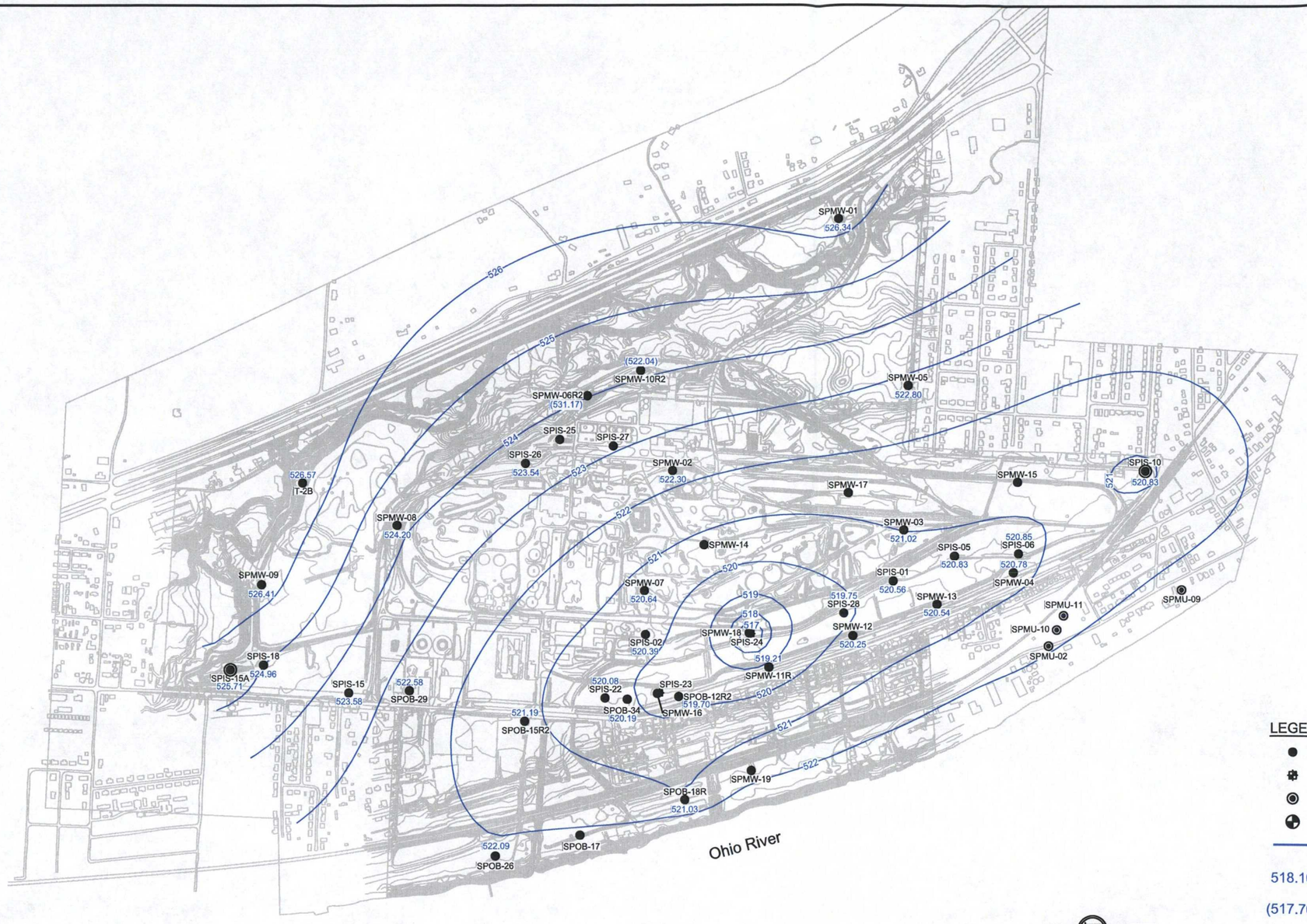
DESIGNED BY	DP	3/9/11
DRAWN BY	DP	3/9/11
CHKD. BY	ES	3/9/11

amec

FIGURE 3-1

MONITORING AND CONTAINMENT WELL LOCATIONS
SOUTH POINT PLANT SUPERFUND SITE
SOUTH POINT, OHIO

P:\INDUSTRIAL PROJECTS\Honeywell\South Point\3293061372--3293101405--3293101314\4.0 Project Deliverables\4.3 Drawings\4th Quarter 2009\Fig 3--1.dwg Wed, 09 Mar 2011 - 10:40am dpose



LEGEND

- ● OBSERVATION / MONITORING WELL
- PUMPING WELL
- MUNICIPAL WELL
- ABANDONED MONITORING WELL
- GROUNDWATER CONTOUR
- 518.10 GROUNDWATER ELEVATION (ELEVATION IN FEET SURVEYED TO NAVD 88)
- (517.76) NOT USED IN CONTOURING

SCALE (FT)

1000 0 500 1000

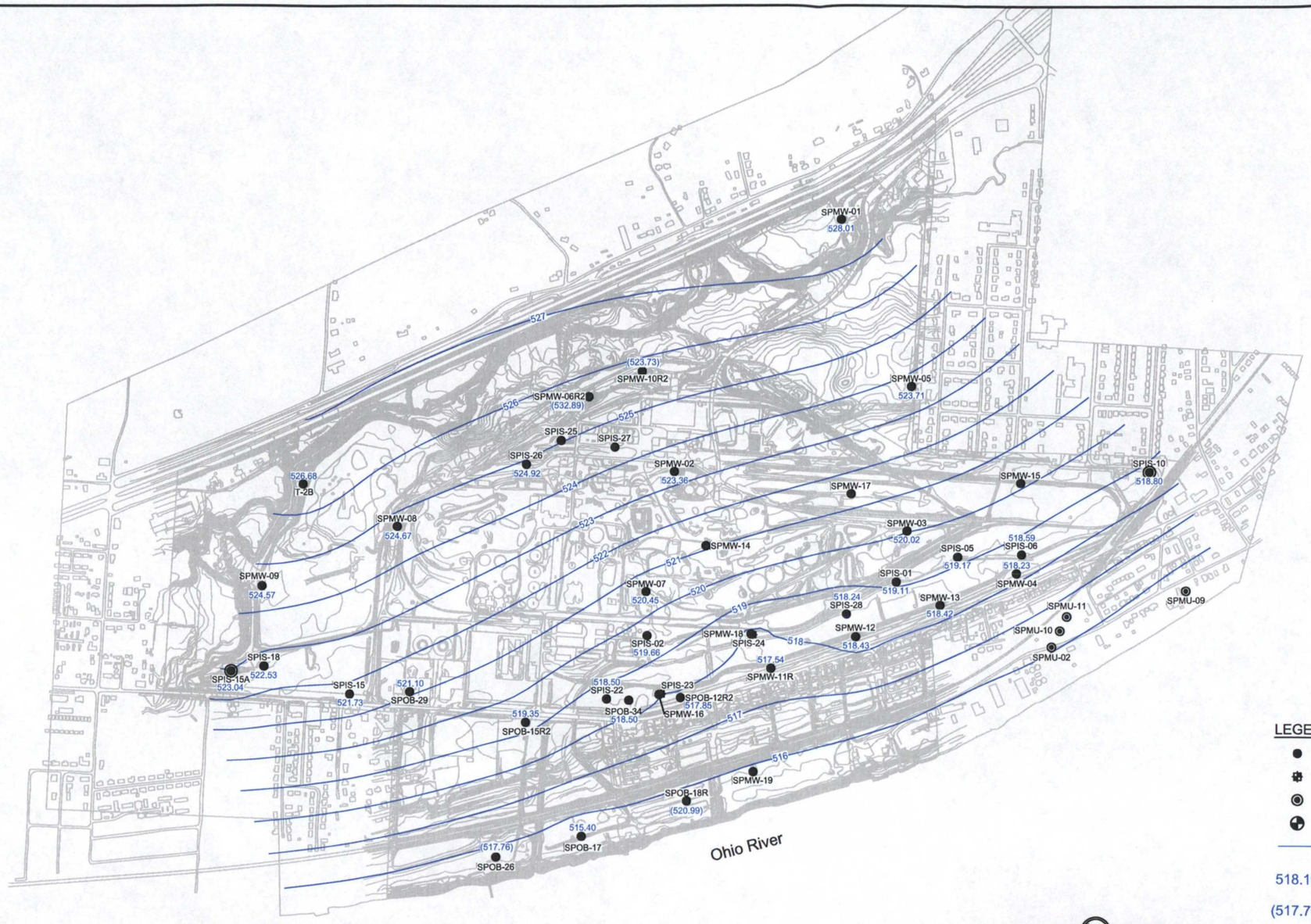
Prepared/Date: TIG 1/12/11
Checked/Date: RJL 1/12/11

HONEYWELL
SOUTHPOINT, OHIO

amec

POTENTIOMETRIC SURFACE
APRIL 12, 2011
SOUTHPOINT PLANT SUPERFUND SITE
PROJECT 3293-10-1405 Figure 4-1

P:\HW - SOUTH POINT\hw south point\APRIL 2011\FIGURE 4-1.dwg Tue, 21 Feb 2012 - 2:39pm tigrahorn



LEGEND

- ● OBSERVATION / MONITORING WELL
- PUMPING WELL
- MUNICIPAL WELL
- ABANDONED MONITORING WELL
- GROUNDWATER CONTOUR
- 518.10 GROUNDWATER ELEVATION (ELEVATION IN FEET SURVEYED TO NAVD 88)
- (517.76) NOT USED IN CONTOURING

SCALE (FT)

1000 0 500 1000

Prepared/Date: TIG 12/1/11
Checked/Date: RJL 12/1/11

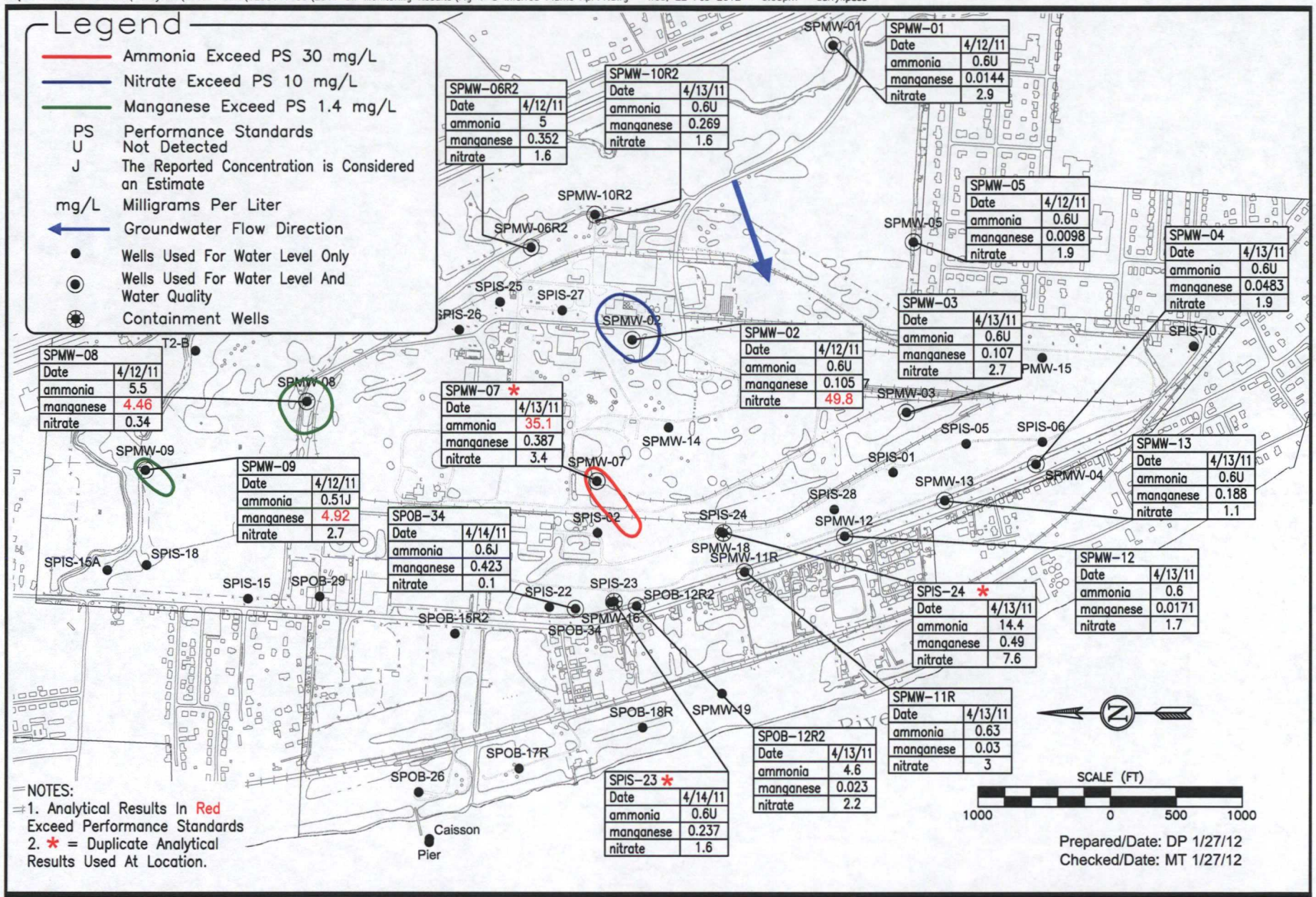
HONEYWELL
SOUTHPOINT, OHIO

amec

POTENTIOMETRIC SURFACE
OCTOBER 10, 2011
SOUTHPOINT PLANT SUPERFUND SITE
PROJECT 3293-10-1405 Figure 4-2

P:\HW - SOUTH POINT\hw south point\OCTOBER 2011\FIGURE 4-2.dwg Tue, 21 Feb 2012 - 2:41pm tigraham

P:\INDUSTRIAL PROJECTS\Honeywell\South Point\3293111436\2011 GW Monitoring Results\Fig 4-3 Inferred Plume Apr11.dwg Wed, 22 Feb 2012 – 6:03pm darryl.pass

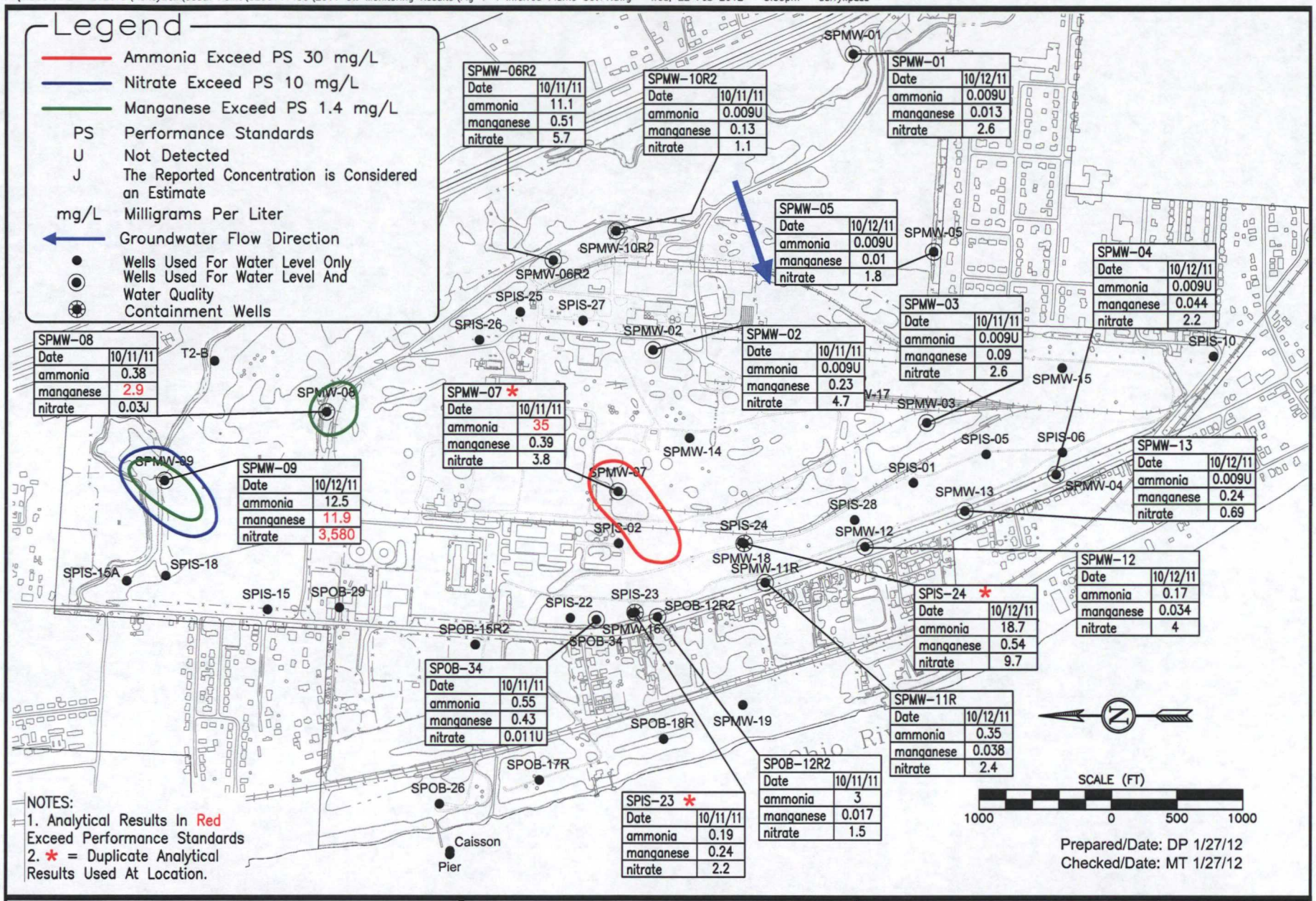


HONEYWELL
SOUTHPOINT, OHIO

amec

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - APRIL 2011
Project 3293-11-1429
Figure 4-3

P:\INDUSTRIAL PROJECTS\Honeywell\South Point\3293111436\2011 GW Monitoring Results\Fig 4-4 Inferred Plume Oct11.dwg Wed, 22 Feb 2012 - 5:59pm darryl.pass

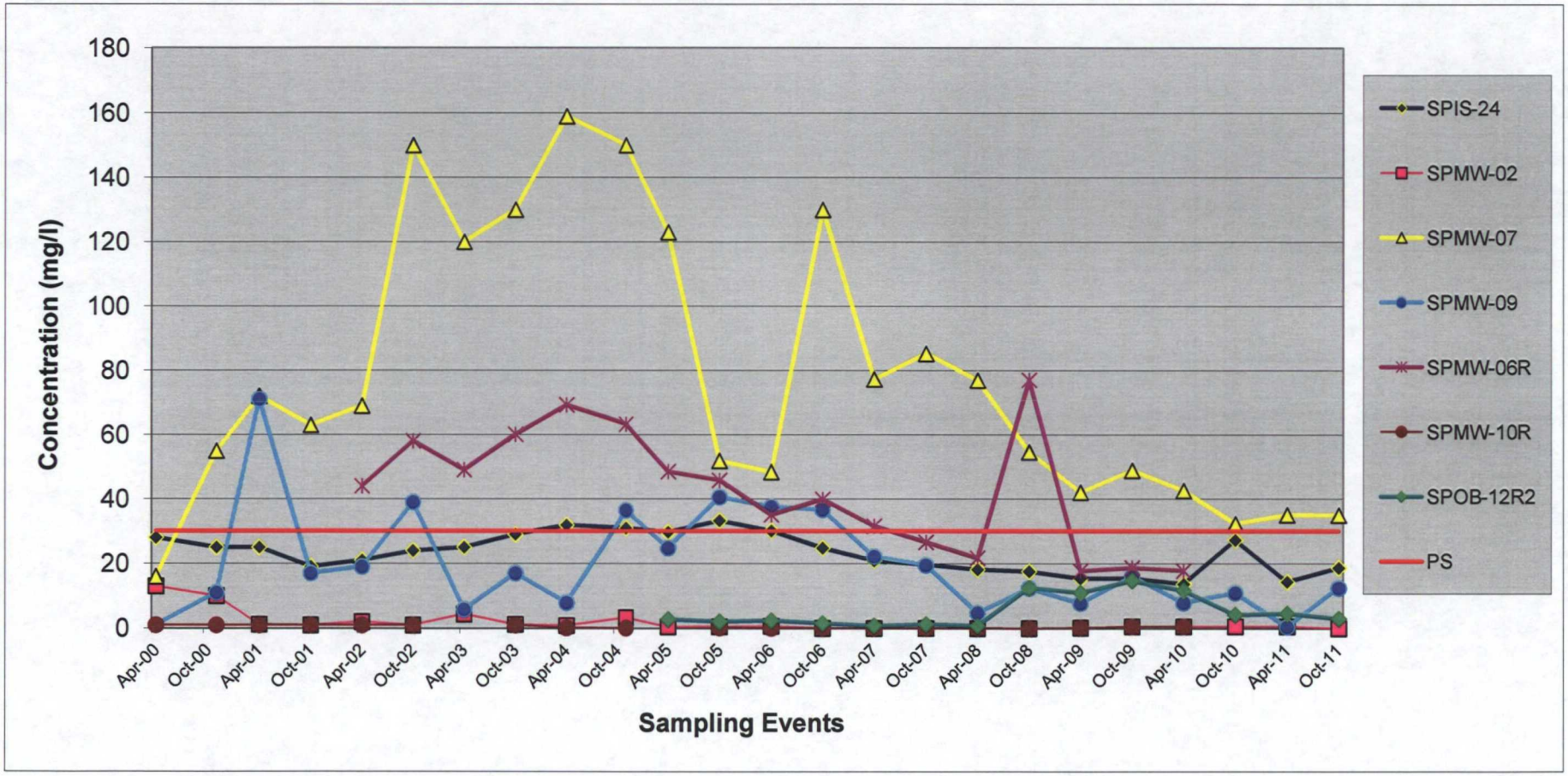


HONEYWELL
SOUTHPOINT, OHIO

amec

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - OCTOBER 2011
Project 3293-11-1429
Figure 4-4

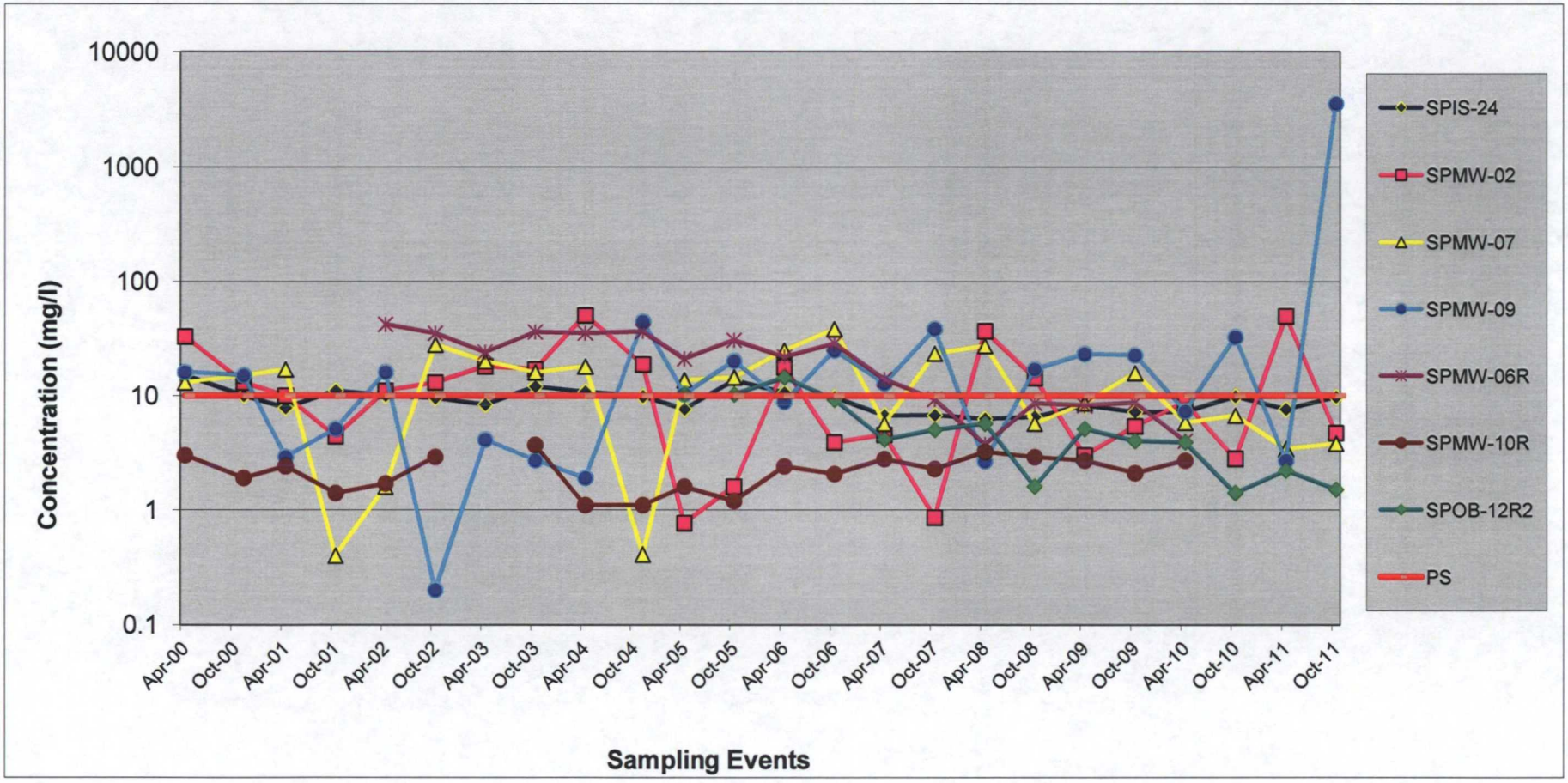
Figure 4-5
Ammonia Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



amec

Prepared by: MJT 1/6/12
Reviewed by: EDS 1/18/12

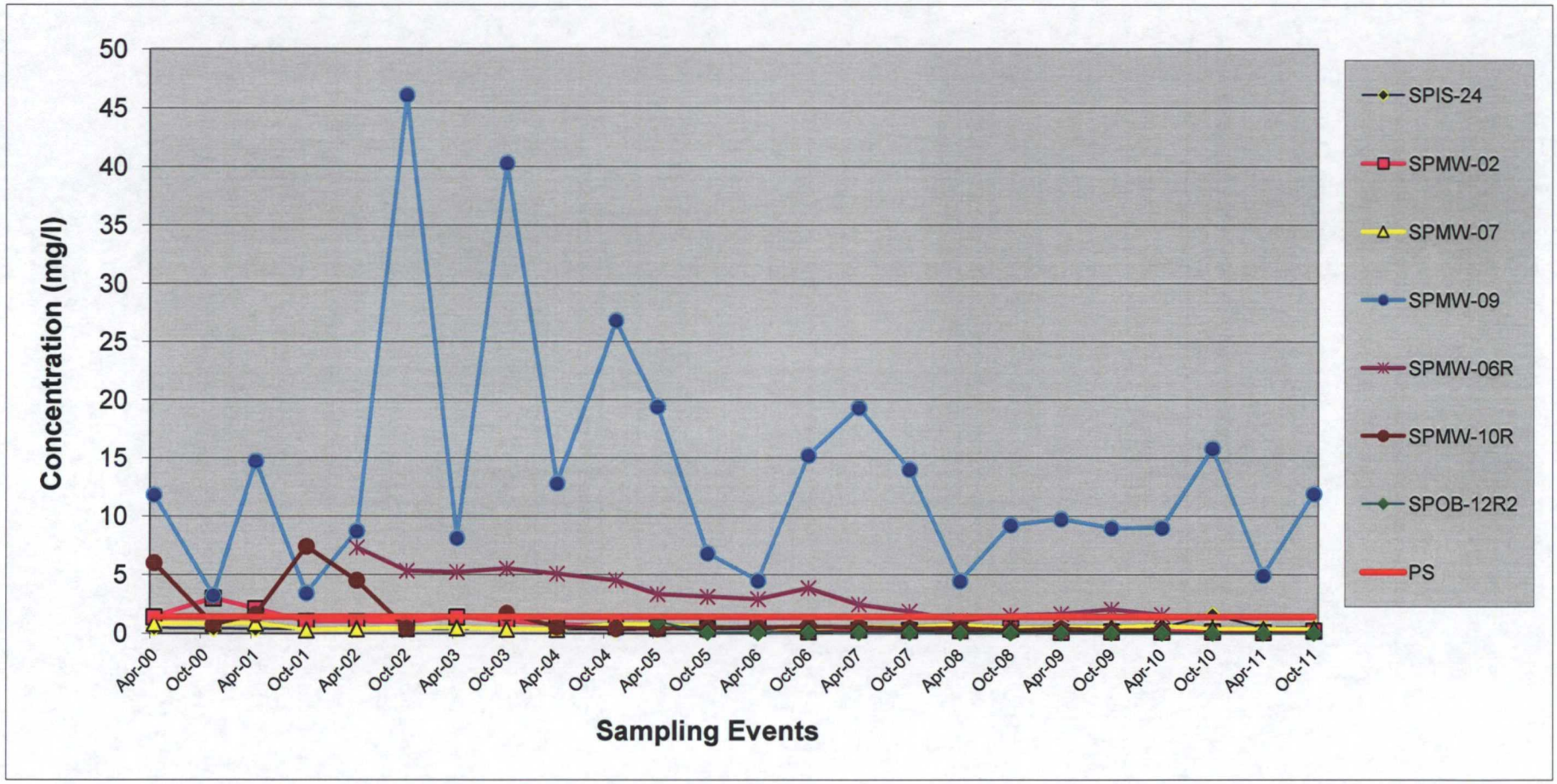
Figure 4-6
Nitrate/Nitrite Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



Mactec Engineering and Consulting, Inc.

Prepared by: EDS 12/28/10
Reviewed by: SGC 3/10/11

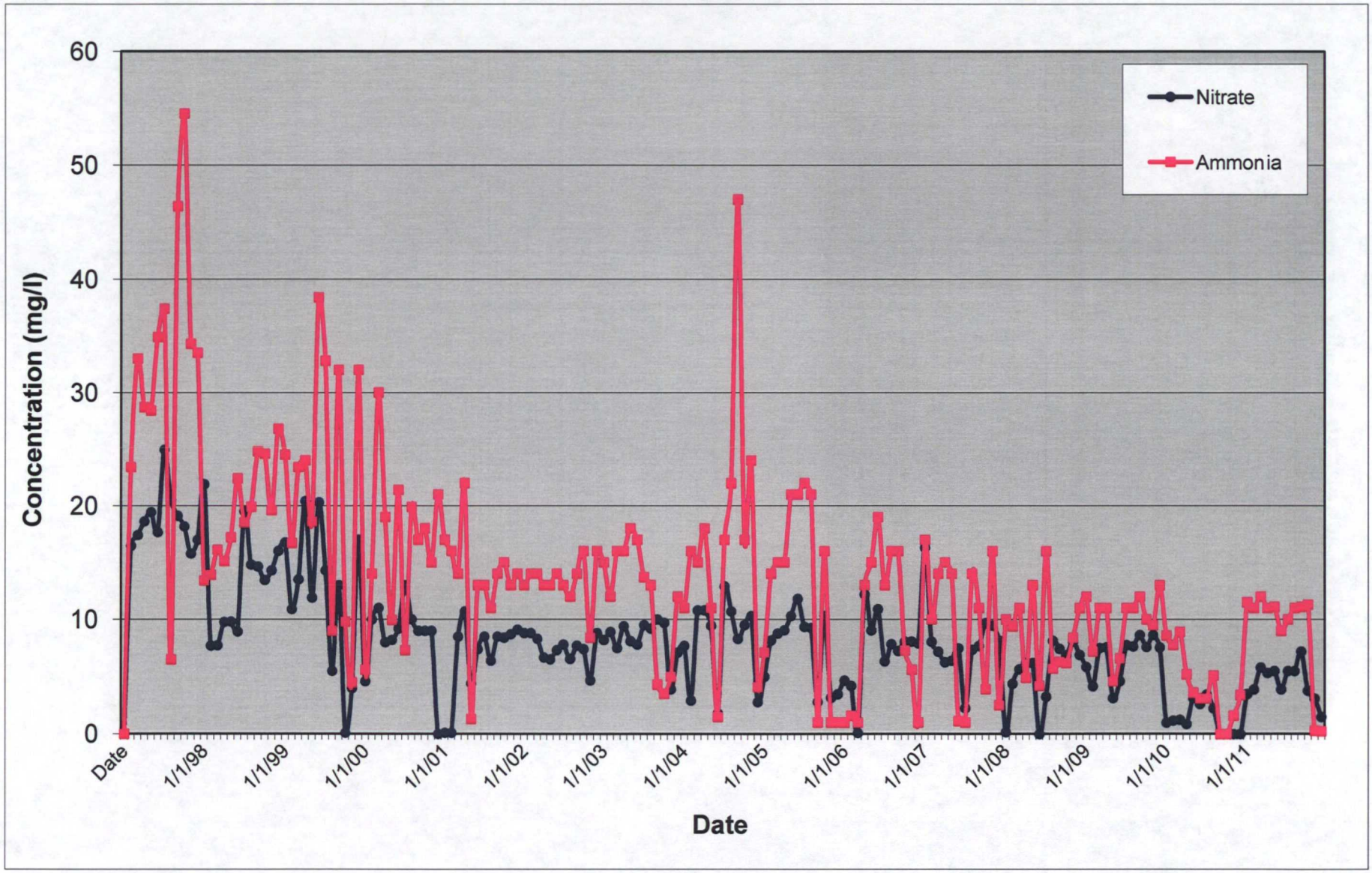
Figure 4-7
Manganese Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



amec

Prepared by: MJT 1/6/12
Reviewed by: EDS 1/18/12

Figure 5-1
NPDES Trends
South Point Plant Superfund Site
South Point, Ohio



amec

Prepared by : MJT 2/17/12
Reviewed by: EDS 2/21/12

APPENDIX A

Water Sampling Logs

PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPOB 34
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 08:15 END 09:00	SAMPLE TIME	08:50

JOB NUMBER
EVENT NO.
DATE 4-14-11
FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	44.31 FT	HISTORICAL WELL DEPTH (TOR)	81.90 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	FT	REFILL SETTING		PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	GAL			DISCHARGE SETTING	

CASING / WELL DIFFERENCE FT
WELL DIAMETER 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.000026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:28	44.31	500mL	10.64	0.845	1.7	0.33	14.66	-212		
08:31	44.32	500mL	10.66	0.844	3.9	0.76	14.68	-214		
08:34	44.32	500mL	10.67	0.844	5.5	0.72	14.67	-215		
08:37	44.34	500mL	10.67	0.845	7.2	0.69	14.69	-218		
08:40	44.35	500mL	10.67	0.844	9.9	0.71	14.69	-220		
08:43	44.36	500mL	10.67	0.845	9.9	0.72	14.70	-221		
[redacted]										

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [ ] PERISTALTIC [✓] OTHER 2" SS

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [✓] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-14-11
CM

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

PROJECT	Honeywell / OmI	FIELD SAMPLE NUMBER	SP15 23	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:15 END 09:45	SAMPLE TIME	09:30	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	58.44 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:25	58.44		7.29	0.726	42.10	7.03	14.59	0		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☐ HIGH DENSITY POLYETHYLENE	☐ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☐ OTHER _____	☐ OTHER _____	☐ OTHER _____	☐ OTHER _____

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

Pumping well
MS
MSD
DP

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-14-11
cm

Prepared/Date: _____
Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

PROJECT	Honeywell/OMS	FIELD SAMPLE NUMBER	SPMW 07	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 12:12 END 12:45	SAMPLE TIME	12:40	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	41.49 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.21 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter).

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:18	41.49	500 mL	5.99	1.48	36.1	6.46	14.92	110		
12:21	41.49	500 mL	6.57	1.34	40.0	4.51	14.61	85		
12:24	41.50	500 mL	6.70	1.34	43.4	3.98	14.62	78		
12:27	41.50	500 mL	6.75	1.35	9.4	2.87	14.59	75		
12:30	41.51	500 mL	6.83	1.36	1.7	1.82	14.58	69		
12:33	41.51	500 mL	6.84	1.36	1.5	1.46	14.58	68		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	✓ HIGH DENSITY POLYETHYLENE	✓ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

DUPLICATE

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

Prepared/Date: _____
Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.ccr

PROJECT	HONEYWELL/OMI	FIELD SAMPLE NUMBER	SPMW 03	JOB NUMBER	
SITE ID	South Pond	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:52 END 11:38	SAMPLE TIME	11:25	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [ ] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	41.45 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.0 FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (mis/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:00	41.45	500 ML	6.10	0.548	20.9	2.80	13.14	100		
11:03	41.45	500 ML	6.30	0.542	17.7	1.24	13.25	89		
11:06	41.46	500 ML	6.34	0.524	20.7	0.72	13.27	87		
11:09	41.46	500 ML	6.34	0.518	15.0	0.63	13.28	87		
11:12	41.47	500 ML	6.34	0.517	16.3	0.60	13.82	87		
11:15	41.47	500 ML	6.34	0.516	10.6	0.58	13.34	87		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" S.S.	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

Prepared/Date: _____
Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

PROJECT	Honeywell / OMS	FIELD SAMPLE NUMBER	SPMW 04	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:10 END 10:45	SAMPLE TIME	10:40	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	45.39 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	66.75 FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:15	45.39	500 mL	7.39	0.578	6.6	1.40	13.58	19		
10:18	45.39	500 mL	7.36	0.543	14.4	0.84	13.58	21		
10:21	45.39	500 mL	7.11	0.535	17.4	0.81	13.63	37		
10:24	45.40	500 mL	6.91	0.529	26.1	0.81	13.62	48		
10:27	45.40	500 mL	6.89	0.526	27.6	0.79	13.63	50		
10:30	45.41	500 mL	6.81	0.523	32.0	0.79	13.63	54		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

Prepared/Date: _____
Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

PROJECT	HONEYWELL / OMI	FIELD SAMPLE NUMBER	SPMW 13	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:35 END 10:05	SAMPLE TIME	10:00	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	44.75 FT	HISTORICAL WELL DEPTH (TOR)	71.03 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT			PID AMBIENT AIR	0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:40	44.75	500 mL	5.74	0.533	20.3	2.57	13.34	130		
09:43	44.75	500 mL	5.93	0.544	18.1	1.49	13.34	122		
09:46	44.76	500 mL	6.07	0.546	1.4	0.95	13.40	115		
09:49	44.76	500 mL	6.23	0.547	2.6	0.73	13.43	106		
09:52	44.77	500 mL	6.27	0.547	2.9	0.69	13.46	104		
09:55	44.77	500 mL	6.28	0.547	3.5	0.63	13.49	102		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" SS	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

Prepared/Date: _____
Checked/Date: _____

Honeywell
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JOB NUMBER

PROJECT: Honeywell / OMI
FIELD SAMPLE NUMBER: SPMW 12
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-13-11
ACTIVITY: START 08:48 END 09:20
SAMPLE TIME: 09:15
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 45.38 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL

MEASUREMENT POINT
- [ ] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

HISTORICAL WELL DEPTH (TOR): 64.9 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0 PPM
PID WELL MOUTH: 0 PPM
DISCHARGE SETTING:

CASING / WELL DIFFERENCE: FT
WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DC (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:53	45.38	500 ML	5.57	0.584	9.5	1.35	13.29	141		
08:56	45.38	500 ML	5.79	0.574	17.3	0.73	13.33	129		
08:59	45.39	500 ML	5.85	0.570	30.5	0.67	13.33	124		
09:02	45.39	500 ML	5.93	0.566	15.9	0.61	13.33	119		
09:05	45.40	500 ML	5.82	0.564	5.8	0.58	13.33	120		
09:08	45.40	500 ML	5.90	0.562	7.4	0.58	13.34	120		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER 2" S.S.

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [x] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

4-13-11
SM

Prepared/Date:
Checked/Date:

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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPmw 11R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:13 END 08:45	SAMPLE TIME	08:40	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	46.62 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	64.5 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:18	46.62	500 mL	4.88	0.503	15.7	0.94	13.83	182		
08:21	46.62	500 mL	5.08	0.508	30.2	0.77	13.86	171		
08:24	46.63	500 mL	5.17	0.511	31.0	0.77	13.86	165		
08:27	46.63	500 mL	5.23	0.526	11.7	0.73	13.88	161		
08:30	46.64	500 mL	5.25	0.514	10.9	0.69	13.82	159		
08:35	46.64	500 mL	5.29	0.510	13.2	0.68	13.85	158		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

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PROJECT	Honeywell / OMZ	FIELD SAMPLE NUMBER	SPIS 24	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 07:50 END 08:10	SAMPLE TIME	08:05	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	50.31 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
07:55	50.31	500mL	4.98	0.91	11.3	4.12	13.53	186		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☐ HIGH DENSITY POLYETHYLENE	☐ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☐ OTHER _____	☐ OTHER _____	☐ OTHER _____	☐ OTHER _____

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS
Pumping Well					
DUPLICATE					

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
SM

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Checked/Date: _____

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PROJECT	Honeywell/OMI	FIELD SAMPLE NUMBER	SP08 12R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 13:00 END 12:35	SAMPLE TIME	13:30	DATE	4-13-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	46.68 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.04 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:05	46.68	500mL	6.45	0.889	19.0	1.71	14.49	84		
13:08	46.68	500mL	6.50	0.898	15.4	1.01	14.62	82		
13:11	46.69	500mL	6.54	0.903	9.6	0.80	14.62	81		
13:14	46.69	500mL	6.53	0.905	15.5	0.70	14.60	81		
13:17	46.70	500mL	6.53	0.906	9.6	0.66	14.61	81		
13:20	46.71	500mL	6.52	0.906	1.1	0.63	14.53	82		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	✓ HIGH DENSITY POLYETHYLENE	✓ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ✓ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-13-11
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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPmw 01	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:05 END 08:40	SAMPLE TIME	08:35	DATE	4-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	36.98 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	62.15 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0 PPM
TOTAL VOL PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:10	36.98	500 mL	5.38	0.397	199.0	1.70	13.63	119		
08:13	36.98	500 mL	5.93	0.381	180.0	1.65	13.63	96		
08:16	36.99	500 mL	6.39	0.349	156.0	1.77	13.62	83		
08:19	36.99	500 mL	6.28	0.327	186.0	2.03	13.64	90		
08:22	37.00	500 mL	6.08	0.307	113.0	2.29	13.66	101		
08:25	37.00	500 mL	6.05	0.302	147.0	2.34	13.67	103		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-12-11
SM

Prepared/Date:
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PROJECT	Honeywell/OMS	FIELD SAMPLE NUMBER	SPMW 05
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 08:45 END 08:25	SAMPLE TIME	09:15

JOB NUMBER: EVENT NO.: DATE: 4-12-11 FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	60.33 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	85.83 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:50	60.33	500mL	7.57	0.460	66.2	3.51	13.06	8		
08:53	60.33	500mL	7.64	0.462	59.7	3.18	13.12	8		
08:56	60.34	500mL	7.68	0.463	20.2	2.82	13.15	6		
08:59	60.34	500mL	7.67	0.463	18.7	2.77	13.13	7		
09:02	60.35	500mL	7.66	0.463	15.5	2.66	13.10	0.3		
09:05	60.36	500mL	7.69	0.463	14.8	2.61	13.09	4		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [ ] PERISTALTIC [✓] OTHER 2" S.S.

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [✓] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-12-11
S.M.

Prepared/Date:
Checked/Date:

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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPMW 10R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:40 END 10:15	SAMPLE TIME	10:10	DATE	4-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [x] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	69.67 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	95.9 FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:45	69.67	500mL	4.70	0.302	309.0	3.37	12.56	165		
09:48	69.67	500mL	4.97	0.299	212.0	2.36	12.61	159		
09:51	69.68	500mL	5.06	0.305	158.0	2.13	12.72	152		
09:54	69.68	500mL	5.03	0.302	128.0	2.05	12.69	154		
09:57	69.69	500 mL	4.88	0.302	67.5	1.95	12.68	157		
10:00	69.69	500 mL	4.77	0.299	41.5	1.94	12.68	158		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" S.S.	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-12-11 SM

Checked/Date:

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PROJECT	HONEYWELL/OMI	FIELD SAMPLE NUMBER	SPMW06R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:20 END 11:00	SAMPLE TIME	10:55	DATE	4-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	64.40 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	Flush Mount FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	101.6 FT	PID AMBIENT AIR	0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:28	64.40	500mL	6.89	0.71	101.0	1.49	13.19	31		
10:31	64.40	500mL	8.52	0.768	60.7	0.86	13.41	-55		
10:34	64.41	500mL	8.59	0.755	57.2	0.76	13.56	-59		
10:37	64.41	500mL	8.65	0.727	48.9	0.70	13.78	-63		
10:40	64.43	500mL	8.76	0.695	42.1	0.71	13.65	-71		
10:43	64.43	500mL	8.82	0.674	44.1	0.71	13.63	-75		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" S.S.	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

FLUSH MOUNT

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-12-11
SM

Prepared/Date: _____
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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPMW 08	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 11:05 END 11:45	SAMPLE TIME	11:35	DATE	4-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	40.74 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	66.22 FT	PID AMBIENT AIR	0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:12	40.74	500 mL	6.61	1.16	66.1	0.95	13.66	62		
11:15	40.74	500 mL	6.53	1.17	32.3	0.62	13.66	67		
11:18	40.75	500 mL	6.56	1.15	22.1	0.58	13.66	65		
11:21	40.75	500 mL	6.54	1.13	21.3	0.54	13.65	67		
11:24	40.76	500 mL	6.50	1.13	25.8	0.53	13.66	69		
11:27	40.77	500 mL	6.46	1.11	18.3	0.52	13.63	72		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" SS.	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

4-12-11
SM

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

				JOB NUMBER	
PROJECT	HONEYWELL / OMI	FIELD SAMPLE NUMBER	SPMW 09	EVENT NO.	
SITE ID	South Point	SITE TYPE		DATE	4-12-11
ACTIVITY	START 12:20 END 12:55	SAMPLE TIME	12:50	FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	37.71 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	60.3 FT	WELL DIAMETER	2 4 IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	FID AMBIENT AIR	0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:25	37.71	500mL	1.48	0.533	88.1	3.61	11.26	372		
12:28	37.71	500 mL	1.34	0.546	91.9	3.32	11.30	380		
12:31	37.72	500mL	1.15	0.570	31.1	3.02	11.28	391		
12:34	37.72	500mL	1.09	0.568	25.8	3.00	11.29	395		
12:37	37.73	500mL	1.04	0.565	24.7	2.87	11.29	399		
12:40	37.73	500mL	1.01	0.557	22.3	2.86	11.29	401		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2"SS	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-12-11
SM

Prepared/Date: _____
Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

JOB NUMBER

PROJECT: Honeywell / OMI
FIELD SAMPLE NUMBER: SPMW 02
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-12-11
ACTIVITY: START 13:00 END 13:38
SAMPLE TIME: 13:30
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [x] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER: 46.32 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
HISTORICAL WELL DEPTH (TOR): 75.2 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:
PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0 PPM
PID WELL MOUTH: 0 PPM
DISCHARGE SETTING:
CASING / WELL DIFFERENCE: FT
WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:05	46.32	500 mL	4.47	0.392	35.0	7.75	13.37	219		
13:08	46.32	500 mL	4.59	0.590	22.3	5.89	13.38	205		
13:11	46.33	500 mL	4.97	0.917	20.5	3.98	13.37	182		
13:14	46.33	500 mL	5.38	1.06	19.6	2.06	13.35	158		
13:17	46.34	500 mL	5.51	1.10	19.6	1.68	13.37	150		
13:20	46.34	500 mL	5.71	1.16	17.8	1.06	13.38	137		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER 2" S.S.

TYPE OF TUBING
- [x] HIGH DENSITY POLYETHYLENE
- [ ] OTHER

TYPE OF PUMP MATERIAL
- [x] STAINLESS STEEL
- [ ] OTHER

TYPE OF BLADDER MATERIAL
- [ ] TEFLON
- [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

4-12-11
SM

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41211
Group# 1 of 1

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Sample #s _____

Client: Honeywell Acct: 10651
Project Name: South Point PWSID #: _____
Project Manager: Patrick Holmes P.O.# 4987848
Sampler: Steve Moore / Ron Cade Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)	Remarks
SPMW01-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW05-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW10R-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW06R-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW08-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW09-S-110412	4/12/2011		X			X		4	X	X	X		
SPMW02-S-110412	4/12/2011		X			X		4	X	X	X		

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date Results are needed: _____
Rush results requested by (please circle): Phone Fax Email
Phone #: _____ Fax#: _____
Email address: _____

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4-12-11	16:00			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

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CH2MHILL
Apr 14 11 10:05a

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41311
Group# 1 of 2

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Sample #s _____

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #: _____
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Steve Moore / Ron Cade
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Remarks:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)
SPOB12R2-S-110413	4/13/2011	13:30	X			X		4	X	X	X	
SPMW11R-S-110413	4/13/2011	8:40	X			X		4	X	X	X	
SPMW12-S-110413	4/13/2011	9:15	X			X		4	X	X	X	
SPMW13-S-110413	4/13/2011	10:00	X			X		4	X	X	X	
SPMW04-S-110413	4/13/2011	10:40	X			X		4	X	X	X	
SPIS24-S-110413	4/13/2011	8:05	X			X		4	X	X	X	
SPIS24DP-S-110413	4/13/2011	8:05	X			X		4	X	X	X	

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Formal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4.13.11	16:00			

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Apr 14 11 10:05a

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41311
Group# 2 of 2

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Sample #s _____

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #: _____
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Steve Moore / Ron Cole
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)	Remarks
SPMW03-S-110413	4/13/2011	11:25	X			X		4	X	X	X		
SPMW07-S-110413	4/13/2011	12:40	X			X		4	X	X	X		
SPMW07DP-S-110413	4/13/2011	12:40	X			X		4	X	X	X		

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date Results are needed: _____
Rush results requested by (please circle): Phone Fax Email
Phone #: _____ Fax#: _____
Email address: _____

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4-13-11	16:00			

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Apr 14 11 10:06a

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41411 **Semi-Annual**
Group# _____
1 of 1
Sample #s _____

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Client: Honeywell Acct: 10651
Project Name: South Point PWSID #: _____
Project Manager: Patrick Holmes P.O.# 4987848
Sampler: Charles D Miller - Steve Moore Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)	Remarks:
SPOB34-S-110414	4/14/2011	8:50	X			X		4	X	X	X		
SPIS23-S-110414	4/14/2011	9:30	X			X		4	X	X	X		
SPIS23DP-S-110414	4/14/2011	9:30	X			X		4	X	X	X		
SPIS23-MS-S-110414 (Matrix Spike)	4/14/2011	9:30	X			X		4	X	X	X		
SPIS23-MSD-S-110414 (Matrix Spike Duplicate)	4/14/2011	9:30	X			X		2	X	X	X		

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(Yes, indicate QC sample and submit triplicate volume.)
Original Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Charles D Miller	4-14-11	1210 P			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

S Moore

SOUTH POINT WELL WATER LEVELS

DATE: 4-11-2011

WELL #	DTW	DTB	DTB-DTW	PID	TIME	LOCATION
SPMW-01	36.98	62.15		0		NORTH ENTRANCE OFF ROAD BY FIELD
SPMW-05	60.33	85.83		0		ALONG SOUTH-EAST FENCE LINE IN PINES ADJACENT TO RESIDENTIAL PROPERTY
SPMW-10R	69.67	95.9		0		AT CAP AREA
SPMW-06R	64.40	101.6		0		AT CAP AREA
SPMW-08	40.74	66.22		0		FLY-ASH PONDS
SPIS-18	34.32	150		0		FLY-ASH PONDS
IS-15	40.11	150		0		ALONG County Rd Fence line
SPIS-15A	33.48	150		0		FLY-ASH PONDS
SPMW-09	37.71	60.3		0		FLY-ASH PONDS
T2-B	15.97	44.2		0		FLY-ASH PONDS
SPIS-26	45.22	150		0		FORMER PUMPING WELL
SPIS-25	47.52	150		0		FORMER PUMPING WELL
SPIS-27	48.42	150		0		FORMER PUMPING WELLS/ACROSS FROM CALGON BLDG.
SPMW-02	46.32	75.2		0		BY ROADWAY ON RIGHT GOING EAST TURN SOUTH
SPMW-07	41.49	67.21		0		HOOK LEFT ON ROADWAY BESIDE RR TRACKS
SPMW-03	41.45	67		0		BOON DOCKS NORTH OF TRACKS
SPIS-22	43.29	150		0		FORMER PW
SPOB-34	44.31	81.9		0		NEAR PINES
SPOB-12R2	46.68	67.04		0		NEAR PINES
SPMW-11R	46.62	64.5		0		NEAR PINES
SPMW-12	45.32	64.9		0		NEAR PINES
SPMW-13	44.75	71.03		0		NEAR PINES
SPMW-04	45.39	66.75		0		NEAR PINES
SPIS-06	45.72	150		0		FORMER PUMPING WELLS
SPIS-05	40.91	150		0		FORMER PUMPING WELLS
SPIS-01	40.90	150		0		INSIDE RED BRICK BLDG.
SPIS-28	43.44	150		0		FORMER PUMPING WELLS
SPIS-02	41.52	150		0		BRICK BLDG. NEXT TO TOWERS
SPOB-29	40.35	76.62		0		GO TO PYRO CHEM
SPOB-15D	41.79	62.51		0		SOUTH OF CO. RD. 1 INSIDE AND TO THE RIGHT
SPOB-26	30.27	72.02		0		NEAR THE DOCK
CAISSON	25.82			0		AT THE RIVER
SPOB-17D	28.70	50.56		0		EAST ON THE PATH TO TREE WITH LARGE BRANCH DOWN
SPOB-18D	30.68	52.63		0		FOLLOW THE LANE PAST PUMP HOUSE
SPIS-10	41.72	150		0		AT SP FIRE STATION
SPIS-23	58.44			0		Pumping Well
SPIS-24	50.31			0		Pumping Well

SOUTH POINT WELL WATER LEVELS

DATE: 4-11-11 S.M.

WELL #	DTW	DTB	DTB-DTW	PID	TIME	LOCATION
SPMW-01	36.98	62.15		0		NORTH ENTRANCE OFF ROAD BY FIELD
SPMW-05	60.33	85.83		0		ALONG SOUTH-EAST FENCE LINE IN PINES ADJACENT TO RESIDENTIAL PROPERTY
SPMW-10R	69.67	95.9		0		AT CAP AREA
SPMW-06R	64.40	101.6		0		AT CAP AREA
SPMW-08	40.74	66.22		0		FLY-ASH PONDS
SPIS-18	34.32	150		0		FLY-ASH PONDS
IS-15	40.11	150		0		ALONG County Rd Fence line
SPIS-15A	33.48	150		0		FLY-ASH PONDS
SPMW-09	37.71	60.3		0		FLY-ASH PONDS
T2-B	15.97	44.2		0		FLY-ASH PONDS
SPIS-26	45.22	150		0		FORMER PUMPING WELL
SPIS-25	47.52	150		0		FORMER PUMPING WELL
SPIS-27	48.42	150		0		FORMER PUMPING WELLS/ACROSS FROM CALGON BLDG.
SPMW-02	46.32	75.2		0		BY ROADWAY ON RIGHT GOING EAST TURN SOUTH
SPMW-07	41.49	67.21		0		HOOK LEFT ON ROADWAY BESIDE RR TRACKS
SPMW-03	41.45	67		0		BOON DOCKS NORTH OF TRACKS
SPIS-22	43.79	150		0		FORMER PW
SPOB-24	44.31	81.9		0		NEAR PINES
SPOB-12R2	46.68	67.04		0		NEAR PINES
SPMW-11R	46.62	64.5		0		NEAR PINES
SPMW-12	45.38	64.9		0		NEAR PINES
SPMW-13	44.75	71.03		0		NEAR PINES
SPMW-04	45.39	66.75		0		NEAR PINES
SPIS-06	45.72	150		0		FORMER PUMPING WELLS
SPIS-05	40.91	150		0		FORMER PUMPING WELLS
SPIS-01	40.90	150		0		INSIDE RED BRICK BLDG.
SPIS-28	43.44	150		0		FORMER PUMPING WELLS
SPIS-02	41.52	150		0		BRICK BLDG. NEXT TO TOWERS
SPOB-29	40.35	76.62		0		GO TO PYRO CHEM
SPOB-15D	41.79	62.51		0		SOUTH OF CO. RD. 1 INSIDE AND TO THE RIGHT
SPOB-26	30.27	72.02		0		NEAR THE DOCK
CAISSON	25.92			0		AT THE RIVER
SPOB-17D	28.70	50.56		0		EAST ON THE PATH TO TREE WITH LARGE BRANCH DOWN
SPOB-18D	30.68	52.63		0		FOLLOW THE LANE PAST PUMP HOUSE
SPIS-10	41.72	150		0		AT SP FIRE STATION
SPIS-23	58.44			0		Pumping Well
SPIS-24	50.31			0		Pumping Well

SOUTH POINT SEMI 0221
GROUNDWATER

SM RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW09	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 13:25 END 14:05	SAMPLE TIME	14:00	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	39.55 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	60.3 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. C)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:37	39.55	500mL	4.09	0.918	0.0	2.29	11.78	423		
13:40	39.55	500mL	4.06	0.922	0.0	0.02	11.75	435		
13:43	39.56	500mL	4.05	0.937	0.0	0.05	11.75	438		
13:46	39.56	500mL	4.03	0.944	0.0	0.00	11.74	443		
13:49	39.57	500mL	4.07	0.955	0.0	0.00	11.73	447		
13:50	39.58	500mL	4.07	0.963	0.0	0.00	11.71	450		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" S.S.	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 10-17-11 SM
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

South Point SEMI 2011
GROUNDWATER

Sm RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPM-04	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 12:44 END 13:15	SAMPLE TIME	13:10	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	47.94 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	66.75 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0.0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:50	47.94	500 mL	6.41	0.453	0.0	0.49	13.55	145		
12:53	47.94	500 mL	6.35	0.457	0.0	0.41	13.55	134		
12:56	47.95	500 mL	6.26	0.458	0.0	2.35	13.54	128		
12:59	47.95	500 mL	6.23	0.460	0.0	1.33	13.53	125		
13:02	47.96	500 mL	6.23	0.460	0.0	1.04	13.54	125		
13:05	47.96	500 mL	6.23	0.460	0.0	0.77	13.53	125		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2"SP	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-12-11
Sm

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Checked/Date:

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SOUTH POINT GROUNDWATER SEMI 2011

SM RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW13
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 11:22 END 11:50	SAMPLE TIME	11:45

JOB NUMBER
EVENT NO.
DATE 10-12-11
FILE TYPE

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	46.87 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	71.43 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:23	46.87	500 ML	7.11	0.529	0.0	0.40	13.13	102		
11:26	46.87	500 ML	7.12	0.529	0.0	0.19	13.13	101		
11:29	46.88	500 ML	7.13	0.528	0.0	0.07	13.13	100		
11:32	46.88	500 ML	7.13	0.528	0.0	0.04	13.13	100		
11:35	46.89	500 ML	7.14	0.528	0.0	0.00	13.14	100		
11:38	46.89	500 ML	7.14	0.528	0.0	0.00	13.14	99		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☐ PERISTALTIC ☑ OTHER 2" S.S.

TYPE OF TUBING: ☑ HIGH DENSITY POLYETHYLENE ☐ OTHER

TYPE OF PUMP MATERIAL: ☑ STAINLESS STEEL ☐ OTHER

TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

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SOUTH POINT SEMI 2011
GROUNDWATER

Sm RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPmw12	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:35 END 11:15	SAMPLE TIME	11:10	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ✓ TOP OF WELL RISER; ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	47.14 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	31 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	64.9 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:43	47.14	500mL	6.47	0.584	0.0	0.00	13.17	169		
10:46	47.14	500mL	6.44	0.580	0.0	0.00	13.18	161		
10:49	47.15	500mL	6.42	0.576	0.0	0.00	13.19	151		
10:52	47.15	500mL	6.42	0.575	0.0	0.00	13.20	151		
10:55	47.16	500mL	6.41	0.574	0.0	0.00	13.20	151		
10:58	47.17	500mL	6.40	0.574	0.0	0.00	13.19	151		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	✓ HIGH DENSITY POLYETHYLENE	✓ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ✓ OTHER 2"SS	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ~~YES~~ NO

NOTES:

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SOUTH POINT SEMI 2011
GROUNDWATER

SM RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SP11R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:48 END 10:30	SAMPLE TIME	10:20	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	48.29 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	64.5 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.0 PPM
TOTAL VOL PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0.0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:55	48.29	500mL	6.08	0.477	22.4	0.05	13.69	182		
09:58	48.29	500mL	5.97	0.476	0.0	0.00	13.72	180		
10:01	48.30	500mL	5.95	0.474	0.0	0.00	13.73	178		
10:04	48.31	500mL	6.00	0.472	0.0	0.00	13.73	176		
10:07	48.31	500mL	6.02	0.472	0.0	0.00	13.72	176		
10:10	48.30	500mL	6.02	0.472	0.0	0.00	13.71	176		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☑ YES NO

NOTES:

10-12-11
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GROUNDWATER

SM RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPZS24	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:11 END 09:30	SAMPLE TIME	09:25	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [x] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	51.03 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	FT	PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:17	51.03	500mL	6.95	0.881	0.0	2.89	13.69	146		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[ ] HIGH DENSITY POLYETHYLENE	[ ] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [ ] OTHER _____	[ ] OTHER _____	[ ] OTHER _____	[ ] OTHER _____

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

Pumping Well
DUPLICATE

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-12-11
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GROUNDWATER

Sm RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW 05	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:27 END 09:05	SAMPLE TIME	09:00	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	59.42 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	31 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	85.83 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	FID AMBIENT AIR	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		FID WELL MOUTH	0.0 PPM
				DISCHARGE SETTING	

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:35	59.42	500mL	7.06	0.447	81.5	3.39	13.01	67		
08:38	59.42	500mL	7.10	0.449	61.5	3.24	13.00	71		
08:41	59.43	500mL	7.13	0.450	0.0	4.49	12.99	64		
08:44	59.43	500mL	7.18	0.450	0.0	2.84	12.98	58		
08:47	59.44	500mL	7.20	0.451	0.0	2.75	12.98	57		
08:50	59.44	500mL	7.23	0.451	0.0	2.67	12.98	59		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☐ PERISTALTIC ☑ OTHER 2"SS

TYPE OF TUBING: ☑ HIGH DENSITY POLYETHYLENE ☐ OTHER

TYPE OF PUMP MATERIAL: ☑ STAINLESS STEEL ☐ OTHER

TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

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PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW01	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 07:50 END 08:25	SAMPLE TIME	08:20	DATE	10-12-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	35.31 FT	HISTORICAL WELL DEPTH (TOR)	60.15 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT			PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
07:57	35.31	500 ML	5.84	0.369	0.0	2.24	13.56	158		
08:00	35.31	500 ML	5.86	0.346	0.0	1.28	13.56	139		
08:03	35.32	500 ML	5.89	0.336	0.0	1.30	13.55	139		
08:06	35.32	500 ML	5.29	0.323	0.0	1.44	13.54	150		
08:09	35.33	500 ML	5.94	0.320	0.0	1.48	13.54	153		
08:12	35.34	500 ML	5.97	0.316	0.0	1.53	13.53	158		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" SS	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-12-11
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Groundwater

Sm RC

PROJECT	Honeywell UMI	FIELD SAMPLE NUMBER	SPMW08	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 13:37 END 14:10	SAMPLE TIME	14:05	DATE	10-11-4
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	40.27 FT	PROTECTIVE CASING STICK UP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	66.22 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:44	40.27	500 mL	6.43	0.788	6.0	0.16	13.50	99		
13:47	40.27	500 mL	6.23	0.812	9.1	4.37	13.43	105		
13:50	40.28	500 mL	6.19	0.806	5.2	0.00	13.42	109		
13:53	40.28	500 mL	6.18	0.802	3.5	0.00	13.45	110		
13:56	40.29	500 mL	6.17	0.790	1.7	0.00	13.40	111		
13:59	40.30	500 mL	6.17	0.785	0.9	0.00	13.42	111		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [ ] PERISTALTIC [✓] OTHER 2" S.S.

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [✓] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-11-11 SM

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PROJECT	Honeywell OMF	FIELD SAMPLE NUMBER	SPM-06R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 13:02 END 13:35	SAMPLE TIME	13:30	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [x] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	62.68 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	101.6 FT	PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM		
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:09	62.68	500 ML	6.92	0.941	800.0	0.27	14.30	-8		
13:12	62.68	500 ML	6.91	0.896	726.0	0.00	14.16	-5		
13:15	62.69	500 ML	6.89	0.921	341.0	0.00	14.12	2		
13:18	62.69	500 ML	6.92	0.904	105.0	0.00	14.09	3		
13:21	62.69	500 ML	6.94	0.859	26.4	0.00	14.16	5		
13:24	62.70	500 ML	6.94	0.828	16.1	0.00	14.12	6		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2" SS	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

Flush mount well

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

10-11-11
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PROJECT	Honeywell GMS	FIELD SAMPLE NUMBER	SPMW07	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:52 END 10:34	SAMPLE TIME	10:06	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ✓ TOP OF WELL RISER; ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	41.68 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.21 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:00	41.68	500mL	7.05	1.18	0.0	0.68	14.10	91		
10:03	41.68	500mL	7.02	1.19	0.0	0.53	14.10	91		
10:06	41.69	500mL	6.95	1.19	0.0	0.24	14.11	91		
10:09	41.69	500mL	6.93	1.19	0.0	0.10	14.10	91		
10:12	41.70	500mL	6.94	1.18	0.0	0.00	14.10	89		
10:15	41.71	500mL	6.95	1.18	0.0	0.01	14.10	88		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☐ PERISTALTIC ✓ OTHER 2'55

TYPE OF TUBING: ✓ HIGH DENSITY POLYETHYLENE ☐ OTHER

TYPE OF PUMP MATERIAL: ✓ STAINLESS STEEL ☐ OTHER

TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

DUPLICATE

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ✓ YES NO

NOTES:

10-11-11
SM

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PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPIS 23	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:13 END 09:36	SAMPLE TIME	09:30	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	61.98 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 ga./milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:17	61.98	500ML	6.94	0.711	0.0	5.92	19.65	46		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☐ BLADDER ☐ PERISTALTIC ☐ OTHER _____

TYPE OF TUBING: ☐ HIGH DENSITY POLYETHYLENE ☐ OTHER _____

TYPE OF PUMP MATERIAL: ☐ STAINLESS STEEL ☐ OTHER _____

TYPE OF BLADDER MATERIAL: ☐ TEFLON ☐ OTHER _____

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

Pumping Well

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO _____

NOTES:

Prepared/Date: 10-11-11 SM

Checked/Date: _____

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S. Point Groundwater Sem. Annual 2011 Sm RC

PROJECT	Honeywell UMI	FIELD SAMPLE NUMBER	SP06 R2	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:38 END 09:12	SAMPLE TIME	09:10	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	48.53 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.04 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:46	48.53	500 mL	6.59	0.832	0.0	0.00	14.25	55		
08:49	48.53	500 mL	6.53	0.833	0.0	0.01	14.25	60		
08:52	48.54	500 mL	6.52	0.832	0.0	0.00	14.27	63		
08:55	48.54	500 mL	6.52	0.832	0.0	0.00	14.29	65		
08:58	48.55	500 mL	6.52	0.832	0.0	0.00	14.29	67		
09:01	48.55	500 mL	6.54	0.831	0.0	0.00	14.30	70		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2"S.S.	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

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PROJECT	HONEYWELL / OMI	FIELD SAMPLE NUMBER	SP03 34	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:00 END 08:36	SAMPLE TIME	08:30	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	46.00 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	81.9 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
08:08	46.03	500mL	6.94	0.733	0.0	0.26	14.60	-136		
08:11	46.03	500mL	7.01	0.733	0.0	0.11	14.61	-142		
08:14	46.01	500mL	7.08	0.732	0.0	0.02	14.61	-146		
08:17	46.01	500mL	7.11	0.732	0.0	0.00	14.62	-148		
08:20	46.02	500mL	7.11	0.732	0.0	0.00	14.58	-149		
08:23	46.02	500mL	7.13	0.731	0.0	0.00	14.58	-151		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] BLADDER	[✓] HIGH DENSITY POLYETHYLENE	[✓] STAINLESS STEEL	[ ] TEFLON
[ ] PERISTALTIC [✓] OTHER 2"S.S	[ ] OTHER	[ ] OTHER	[ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 10-11-11 SM

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S. Point Groundwater Semi Annual 2011 SM RC

PROJECT	Honeywell OMS	FIELD SAMPLE NUMBER	SPM 03	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:40 END 11:15	SAMPLE TIME	11:11	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	42.45 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.00 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:47	42.45	500 ML	6.23	0.451	0.0	5.36	13.04	149		
10:50	42.45	500 ML	6.11	0.437	0.0	0.50	13.03	137		
10:53	42.46	500 ML	6.09	0.438	43.5	0.16	13.01	133		
10:56	42.46	500 ML	6.11	0.439	22.2	0.00	12.99	128		
10:59	42.47	500 ML	6.15	0.439	19.0	0.00	13.01	123		
11:02	42.48	500 ML	6.19	0.439	13.2	0.00	13.02	120		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2" SS	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-11-11
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PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW 10R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 12:27 END 13:08	SAMPLE TIME	12:55	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: [✓] TOP OF WELL RISER [ ] TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	67.98 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	95.9 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	
				WELL DIAMETER	2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

WELL INTEGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:33	67.98	500 mL	5.46	0.287	84.3	2.63	12.76	210		
12:36	67.98	500 mL	5.32	0.295	105.0	1.81	12.73	207		
12:39	67.99	500 mL	5.26	0.300	42.6	1.59	12.70	201		
12:42	67.99	500 mL	5.28	0.297	15.7	1.51	12.71	197		
12:45	68.00	500 mL	5.34	0.297	3.4	1.42	12.65	191		
12:48	68.00	500 mL	5.38	0.299	0.7	1.38	12.65	189		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [ ] BLADDER [ ] PERISTALTIC [✓] OTHER 2" S.S.

TYPE OF TUBING: [✓] HIGH DENSITY POLYETHYLENE [ ] OTHER

TYPE OF PUMP MATERIAL: [✓] STAINLESS STEEL [ ] OTHER

TYPE OF BLADDER MATERIAL: [ ] TEFLON [ ] OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

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S. Point Groundwater Semi ANNUAL 2011 SM RC

PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPMW02	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 11:17 END 11:55	SAMPLE TIME	11:50	DATE	10-11-11
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING

INITIAL DEPTH TO WATER	45.26 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	75.2 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

CASING / WELL DIFFERENCE: FT

WELL DIAMETER: 2" IN

WELL INTERGRITY:

INTEGRITY:	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:22	45.26	500 mL	6.54	0.672	0.0	6.76	13.46	151		
11:25	45.26	500 mL	6.60	0.691	0.0	4.67	13.35	141		
11:28	45.27	500 mL	6.77	0.737	14.3	0.29	13.30	114		
11:31	45.27	500 mL	6.79	0.730	3.8	0.03	13.27	100		
11:34	45.28	500 mL	6.81	0.720	4.2	0.00	13.28	92		
11:37	45.28	500 mL	6.82	0.719	9.3	0.00	13.28	87		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
☐ BLADDER	☑ HIGH DENSITY POLYETHYLENE	☑ STAINLESS STEEL	☐ TEFLON
☐ PERISTALTIC ☑ OTHER 2"SS	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

ANALYSIS	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED ☑ YES ☐ NO

NOTES:

10-11-11
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SOUTH POINT WELL WATER LEVELS

DATE: __ Oct. 10/2011 S. Moore

WELL #	DTW	DTB	DTB-DTW	PID	TIME	LOCATION
SPMW-01	35.31	62.15				NORTH ENTRANCE OFF ROAD BY FIELD
SPMW-05	59.42	85.83				ALONG SOUTH-EAST FENCE LINE IN PINES ADJACENT TO RESIDENTIAL PROPERTY
SPMW-10R	67.98	95.9				AT CAP AREA
SPMW-10R	62.68	101.6				AT CAP AREA
SPMW-08	40.27	66.22				FLY-ASH PONDS
SPIS-18	36.75	150				FLY-ASH PONDS
SPIS-15	41.96	150				ALONG County Rd Fence line
SPIS-15A	36.15	150				FLY-ASH PONDS
SPMW-09	39.55	60.3				FLY-ASH PONDS
T2-B	15.86	44.2				FLY-ASH PONDS
SPIS-26	43.84	150				FORMER PUMPING WELL
SPIS-25	45.97	150				FORMER PUMPING WELL
SPIS-27	47	150				FORMER PUMPING WELLS/ACROSS FROM CALGON BLDG.
SPMW-02	45.26	75.2				BY ROADWAY ON RIGHT GOING EAST TURN SOUTH
SPMW-07	41.68	67.21				HOOK LEFT ON ROADWAY BESIDE RR TRACKS
SPMW-03	42.45	67				BOON DOCKS NORTH OF TRACKS
SPIS-22	44.87	150				FORMER PW
SPOB-34	46	81.9				NEAR PINES
SPOB-12R2	48.53	67.04				NEAR PINES
SPMW-11R	48.29	64.5				NEAR PINES
SPMW-12	47.14	64.9				NEAR PINES
SPMW-13	46.87	71.03				NEAR PINES
SPMW-04	47.94	66.75				NEAR PINES
SPIS-06	47.98	150				FORMER PUMPING WELLS
SPIS-05	42.57	150				FORMER PUMPING WELLS
SPIS-01	42.35	150				INSIDE RED BRICK BLDG.
SPIS-28	44.95	150				FORMER PUMPING WELLS
SPIS-02	42.25	150				BRICK BLDG. NEXT TO TOWERS
SPOB-29	41.83	76.62				GO TO PYRO CHEM
SPOB-15D	43.63	62.51				SOUTH OF CO. RD. 1 INSIDE AND TO THE RIGHT
SPOB-26	34.6	72.02				NEAR THE DOCK
CAISSON	34.02					AT THE RIVER
SPOB-17D	33.1	50.56				EAST ON THE PATH TO TREE WITH LARGE BRANCH DOWN
SPOB-18D	30.72	52.63				FOLLOW THE LANE PAST PUMP HOUSE
SPIS-10	43.75	150				AT SP FIRE STATION
SPIS-23	61.98					Pumping Well
SPIS-24	51.03					Pumping Well

APPENDIX B

Data Validation Reports and Laboratory Results (On CD)

DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

1.0 INTRODUCTION:

Data validation was completed on water samples collected by MACTEC in April 2011 at the South Point Facility in South Point, Ohio. Sample analysis was completed by Lancaster Laboratories in Lancaster, Pennsylvania. Samples were reported in sample delivery groups (SDGs) HSP13, HSP14 and HSP15. Samples were analyzed for the following parameters and analytical methods:

- Metals by Method 6010B/6020 including arsenic, cadmium, copper, manganese, nickel, and beryllium
- Ammonia (NH3) by Standard Methods 4500 NH3 C
- Nitrate and nitrite by Method 353.2

A Honeywell Level II data validation was completed. A summary of the samples included in these sets is presented on Table 1. Data packages were validated using quality control (QC) limits in the Table 2. Data qualification procedures described in USEPA data validation guidelines (USEPA, 2004) were used as general guidelines during the data review along with the professional judgment of the project chemist.

During the Level II data validation the following data quality indicators were reviewed. Data quality control reviews are completed using laboratory QC summary forms.

- Data Package Narrative
- Sample Collection and Holding Times
- QC Blanks
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD)
- Field and Laboratory Duplicates
- Reporting Limits
- Electronic Data Verification

Data qualifications were completed if necessary in accordance with the guidelines using the following qualifiers:

J = The reported concentration is considered an estimated value.
U = The target compound was not detected at concentrations greater than the associated quantitation limit.

A complete summary of final sample results is provided in Table 3.

2.0 Data Validation Observations and Actions

Results are interpreted to be usable as reported by the laboratory unless discussed in the following subsections.

2.1 Metals

No data quality issues were identified during the review.

2.2 Nitrate and Nitrite

No data quality issues were identified during the review.

2.3 Ammonia

No data quality issues were identified during the review.

References:

U.S. Environmental Protection Agency (USEPA), 2004. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review"; Office of Superfund Remediation and Technology Innovation (OSRTI); EPA-540-R-04-004; October 2004

Validated by: Peeyush Gupta

May 5, 2011

Reviewed by: QA Chemist: Chris Ricardi, NRCC-EAC

May 11, 2011

TABLE 1
SAMPLE SUMMARY
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

Field Sample ID	Date Collected	SDG	E353.2 NO3/NO2	SM20-4500-NH3C Ammonia	SW6010 metals	Comments
SPMW01-S-110412	4/12/2011	HSP13	2	1	6	
SPMW02-S-110412	4/12/2011	HSP13	2	1	6	
SPMW05-S-110412	4/12/2011	HSP13	2	1	6	
SPMW06R-S-110412	4/12/2011	HSP13	2	1	6	
SPMW08-S-110412	4/12/2011	HSP13	2	1	6	
SPMW09-S-110412	4/12/2011	HSP13	2	1	6	
SPMW10R-S-110412	4/12/2011	HSP13	2	1	6	
SPIS24-S-110413	4/13/2011	HSP14	2	1	6	
SPIS24DP-S-110413	4/13/2011	HSP14	2	1	6	Field DUP
SPMW03-S-110413	4/13/2011	HSP14	2	1	6	
SPMW04-S-110413	4/13/2011	HSP14	2	1	6	
SPMW07-S-110413	4/13/2011	HSP14	2	1	6	
SPMW07DP-S-110413	4/13/2011	HSP14	2	1	6	Field DUP
SPMW11R-S-110413	4/13/2011	HSP14	2	1	6	
SPMW12-S-110413	4/13/2011	HSP14	2	1	6	
SPMW13-S-110413	4/13/2011	HSP14	2	1	6	
SPOB12R2-S-110413	4/13/2011	HSP14	2	1	6	
SPIS23-S-110414	4/14/2011	HSP15	2	1	6	
SPIS23-MS-S-110414	4/14/2011	HSP15	2	1	6	MS
SPIS23-MSD-S-110414	4/14/2011	HSP15		1	6	MSD
SPIS23DP-S-110414	4/14/2011	HSP15	2	1	6	Field DUP
SPOB34-S-110414	4/14/2011	HSP15	2	1	6	

TABLE 2
PROJECT PRECISION AND ACCURACY GOALS
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

PARAMETER	QC TEST	ANALYTE	WATER (%R)	Water RPD
Metals	LCS	All Target Analytes	80 - 120	
	MS/MSD	All Target Analytes	75 -125	20
	Lab Duplicate	All Target Analytes		20
	Field Duplicate	All Target Analytes		50
General Chemistry	LCS	All Target Analytes	80 - 120	
	MS/MSD	All Target Analytes	75 -125	20
	Lab Duplicate	All Target Analytes		20
	Field Duplicate	All Target Analytes		50

Notes:
LCS - Laboratory Control Sample
MS/MSD - Matrix spike/ Matrix Spike Duplicate
RPD = Relative percent difference
%R = percent recovery

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW01-S-110412	SPMW02-S-110412	SPMW05-S-110412	SPMW06R-S-110412	SPMW08-S-110412	SPMW09-S-110412
		Location	SPMW-01	SPMW-02	SPMW-05	SPMW-06R	SPMW-08	SPMW-09
		Sample Date	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/12/2011
		Sample Delivery Group	HSP13	HSP13	HSP13	HSP13	HSP13	HSP13
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	2.9	49.8	1.9	1.6	0.34	2.7
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.048 J	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	0.6 U	0.6 U	5	5.5	0.51 J
mg/l	SW6010B	Arsenic	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
mg/l	SW6010B	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0037 J
mg/l	SW6010B	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0041 J
mg/l	SW6010B	Copper	0.01 U	0.0028 J	0.01 U	0.01 U	0.0027 J	2.04
mg/l	SW6010B	Manganese	0.0144	0.105	0.0098	0.352	4.46	4.92
mg/l	SW6010B	Nickel	0.01 U	0.01 U	0.0051 J	0.0207	0.0176	0.264

Notes:
U = undetected
J = estimated value

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW10R-S-110412	SPIS24-S-110413	SPIS24DP-S-110413	SPMW03-S-110413	SPMW04-S-110413	SPMW07-S-110413
		Location	SPMW-10R	SPIS-24	SPIS-24	SPMW-03	SPMW-04	SPMW-07
		Sample Date	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011
		Sample Delivery Group	HSP13	HSP14	HSP14	HSP14	HSP14	HSP14
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	1.6	7.6	7.5	2.7	1.9	3.4
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	14.4	13.1	0.6 U	0.6 U	32.1
mg/l	SW6010B	Arsenic	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
mg/l	SW6010B	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010B	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010B	Copper	0.0104	0.0053 J	0.005 J	0.01 U	0.01 U	0.01 U
mg/l	SW6010B	Manganese	0.269	0.474	0.49	0.107	0.0483	0.357
mg/l	SW6010B	Nickel	0.0349	0.0039 J	0.0038 J	0.0069 J	0.0032 J	0.01 U

Notes:
U = undetected
J = estimated value

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW07DP-S-110413	SPMW11R-S-110413	SPMW12-S-110413	SPMW13-S-110413	SPOB12R2-S-110413	SPIS23-S-110414
		Location	SPMW-07	SPMW-11	SPMW-12	SPMW-13	SPOB-12R2	SPIS-23
		Sample Date	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011
		Sample Delivery Group	HSP14	HSP14	HSP14	HSP14	HSP14	HSP15
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	3.4	3	1.7	1.1	2.2	1.6
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	35.1	0.63	0.6 U	0.6 U	4.6	0.6 U
mg/l	SW6010B	Arsenic	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
mg/l	SW6010B	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010B	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010B	Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
mg/l	SW6010B	Manganese	0.387	0.03	0.0171	0.188	0.023	0.237
mg/l	SW6010B	Nickel	0.01 U	0.0098 J	0.0031 J	0.01 U	0.0032 J	0.01 U

Notes:
U = undetected
J = estimated value

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPIS23DP-S-110414	SPOB34-S-110414
		Location	SPIS-23	SPOB-34
		Sample Date	4/14/2011	4/14/2011
		Sample Delivery Group	HSP15	HSP15
Units	Method	Parameter Name		
mg/l	E353.2	Nitrate Nitrogen	1.6	0.1 U
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	0.6 J
mg/l	SW6010B	Arsenic	0.02 U	0.012 J
mg/l	SW6010B	Beryllium	0.005 U	0.005 U
mg/l	SW6010B	Cadmium	0.005 U	0.005 U
mg/l	SW6010B	Copper	0.01 U	0.01 U
mg/l	SW6010B	Manganese	0.234	0.423
mg/l	SW6010B	Nickel	0.01 U	0.01 U

Notes:
U = undetected
J = estimated value

DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

1.0 INTRODUCTION

Data validation was completed on water samples collected by OMI Inc. in October 2011 at the South Point Facility in South Point, Ohio. Sample analysis was completed by Test America Laboratories Inc, Buffalo (TAL-BUFF). Samples were reported in sample delivery group (SDG) 480-11056-1. Samples were analyzed for the following parameters and analytical methods:

- Metals by USEPA Method SW6010B
- Nitrate and nitrite by Method 353.2
- Ammonia (NH3) by Method 350.1

A Honeywell Level II data validation was completed for samples reported from these sites. A summary of the samples included in these sets is presented on Table 1. Data packages were validated using QC limits presented on Table 2. and professional judgment of the project chemist. Data qualification procedures described in USEPA data validation guidelines (USEPA, 2004) were used as general guidelines during the data review. Data quality control reviews are completed using laboratory QC summary forms.

During the Level II data validation the following data quality indicators were reviewed:

- Case Narrative
- Sample Collection and Holding Times
- QC Blanks
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD)
- Surrogate Spikes
- Field and Laboratory Duplicates
- Reporting Limits
- Electronic Data Verification

Data quality control reviews are completed using laboratory QC summary forms. Data qualifications are completed if necessary in accordance with the guidelines using the following qualifiers:

U = The target compound was not detected at concentrations greater than the quantitation limit.

J = The reported concentration is considered an estimated value.

UJ = The target compound was not detected and the reporting limit is considered to be estimated.

R= The Reported value is rejected and is considered to be unusable

Data validation was initially completed using the Locus Technology EIM system. The EIM system has a computerized data validation module that performs data validation for QC checks specified by Honeywell for Level II validation. Sample results and associated QC data are compared to project specific QC limits

that are set up by the AMEC project chemist prior to running the validation module. The EIM assigns validation reason codes to all results that are associated with QC measurements outside project QC goals, and the validation module applies data validation qualifiers to the final results. The data qualification actions are reviewed by the project chemist prior to accepting the final data. The Level II EIM validation qualification actions and associated validation reason codes are presented on Table 3. The following data validation reason codes were applied to one or more sample results:

HTG = Holding time for prep or analysis grossly exceeded.

Sample results that are not included on Table 3 were interpreted to be usable as reported by the laboratory. A complete summary of final sample results is provided in Table 4.

2.0 Data Validation Observations and Actions

Data were evaluated for the following parameters:

* Collection and Preservation
  Holding Times
* Data Completeness
* Blank Contamination
* Laboratory Control Samples (LCS)
* Matrix Spike / Matrix Spike Duplicate (MS/MSD)
* Field Duplicates
* Surrogate Recoveries
* Target Compound Quantitation
* Miscellaneous

* - Validation checks met project and method goals

With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory.

2.1 Metals

No QC issues were identified

2.2 Nitrate and Nitrite

<u>Hold Time</u>

A sample SPMW13-S-11101 was reanalyzed beyond analysis hold time (22days) for nitrite as N. The nitrite as N result of this sample was qualified as rejected (R) with reason code HTG.

2.3 Ammonia

No QC issues were identified

References:

U.S. Environmental Protection Agency (USEPA), 2004. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review"; Office of Superfund Remediation and Technology Innovation (OSRTI); EPA-540-R-04-004; October 2004

Validated by: Lakshmi Devi

CR for Devi

December 16, 2011

Reviewed by: QA Chemist: Chris Ricardi, NRCC-EAC

Chris Ricardi

December 19, 2011

TABLE 1
SAMPLE SUMMARY
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

			Parameter:	Ammonia	Nirate and Nitrite	Metals
			Method:	E350.1	E353.2	SW6010B
Field Sample ID	Date	SDG	Type			
SPIS23DP-S-111011	10/11/2011	480-11056-1	FD	1	2	6
SPMW07DP-S-111011	10/11/2011	480-11056-1	FD	1	2	6
SPIS23-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW02-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW03-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW06R-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW07-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW08-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPMW10R-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPOB12R2-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPOB34-S-111011	10/11/2011	480-11056-1	REG	1	2	6
SPIS24-DP-S-111012	10/12/2011	480-11056-1	FD	1	2	6
SPMW09-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPIS24-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW01-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW04-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW05-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW11R-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW12-S-111012	10/12/2011	480-11056-1	REG	1	2	6
SPMW13-S-111012	10/12/2011	480-11056-1	REG	1	2	6

Prepared By: Lakshmi Devi 12/16/2011
Reviewed By: Christian Ricardi 12/21/2011

TABLE 2
PROJECT PRECISION AND ACCURACY GOALS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

PARAMETER	QC TEST	ANALYTE	WATER (%R)	Water RPD
Metals	LCS	All Target Analytes	80 - 120	
	MS/MSD	All Target Analytes	75 -125	20
	Lab Duplicate	All Target Analytes		20
	Field Duplicate	All Target Analytes		50
General Chemistry	LCS	All Target Analytes	80 - 120	
	MS/MSD	All Target Analytes	75 -125	20
	Lab Duplicate	All Target Analytes		20
	Field Duplicate	All Target Analytes		50

Notes:
LCS - Laboratory Control Sample
MS/MSD - Matrix spike/ Matrix Spike Duplicate
RPD = Relative percent difference
%R = percent recovery

TABLE 3
VALIDATON ACTIONS SUMMARY
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

Field Sample ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
SPMW13-S-111012	REG	480-11056-1	E353.2	Nitrite as N	0.02	U,H	R	HTG	mg/L

Note:
HTG Holding time for prep or analysis grossly exceeded

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPIS23-S-111011	SPIS23DP-S-111011	SPIS24-DP-S-111012	SPIS24-S-111012	SPMW01-S-111012	SPMW02-S-111011	SPMW03-S-111011
		Location	SPIS-23	SPIS-23	SPIS-24	SPIS-24	SPMW-01	SPMW-02	SPMW-03
		Sample Date	10/11/2011	10/11/2011	10/12/2011	10/12/2011	10/12/2011	10/11/2011	10/11/2011
			480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1
Units	Method	Parameter Name							
mg/L	E350.1	Ammonia	0.19	0.19	18.1	18.7	0.009 U	0.009 U	0.009 U
mg/L	E353.2	Nitrate as N	2.2	2.2	9.7	9.2	2.6	4.7	2.6
mg/L	E353.2	Nitrite as N	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.048 J	0.02 U
mg/L	SW6010	Arsenic	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
mg/L	SW6010	Beryllium	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U
mg/L	SW6010	Cadmium	0.00033 U	0.00033 U	0.00033 U	0.00037 J	0.00033 U	0.00035 J	0.00033 U
mg/L	SW6010	Copper	0.0016 J	0.0015 U	0.0044 J	0.005 J	0.0015 U	0.0015 U	0.0015 U
mg/L	SW6010	Manganese	0.24	0.24	0.54	0.54	0.013	0.23	0.09
mg/L	SW6010	Nickel	0.0025 J	0.0021 J	0.0034 J	0.0034 J	0.002 J	0.0021 J	0.0027 J

Notes:
U = undetected
J = estimated value

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW04-S-111012	SPMW05-S-111012	SPMW06R-S-111011	SPMW07-S-111011	SPMW07DP-S-111011	SPMW08-S-111011	SPMW09-S-111012
		Location	SPMW-04	SPMW-05	SPMW-06R	SPMW-07	SPMW-07	SPMW-08	SPMW-09
		Sample Date	10/12/2011	10/12/2011	10/11/2011	10/11/2011	10/11/2011	10/11/2011	10/12/2011
			480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1
Units	Method	Parameter Name							
mg/L	E350.1	Ammonia	0.009 U	0.009 U	11.1	30.1	35	0.38	12.5
mg/L	E353.2	Nitrate as N	2.2	1.8	5.7	3.7	3.8	0.03 J	3580
mg/L	E353.2	Nitrite as N	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
mg/L	SW6010	Arsenic	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U
mg/L	SW6010	Beryllium	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.005
mg/L	SW6010	Cadmium	0.00033 U	0.00033 U	0.00033 U	0.0005 J	0.00033 U	0.00072 J	0.0083
mg/L	SW6010	Copper	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	2.3
mg/L	SW6010	Manganese	0.044	0.01	0.51	0.39	0.39	2.9	11.9
mg/L	SW6010	Nickel	0.0052 J	0.0053 J	0.0013 U	0.0025 J	0.0014 J	0.0067 J	0.5

Notes:
U = undetected
J = estimated value

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2011 SEMIANNUAL WATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW10R-S-111011	SPMW11R-S-111012	SPMW12-S-111012	SPMW13-S-111012	SPOB12R2-S-111011	SPOB34-S-111011
		Location	SPMW-10R	SPMW-11R	SPMW-12	SPMW-13	SPOB-12R2	SPOB-34
		Sample Date	10/11/2011	10/12/2011	10/12/2011	10/12/2011	10/11/2011	10/11/2011
			480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1	480-11056-1
Units	Method	Parameter Name						
mg/L	E350.1	Ammonia	0.009 U	0.35	0.17	0.009 U	3	0.55
mg/L	E353.2	Nitrate as N	1.1	2.4	4	0.69	1.5	0.011 U
mg/L	E353.2	Nitrite as N	0.02 U	0.02 U	0.02 U	0.02 R	0.02 U	0.02 U
mg/L	SW6010	Arsenic	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0056 U	0.0094 J
mg/L	SW6010	Beryllium	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U
mg/L	SW6010	Cadmium	0.00077 J	0.00033 U	0.00033 U	0.00033 U	0.00033 U	0.00033 U
mg/L	SW6010	Copper	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
mg/L	SW6010	Manganese	0.13	0.038	0.034	0.24	0.017	0.43
mg/L	SW6010	Nickel	0.015	0.0096 J	0.0057 J	0.0013 U	0.0037 J	0.0013 U

Notes:
U = undetected
J = estimated value

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Modified Type III Data Package

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

Project: Southpoint
Water Samples
Collected on 04/12/11

SDG# HSP13

GROUP	SAMPLE NUMBERS
1241878	6256678-6256684

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M. Kauffman **Date: 05/06/2011**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

Total Number of Pages 58

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Sample Reference List for SDG Number HSP13 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6256678	SP01-	SPMW01-S-110412 Grab Water Sample
6256679	SP05-	SPMW05-S-110412 Grab Water Sample
6256680	SP10R	SPMW10R-S-110412 Grab Water Sample
6256681	SP06R	SPMW06R-S-110412 Grab Water Sample
6256682	SP08-	SPMW08-S-110412 Grab Water Sample
6256683	SP09-	SPMW09-S-110412 Grab Water Sample
6256684	SP02-	SPMW02-S-110412 Grab Water Sample

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Analysis Request / Environmental Services Chain of Custody

COC#: 41211 1241878
Group# ~~1 of 2~~
4/13/11
Sample #s 6256678-85

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #: _____
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Steve Moore / Ron Cade
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes: H=HCl T=Thiosulfate N=HNO_3 B=NaOH S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)
SPMW01-S-110412	4/12/2011	0835*	X			X		4	X	X	X	
SPMW05-S-110412	4/12/2011	0915	X			X		4	X	X	X	
SPMW10R-S-110412	4/12/2011	1010	X			X		4	X	X	X	
SPMW06R-S-110412	4/12/2011	1055	X			X		4	X	X	X	
SPMW08-S-110412	4/12/2011	1135	X			X		4	X	X	X	
SPMW09-S-110412	4/12/2011	1250	X			X		4	X	X	X	
SPMW02-S-110412	4/12/2011	1330	X			X		4	X	X	X	

Remarks:
* times added per containers
[illegible] 1964

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date Results are needed: _____
Rush results requested by (please circle): Phone Fax Email
Phone #: _____ Fax#: _____
Email address: _____

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4-12-11	16:00			
			[signature]	4/12/11	1005

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41211 1241878

NOTE: This COC is based on your requested bottles and analyses. ccw 4/13/11 ③ Group# ~~2 of 2~~

If your project scope changes, please document below.

Sample #s 6256678-85

Client: Honeywell
Acct: 10651
Project Name: [redacted] South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.#
Sampler: Steve Moore / Ron Cade
Quote #: 205651
Name of State where samples were collected: Ohio

SF#: 88033
SCR#:

Preservation Codes: H=HCl T=Thiosulfate N=HNO_3 B=NaOH S=H_2SO_4 O=Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	BTEX by 8260B (H)	PAHs by HPLC	Ammonia Nitrogen (S)	Arsenic by 6010B (N)	CN (total) 9012B (B)		CN (Amenable) (B)	Phenolics EPA 420.4 (B)	TPHC EPA 1664A (H)	pH		Temperature of samples upon receipt (if requested)
																				Remarks:
Trip Blank-[redacted]-110412	4/12/2011	16:00				x		2	X											- Discard per P. Holmes WAK 4/13/11

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date Results are needed:
Rush results requested by (please circle): Phone Fax Email
Phone #: Fax#:
Email address:

Data Package Options: Honeywell Level II (8778)

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4-12-11	16:00			
			[signature]	4/13/11	1005

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-8766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 4/13/11

Time of Receipt: 1005

Source Code: 50-1

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	429951	3.4	TB	WI	Y	B	
2	↓	2.2	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: Ø

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [signature] 964 **Date/Time:** 4/13/11 1023

HSP13 8084

Issued by Dept. 6042 Management

2174.06

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01848 WW SW846 ICP Digest (tot rec)

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

07035 Arsenic
07047 Beryllium
07049 Cadmium
07053 Copper
07058 Manganese
07061 Nickel

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

00219 Nitrite Nitrogen

Nitrite ions react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00220 Nitrate Nitrogen

Nitrate ions are reduced to nitrite by passing through a cadmium coil. The nitrite ions then react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00221 Ammonia Nitrogen

The sample is distilled into a solution of boric acid, then titrated with standard sulfuric acid using a mixed indicator.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 4500-NH3 B,C Modified

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

April 21, 2011

Project: Southpoint

Submittal Date: 04/13/2011
Group Number: 1241878
SDG: HSP13
PO Number: 4500013808
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPMW01-S-110412 Grab Water Sample	6256678
SPMW05-S-110412 Grab Water Sample	6256679
SPMW10R-S-110412 Grab Water Sample	6256680
SPMW06R-S-110412 Grab Water Sample	6256681
SPMW08-S-110412 Grab Water Sample	6256682
SPMW09-S-110412 Grab Water Sample	6256683
SPMW02-S-110412 Grab Water Sample	6256684

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

ELECTRONIC COPY TO	MACTEC	Attn: Chris Ricardi
ELECTRONIC COPY TO	Mactec	Attn: Nick Rogers
1 COPY TO	Data Package Group	

HSP13 8856

Lancaster Laboratories, Inc
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300 Ext. 1522

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

HSP13 8887

Lancaster Laboratories, Inc
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax. 717-656-2681

Lancaster Laboratories

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)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ 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

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	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.

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Analysis Report

Lancaster Laboratories

Sample Description: SPMW01-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256678
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 08:35 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP01- SDG#: HSP13-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0144**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.9**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	The sample was analyzed 21 minutes outside of the 48 hour holding time for nitrite nitrogen.				
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 07:57	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11105106102A	04/15/2011 20:58	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 08:56	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 8089

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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW05-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256679
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 09:15 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP05- SDG#: HSP13-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0098**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0051 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.9**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 08:08	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11105106102A	04/15/2011 20:43	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 08:59	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 0010

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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax 717-656-2681

Lancaster Laboratories

Sample Description: SPMW10R-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256680
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 10:10 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP10R SDG#: HSP13-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0104**	0.0100	1
07058	**Manganese**	7439-96-5	**0.269**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0349**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.6**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 08:11	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11105106102A	04/15/2011 20:45	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 09:01	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 0011

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW06R-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256681
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 10:55 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP06R SDG#: HSP13-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.352**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0207**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.6**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**5.0**	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011	08:15	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011	20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11105106102A	04/15/2011	20:46	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011	09:02	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011	18:00	Luz M Groff	1

HSP13 0612

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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW08-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256682
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 11:35 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP08- SDG#: HSP13-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0027 J**	0.0100	1
07058	**Manganese**	7439-96-5	**4.46**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0176**	0.0100	1
Wet Chemistry		**EPA 353.2**	mg/l	mg/l	
00220	**Nitrate Nitrogen**	14797-55-8	**0.34**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	mg/l	mg/l	
00221	**Ammonia Nitrogen**	7664-41-7	**5.5**	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 08:18	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11105106102A	04/15/2011 20:47	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 09:03	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 0013

Lancaster Laboratories, Inc
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW09-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256683
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 12:50 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP09- SDG#: HSP13-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0037 J**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0041 J**	0.0050	1
07053	**Copper**	7440-50-8	**2.04**	0.0100	1
07058	**Manganese**	7439-96-5	**4.92**	0.0050	1
07061	**Nickel**	7440-02-0	**0.264**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.7**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**0.51 J**	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 08:22	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106101A	04/18/2011 15:58	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 09:04	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 0014

Lancaster Laboratories, Inc
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW02-S-110412 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6256684
LLI Group # 1241878
Account # 10651

Project Name: Southpoint

Collected: 04/12/2011 13:30 by SM

Submitted: 04/13/2011 10:05
Reported: 04/21/2011 13:26

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

SP02- SDG#: HSP13-07*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0028 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.105**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**49.8**	2.0	20
00219	**Nitrite Nitrogen**	14797-65-0	**0.048 J**	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
07047	Beryllium	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
07049	Cadmium	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
07053	Copper	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
07058	Manganese	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
07061	Nickel	SW-846 6010B	1	111041848001	04/16/2011 08:26	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111041848001	04/14/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106101A	04/18/2011 17:10	Joseph E McKenzie	20
00219	Nitrite Nitrogen	EPA 353.2	1	11104105101A	04/14/2011 09:06	K Robert Caulfeild-James	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11109022101A	04/19/2011 18:00	Luz M Groff	1

HSP13 SB15

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Metals Data

Case Narrative Conformance/Nonconformance Summary

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP13

Date Received: 04/13/2011

Dilutions:
Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:
Method defined actions are taken for any failed matrix QC.

Explanatory Notes:
The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Case Narrative reviewed and approved by:

Betsy S. Menefee for Date 5/05/11
Dana M. Kauffman, Manager
Data Deliverables

HSP13 0010

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256678
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	14.4			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256679
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	9.8			P
7440-02-0	Nickel	5.1	B		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256680 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	10.4			P
7439-96-5	Manganese	269			P
7440-02-0	Nickel	34.9			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256681
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	352			P
7440-02-0	Nickel	20.7			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256682
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	B		P
7439-96-5	Manganese	4460			P
7440-02-0	Nickel	17.6			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256683
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	3.7	B		P
7440-43-9	Cadmium	4.1	B		P
7440-50-8	Copper	2040			P
7439-96-5	Manganese	4920			P
7440-02-0	Nickel	264			P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6256684 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/13/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.8	B		P
7439-96-5	Manganese	105			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Quality Control and Calibration Summary Forms

Lancaster Laboratories

QUALITY CONTROL REFERENCE LIST

SDG No.: HSP13
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P10448A	*56657BKG
Beryllium		*56657MS
Cadmium		*56657MSD
Copper		*56657DUP
Manganese		6256678
Nickel		6256679
		6256680
		6256681
		6256682
		6256683
		6256684
		P10448AB
		P10448AQ

HSP13 9820

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP13

Method: P
Run Name: 1110602T70
Calibration Date(s): 04/16/2011
Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Arsenic		2.1	U	2.1	U	2.1	U	2.1	U		9.800	U	P10448AB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P10448AB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		2.000	U	P10448AB
Copper		2.0	U	2.0	U	2.0	U	2.0	U		2.700	U	P10448AB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P10448AB
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		3.000	U	P10448AB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP13 0029

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP13

Method: P
Run Name: 1110602T70
Calibration Date(s): 04/16/2011

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Arsenic				-2.1	B								
Beryllium				0.67	U								
Cadmium				0.33	U								
Copper				2.0	U								
Manganese				1.0	U								
Nickel				1.0	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP13 0038

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *56657BKG Matrix Spike Lab Sample ID: *56657MS Matrix Spike Duplicate Lab Sample ID: *56657MSD
% Solids for Sample: 0.0
Batch Id(s): P10448A

Analyte	Mass	BKG Sample Result	C	MS Sample Result	C	MSD Sample Result	C	MS Spike Added	MSD Spike Added	Units	MS %R	Q	MSD %R	Q	RPD	Q	Control Limit %R	Control Limit RPD	M
Arsenic		9.8000	U	147.0400		147.9900		150.0000	150.0000	UG/L	98		99		1		75 - 125	20	P
Beryllium		1.4000	U	49.1600		49.4000		50.0000	50.0000	UG/L	98		99		0		87 - 114	20	P
Cadmium		2.0000	U	49.3200		49.6000		50.0000	50.0000	UG/L	99		99		1		83 - 116	20	P
Copper		2.7000	U	244.3000		246.4800		250.0000	250.0000	UG/L	98		99		1		86 - 122	20	P
Manganese		234.1400		722.4900		727.6600		500.0000	500.0000	UG/L	98		99		1		75 - 125	20	P
Nickel		3.0000	U	492.7800		494.9300		500.0000	500.0000	UG/L	99		99		0		86 - 115	20	P

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: HSP13
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *56657BKG
% Solids for Duplicate: 0.0
Batch ID(s): P10448A
Concentration Units: UG/L

Duplicate Lab Sample ID: *56657DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			9.8000	U	9.8000	U			P
Beryllium			1.4000	U	1.4000	U			P
Cadmium			2.0000	U	2.0000	U			P
Copper			2.7000	U	2.7000	U			P
Manganese			234.1400		229.2900		2		P
Nickel			3.0000	U	3.0000	U			P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	FLAGS:
AF = Cold Vapor Atomic Fluorescence	* = Duplicate Out of Spec

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: HSP13
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P10448AQ	UG/L	150.00	143.87		133.50	173.00	96	P	Yes
Beryllium		P10448AQ	UG/L	50.00	48.74		44.00	55.00	97	P	Yes
Cadmium		P10448AQ	UG/L	50.00	49.57		45.00	56.00	99	P	Yes
Copper		P10448AQ	UG/L	250.00	247.67		225.00	280.00	99	P	Yes
Manganese		P10448AQ	UG/L	500.00	499.17		450.00	550.00	100	P	Yes
Nickel		P10448AQ	UG/L	500.00	496.70		450.00	555.00	99	P	Yes

HSP13 0033

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

Preparation and Run Logs

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP13

Method: P
Batch ID: P10448A

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6256678	04/14/2011	50.00	50
6256679	04/14/2011	50.00	50
6256680	04/14/2011	50.00	50
6256681	04/14/2011	50.00	50
6256682	04/14/2011	50.00	50
6256683	04/14/2011	50.00	50
6256684	04/14/2011	50.00	50
*56657BKG	04/14/2011	50.00	50
*56657DUP	04/14/2011	50.00	50
*56657MSD	04/14/2011	50.00	50
*56657MS	04/14/2011	50.00	50
P10448AB	04/14/2011	50.00	50
P10448AQ	04/14/2011	1.00	1

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP13

Method: P
Instrument ID: 11016
Run Name: 1110602T70

Run Start Date: 04/16/2011
Run End Date: 04/16/2011

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
S0	1.00	05:58	X	X	X	X	X	X
S	1.00	06:02						
S	1.00	06:06	X	X	X	X	X	X
S	1.00	06:09						
ICV	1.00	06:13	X	X	X	X	X	X
ICB	1.00	06:17	X	X	X	X	X	X
LLC	1.00	06:20	X	X	X	X	X	X
ICSA	1.00	06:24	X	X	X	X	X	X
ICSAB	1.00	06:28	X	X	X	X	X	X
CCV	1.00	06:32	X	X	X	X	X	X
CCB	1.00	06:36	X	X	X	X	X	X
P10448AB	1.00	06:40	X	X	X	X	X	X
P10448AQ	1.00	06:43	X	X	X	X	X	X
*56657BKG	1.00	06:47	X	X	X	X	X	X
*56657A	1.00	06:51						
*56657DUP	1.00	06:54	X	X	X	X	X	X
*56657MS	1.00	06:58	X	X	X	X	X	X
*56657MSD	1.00	07:01	X	X	X	X	X	X
*56657L	5.00	07:05	X	X	X	X	X	X
ZZZZZZ	1.00	07:09						
ZZZZZZ	1.00	07:12						
CCV	1.00	07:16	X	X	X	X	X	X
CCB	1.00	07:20	X	X	X	X	X	X
ZZZZZZ	1.00	07:23						
ZZZZZZ	1.00	07:28						
ZZZZZZ	1.00	07:31						
ZZZZZZ	1.00	07:35						
ZZZZZZ	1.00	07:39						
ZZZZZZ	1.00	07:42						
ZZZZZZ	1.00	07:46						
ZZZZZZ	1.00	07:49						
ZZZZZZ	1.00	07:53						
6256678	1.00	07:57	X	X	X	X	X	X
CCV	1.00	08:00	X	X	X	X	X	X
CCB	1.00	08:04	X	X	X	X	X	X
6256679	1.00	08:08	X	X	X	X	X	X
6256680	1.00	08:11	X	X	X	X	X	X
6256681	1.00	08:15	X	X	X	X	X	X

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP13 0036

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP13

Method: P
Instrument ID: 11016
Run Name: 1110602T70

Run Start Date: 04/16/2011
Run End Date: 04/16/2011

Lab Sample ID	D/F	Time	Analytes																												
			AS	BE	CD	CU	MN	NI																							
6256682	1.00	08:18	X	X	X	X	X	X																							
6256683	1.00	08:22	X	X	X	X	X	X																							
6256684	1.00	08:26	X	X	X	X	X	X																							
ZZZZZZ	1.00	08:30																													
LLC	1.00	08:33	X	X	X	X	X	X																							
ICSA	1.00	08:37	X	X	X	X	X	X																							
ICSAB	1.00	08:41	X	X	X	X	X	X																							
CCV	1.00	08:45	X	X	X	X	X	X																							
CCB	1.00	08:49	X	X	X	X	X	X																							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP13 8837

Instrumental Analysis Data

USP13 8038

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP13

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
6256678	X		
6256679	X		
6256680	X		
6256681	X		
6256682	X		
6256683	X		
6256684	X		

ANALYSIS:

Sample 6256678 was analyzed 21 minutes outside of the 48 hour holding time for nitrite nitrogen.

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen	Nitrite Nitrogen
6256684	DF20	
LCS	DF10	DF5

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC 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 or by the client.

All QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP13

AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Narrative Reviewed and Approved by: Betty L Umble

Betty L. Umble
Specialist

for Date 05-01-11

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP13

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	11105106102A	6256678
		6256679
		6256680
		6256681
		6256682
		P256516 U/BKG,R,D
		Blank
		LCS
Nitrate Nitrogen	11108106101A	6256683
		6256684
		P256775 U/BKG,R,D
		Blank
		LCS
Nitrite Nitrogen	11104105101A	6256678 U/BKG,R,D
		6256679
		6256680
		6256681
		6256682
		6256683
		6256684
Nitrite Nitrogen	11104105101B	Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP13
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/15/11	AK	11105106102	N.D.	mg/l	0.040	0.10
	04/18/11	AK	11108106101	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/14/11	AK	11104105101	N.D.	mg/l	0.015	0.050

HSP13 0044

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Instrumental Water Quality
SDG: HSP13
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
P256516 R	Nitrate Nitrogen	04/15/11	AK	11105106102A	N.D.	1	NA	1.1	NA	mg/l	105	NA	90 - 110	NA	NA
P256775 R	Nitrate Nitrogen	04/18/11	AK	11108106101A	N.D.	1	NA	0.94	NA	mg/l	94	NA	90 - 110	NA	NA
6256678	Nitrite Nitrogen	04/14/11	AK	11104105101A	N.D.	0.2	NA	0.21	NA	mg/l	106	NA	90 - 110	NA	NA

Comments: *(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: HSP13
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P256516	Nitrate Nitrogen	04/15/11	AK	11105106102A	N.D.	N.D.	mg/l	0(1)	2
P256775	Nitrate Nitrogen	04/18/11	AK	11108106101A	N.D.	N.D.	mg/l	0(1)	2
6256678	Nitrite Nitrogen	04/14/11	AK	11104105101A	N.D.	N.D.	mg/l	0(1)	20

HSP13 0046

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Instrumental Water Quality
SDG: HSP13
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11105106102	Nitrate Nitrogen	04/15/11	AK	21	20.8	NA	mg/l	18.8 - 23.2	NA	NA
11108106101	Nitrate Nitrogen	04/18/11	AK	21	21.7	NA	mg/l	18.8 - 23.2	NA	NA
11104105101	Nitrite Nitrogen	04/14/11	AK	1.92	1.9	NA	mg/l	1.719 - 2.12	NA	NA

Lancaster Laboratories

LOQ/MDL Summary
Instrumental Water Quality

SDG: HSP13

Parameter	Default MDL	Default LOQ	Units
Nitrate Nitrogen	0.040	0.10	mg/l
Nitrite Nitrogen	0.015	0.050	mg/l

HSP13 0040

Miscellaneous Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP13

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
6256678	X		
6256679	X		
6256680	X		
6256681	X		
6256682	X		
6256683	X		
6256684	X		

ANALYSIS:
There were no dilutions performed for analyses associated with samples in this SDG.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:
Matrix QC may not be included if site-specific QC 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 or by the client.

All QC is within specification.

DATA INTERPRETATION:
No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP13

Narrative Reviewed and Approved by:

Betty L. Umble
Specialist

For Date 04-25-11

Dana Kauffman
Manager of Data Deliverables

QC Summary

ASP13 0053

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP13

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	11109022101A	6256678
		6256679
		6256680
		6256681
		6256682
		6256683
		6256684
		P256807 U,D
		Blank
		LCS/LCSD

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP13
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/19/11	TI	11109022101	N.D.	mg/l	0.20	0.60

HSP13 0055

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: HSP13
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P256807	Ammonia Nitrogen	04/19/11	TI	11109022101A	62.8	62.2	mg/l	1	2

HSP13 0856

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Miscellaneous Wet Chemistry
SDG: HSP13
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11109022101	Ammonia Nitrogen	04/19/11	TI	10	9.5	9.6	mg/l	8.5 - 10.5	1	5

Lancaster Laboratories

LOQ/MDL Summary
Miscellaneous Wet Chemistry

SDG: HSP13

Parameter	Default MDL	Default LOQ	Units
Ammonia Nitrogen	0.20	0.60	mg/l

HSP13 0059

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Modified Type III Data Package

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

Project: Southpoint
Water Samples
Collected on 04/13/11

SDG# HSP14

GROUP	SAMPLE NUMBERS
1242125	6257790-6257799

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date: 05/06/2011**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

Total Number of Pages 71

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Sample Reference List for SDG Number HSP14 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6257790	IS12R	SPOB12R2-S-110413 Grab Water Sample
6257791	IS11R	SPMW11R-S-110413 Grab Water Sample
6257792	ISM12	SPMW12-S-110413 Grab Water Sample
6257793	ISM13	SPMW13-S-110413 Grab Water Sample
6257794	ISM04	SPMW04-S-110413 Grab Water Sample
6257795	ISS24	SPIS24-S-110413 Grab Water Sample
6257796	IS24D	SPIS24DP-S-110413 Grab Water Sample
6257797	ISM03	SPMW03-S-110413 Grab Water Sample
6257798	ISM07	SPMW07-S-110413 Grab Water Sample
6257799	ISM7D	SPMW07DP-S-110413 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41311
Group# 1062 1242125

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below.

Acct# 10651
Sample #s 6257790-99

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Steve Moore / Ron Cook
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Remarks:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2	Temperature of samples upon receipt (if requested)
SPOB12R2-S-YYMMDD	4/13/2011	13:30	X			X		4	X	X	X	
SPMW11R-S-YYMMDD	4/13/2011	8:40	X			X		4	X	X	X	
SPMW12-S-YYMMDD	4/13/2011	9:15	X			X		4	X	X	X	
SPMW13-S-YYMMDD	4/13/2011	10:00	X			X		4	X	X	X	
SPMW04-S-YYMMDD	4/13/2011	10:40	X			X		4	X	X	X	
SPIS24-S-YYMMDD	4/13/2011	8:05	X			X		4	X	X	X	
SPIS24DP-S-YYMMDD	4/13/2011	8:05	X			X		4	X	X	X	

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4/13/11	16:00			

Relinquished by:	Date	Time	Received by:	Date	Time
			Melissa Nash	4/14/11	0905

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41311 1242125
Group# 2 of 2

NOTE: This COC is based on your requested bottles and analyses.
If your project scope changes, please document below. Acct # 10651

Sample #s 6257790-99

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Steve Moore / Ron Cade
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2									Temperature of samples upon receipt (if requested)
SPMW03-S-110413	4/13/2011	11:25	X			X		4	X	X	X									
SPMW07-S-110413	4/13/2011	12:40	X			X		4	X	X	X									
SPMW07DP-S-110413	4/13/2011	12:40	X			X		4	X	X	X									

Remarks:

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date Results are needed:
Rush results requested by (please circle): Phone Fax Email
Phone #: Fax#:
Email address:

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Moore	4.13.11	16:00			
			Deborah Nesh	4/14/11	0905

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 4/14/11

Time of Receipt: 0905

Source Code: SO-1

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	2.8	TB	WI	Y	B	
2	↓	4.0	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody Ø

Paperwork Discrepancy/Unpacking Problems

Unpacker Signature/Emp#: [illegible] / 208 **Date/Time:** 4/14/11 0945

Issued by Dept. 6042 Management

2174.06

Lancaster Laboratories

pH Historical Data

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
Stephanie Sanchez									
SDG: HSP14									
Group: 1242125									
Sample: 6257790									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6257791									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance	Lot #		
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6257792									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance	Lot #		
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance	Lot #		
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6257793									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance	Lot #		

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Sample: 6257794

008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Sample: 6257795

008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6257796									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6257797									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Sample: 6257798

008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Sample: 6257799

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01848 WW SW846 ICP Digest (tot rec)

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

07035 Arsenic
07047 Beryllium
07049 Cadmium
07053 Copper
07058 Manganese
07061 Nickel

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

00219 Nitrite Nitrogen

Nitrite ions react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00220 Nitrate Nitrogen

Nitrate ions are reduced to nitrite by passing through a cadmium coil. The nitrite ions then react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00221 Ammonia Nitrogen

The sample is distilled into a solution of boric acid, then titrated with standard sulfuric acid using a mixed indicator.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 4500-NH3 B,C Modified

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

April 22, 2011

Project: Southpoint

Submittal Date: 04/14/2011
Group Number: 1242125
SDG: HSP14
PO Number: 4500013808
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPOB12R2-S-110413 Grab Water Sample	6257790
SPMW11R-S-110413 Grab Water Sample	6257791
SPMW12-S-110413 Grab Water Sample	6257792
SPMW13-S-110413 Grab Water Sample	6257793
SPMW04-S-110413 Grab Water Sample	6257794
SPIS24-S-110413 Grab Water Sample	6257795
SPIS24DP-S-110413 Grab Water Sample	6257796
SPMW03-S-110413 Grab Water Sample	6257797
SPMW07-S-110413 Grab Water Sample	6257798
SPMW07DP-S-110413 Grab Water Sample	6257799

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

ELECTRONIC COPY TO	MACTEC	Attn: Chris Ricardi
ELECTRONIC COPY TO	Mactec	Attn: Nick Rogers
1 COPY TO	Data Package Group	

HSP14 0812

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Lancaster, PA 17605-2425
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Lancaster Laboratories

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300 Ext. 1522

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

HSP14 0013

Lancaster Laboratories, Inc.
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

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)
ug	microgram(s)	mg	milligram(s)
ml	milliliter(s)	l	liter(s)
m3	cubic meter(s)	ul	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ 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

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	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.

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Analysis Report

Lancaster Laboratories

Sample Description: SPOB12R2-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257790
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 13:30 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

IS12R SDG#: HSP14-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0230**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0032 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.2**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**4.6**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 11:26	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 16:55	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:14	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0015

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2425 New Holland Pike
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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW11R-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257791
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 08:40 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

IS11R SDG#: HSP14-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0300**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0098 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**3.0**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**0.63**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 12:29	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 16:57	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:15	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0016

Lancaster Laboratories, Inc.
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PO Box 12425
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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW12-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257792
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 09:15 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM12 SDG#: HSP14-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0171**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0031 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.7**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
07053	Copper	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	11108184800 1	04/22/2011 12:32	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	11108184800 1	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 16:58	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:16	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0017

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW13-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257793
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 10:00 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM13 SDG#: HSP14-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.188**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.1**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 12:42	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 16:59	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:20	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 8818

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Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

Sample Description: SPMW04-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257794
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 10:40 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM04 SDG#: HSP14-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.0483**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0032 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.9**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 12:46	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 17:00	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:21	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 8019

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS24-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257795
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 08:05 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISS24 SDG#: HSP14-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0053 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.474**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0039 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**7.6**	0.50	5
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**14.4**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 12:49	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 17:54	Joseph E McKenzie	5
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:22	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0828

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS24DP-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257796
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 08:05 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

IS24D SDG#: HSP14-07FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0050 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.490**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0038 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**7.5**	0.50	5
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**13.1**	0.60	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
07035	Arsenic	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
07053	Copper	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	11108184800 1	04/22/2011 12:53	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	11108184800 1	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 17:55	Joseph E McKenzie	5
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103A	04/14/2011 19:24	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0021

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW03-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257797
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 11:25 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM03 SDG#: HSP14-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.107**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0069 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.7**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
07053	Copper	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	11108184800 1	04/22/2011 12:56	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	11108184800 1	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106102B	04/18/2011 17:07	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103B	04/14/2011 19:25	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0022

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPMW07-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257798
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 12:40 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM07 SDG#: HSP14-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.357**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**3.4**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**32.1**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 12:59	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103A	04/18/2011 17:24	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103B	04/14/2011 19:29	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0023

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Sample Description: SPMW07DP-S-110413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6257799
LLI Group # 1242125
Account # 10651

Project Name: Southpoint

Collected: 04/13/2011 12:40 by SM

Submitted: 04/14/2011 09:05
Reported: 04/22/2011 14:54

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

ISM7D SDG#: HSP14-10FD*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.387**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**3.4**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**35.1**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
07047	Beryllium	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
07053	Copper	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
07058	Manganese	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	111081848001	04/22/2011 13:03	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848001	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103A	04/18/2011 17:28	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11104105103B	04/14/2011 19:30	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11110022101A	04/20/2011 15:00	Luz M Groff	1

HSP14 0024

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Metals Data

Case Narrative Conformance/Nonconformance Summary

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP14

Date Received: 04/14/2011

Dilutions:
Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:
Method defined actions are taken for any failed matrix QC.

Explanatory Notes:
The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Case Narrative reviewed and approved by:

Betsy S. Menefee for Date 5/05/11
Dana M. Kauffman, Manager
Data Deliverables

HSP14 0027

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257790BKG
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	23.0			P
7440-02-0	Nickel	3.2	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257791
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	30.0			P
7440-02-0	Nickel	9.8	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257792
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	17.1			P
7440-02-0	Nickel	3.1	B		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257793
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	188			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257794
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	48.3			P
7440-02-0	Nickel	3.2	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257795
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	5.3	B		P
7439-96-5	Manganese	474			P
7440-02-0	Nickel	3.9	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257796
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	5.0	B		P
7439-96-5	Manganese	490			P
7440-02-0	Nickel	3.8	B		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257797
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	107			P
7440-02-0	Nickel	6.9	B		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257798 % Solids: 0.0
Concentration Units: UG/L Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	357			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6257799
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	387			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Quality Control and Calibration Summary Forms

Lancaster Laboratories

QUALITY CONTROL REFERENCE LIST

SDG No.: HSP14
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P10848A	6257790BKG
Beryllium		6257790MS
Cadmium		6257790MSD
Copper		6257790DUP
Manganese		6257791
Nickel		6257792
		6257793
		6257794
		6257795
		6257796
		6257797
		6257798
		6257799
		P10848AB
		P10848AQ

HSP14 2040

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP14

Method: P
Run Name: 1111206T71
Calibration Date(s): 04/22/2011
Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Arsenic		4.4	B	2.7	U	3.8	B	2.7	U		9.800	U	P10848AB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P10848AB
Cadmium		0.37	U	0.37	U	0.37	U	0.37	U		2.000	U	P10848AB
Copper		-4.3	B	-4.1	B	-3.8	B	-2.7	B		-4.130	B	P10848AB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P10848AB
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		3.000	U	P10848AB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP14 8841

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP14

Method: P
Run Name: 1111206T71
Calibration Date(s): 04/22/2011

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Arsenic				2.7	U								
Beryllium				0.67	U								
Cadmium				0.37	U								
Copper				-2.9	B								
Manganese				1.0	U								
Nickel				1.0	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP14 8842

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6257790BKG Matrix Spike Lab Sample ID: 6257790MS Matrix Spike Duplicate Lab Sample ID: 6257790MSD
% Solids for Sample: 0.0
Batch Id(s): P10848A

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Arsenic		9.8000	U	159.0400		161.9100		150.0000	150.0000	UG/L	106		108		2		75 - 125	20	P
Beryllium		1.4000	U	48.1900		48.2500		50.0000	50.0000	UG/L	96		97		0		87 - 114	20	P
Cadmium		2.0000	U	50.3000		50.9900		50.0000	50.0000	UG/L	101		102		1		83 - 116	20	P
Copper		2.7000	U	253.7100		254.9900		250.0000	250.0000	UG/L	101		102		1		86 - 122	20	P
Manganese		23.0000		523.8100		524.2300		500.0000	500.0000	UG/L	100		100		0		75 - 125	20	P
Nickel		3.1500	B	510.9000		515.9400		500.0000	500.0000	UG/L	102		103		1		86 - 115	20	P

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: HSP14
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6257790BKG
% Solids for Duplicate: 0.0
Batch ID(s): P10848A
Concentration Units: UG/L

Duplicate Lab Sample ID: 6257790DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			9.8000	U	9.8000	U			P
Beryllium			1.4000	U	1.4000	U			P
Cadmium			2.0000	U	2.0000	U			P
Copper			2.7000	U	2.7000	U			P
Manganese		5.0	23.0000		22.7200		1		P
Nickel			3.1500	B	3.3600	B	6		P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

HSP14 0044

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	FLAGS:
AF = Cold Vapor Atomic Fluorescence	* = Duplicate Out of Spec

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: HSP14
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P10848AQ	UG/L	150.00	153.17		133.50	173.00	102	P	Yes
Beryllium		P10848AQ	UG/L	50.00	48.39		44.00	55.00	97	P	Yes
Cadmium		P10848AQ	UG/L	50.00	51.47		45.00	56.00	103	P	Yes
Copper		P10848AQ	UG/L	250.00	242.80		225.00	280.00	97	P	Yes
Manganese		P10848AQ	UG/L	500.00	505.27		450.00	550.00	101	P	Yes
Nickel		P10848AQ	UG/L	500.00	525.40		450.00	555.00	105	P	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

HSP14 0045

Preparation and Run Logs

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP14

Method: P
Batch ID: P10848A

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6257791	04/18/2011	50.00	50
6257792	04/18/2011	50.00	50
6257793	04/18/2011	50.00	50
6257794	04/18/2011	50.00	50
6257795	04/18/2011	50.00	50
6257796	04/18/2011	50.00	50
6257797	04/18/2011	50.00	50
6257798	04/18/2011	50.00	50
6257799	04/18/2011	50.00	50
6257790BKG	04/18/2011	50.00	50
6257790DUP	04/18/2011	50.00	50
6257790MSD	04/18/2011	50.00	50
6257790MS	04/18/2011	50.00	50
P10848AB	04/18/2011	50.00	50
P10848AQ	04/18/2011	1.00	1

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP14 0847

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP14

Method: P
Instrument ID: 16315
Run Name: 1111206T71

Run Start Date: 04/22/2011
Run End Date: 04/22/2011

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
S0	1.00	10:41	X	X	X	X	X	X
S	1.00	10:44						
S	1.00	10:48	X	X	X	X	X	X
S	1.00	10:51						
ICV	1.00	10:55	X	X	X	X	X	X
ICB	1.00	10:58	X	X	X	X	X	X
LLC	1.00	11:02	X	X	X	X	X	X
ICSA	1.00	11:05	X	X	X	X	X	X
ICSAB	1.00	11:09	X	X	X	X	X	X
CCV	1.00	11:12	X	X	X	X	X	X
CCB	1.00	11:16	X	X	X	X	X	X
P10848AB	1.00	11:19	X	X	X	X	X	X
P10848AQ	1.00	11:23	X	X	X	X	X	X
6257790BKG	1.00	11:26	X	X	X	X	X	X
6257790A	1.00	11:30						
6257790DUP	1.00	11:33	X	X	X	X	X	X
6257790MS	1.00	11:37	X	X	X	X	X	X
6257790MSD	1.00	11:40	X	X	X	X	X	X
6257790L	5.00	11:44	X	X	X	X	X	X
ZZZZZZ	1.00	11:47						
ZZZZZZ	1.00	11:51						
CCV	1.00	11:54	X	X	X	X	X	X
CCB	1.00	11:58	X	X	X	X	X	X
ZZZZZZ	1.00	12:01						
ZZZZZZ	1.00	12:04						
ZZZZZZ	1.00	12:08						
ZZZZZZ	1.00	12:11						
ZZZZZZ	1.00	12:15						
ZZZZZZ	1.00	12:18						
ZZZZZZ	1.00	12:22						
ZZZZZZ	1.00	12:25						
6257791	1.00	12:29	X	X	X	X	X	X
6257792	1.00	12:32	X	X	X	X	X	X
CCV	1.00	12:35	X	X	X	X	X	X
CCB	1.00	12:39	X	X	X	X	X	X
6257793	1.00	12:42	X	X	X	X	X	X
6257794	1.00	12:46	X	X	X	X	X	X
6257795	1.00	12:49	X	X	X	X	X	X

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP14 0040

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP14

Method: P
Instrument ID: 16315
Run Name: 1111206T71

Run Start Date: 04/22/2011
Run End Date: 04/22/2011

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
6257796	1.00	12:53	X	X	X	X	X	X
6257797	1.00	12:56	X	X	X	X	X	X
6257798	1.00	12:59	X	X	X	X	X	X
6257799	1.00	13:03	X	X	X	X	X	X
LLC	1.00	13:07	X	X	X	X	X	X
ICSA	1.00	13:10	X	X	X	X	X	X
ICSAB	1.00	13:14	X	X	X	X	X	X
CCV	1.00	13:17	X	X	X	X	X	X
CCB	1.00	13:21	X	X	X	X	X	X

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP14 0019

Instrumental Analysis Data

MSP14 0058

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP14

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
6257790	X		
6257791	X		
6257792	X		
6257793	X		
6257794	X		
6257795	X		
6257796	X		Field Duplicate Sample
6257797	X		
6257798	X		
6257799	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen	Nitrite Nitrogen
6257795	DF5	
6257796	DF5	
6257798	R/ DF2	
LCS	DF10	DF5

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC 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 or by the client.

Batch#: 11108106103A (Sample number(s): 6257798-6257799, UNSPK: 6257798, BKG: 6257798)
The duplicate RPD is outside the acceptance window for Nitrate Nitrogen

Batch#: 11104105103A (Sample number(s): 6257790-6257796, UNSPK: P257764, BKG: P257764)
The recovery for the MS is outside the acceptance window for Nitrite Nitrogen

All other QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP14

HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Narrative Reviewed and Approved by: Betty L Umble

Betty L. Umble
Specialist

For Date 05-06-11

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP14

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	11108106102A	Blank
		LCS
Nitrate Nitrogen	11108106102B	6257790
		6257791
		6257792
		6257793
		6257794
		6257795
		6257796
		6257797
		P257768 U/BKG,R,D
Nitrate Nitrogen	11108106103A	6257798 U/BKG,R,D
		6257799
		Blank
		LCS
Nitrite Nitrogen	11104105103A	6257790
		6257791
		6257792
		6257793
		6257794
		6257795
		6257796
		P257764 U/BKG,R,D
		Blank
		LCS
Nitrite Nitrogen	11104105103B	6257797 U/BKG,R,D
		6257798
		6257799

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP14
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/18/11	AK	11108106102	N.D.	mg/l	0.040	0.10
	04/18/11	AK	11108106103	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/14/11	AK	11104105103	N.D.	mg/l	0.015	0.050

HSP14 0056

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Instrumental Water Quality
SDG: HSP14
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
P257768 R	Nitrate Nitrogen	04/18/11	AK	11108106102B	0.78	1	NA	1.7	NA	mg/l	93	NA	90 - 110	NA	NA
6257798	Nitrate Nitrogen	04/18/11	AK	11108106103A	3.4	2	NA	5.3	NA	mg/l	95	NA	90 - 110	NA	NA
P257764 R	Nitrite Nitrogen	04/14/11	AK	11104105103A	0.040 J	0.2	NA	0.27	NA	mg/l	117*	NA	90 - 110	NA	NA
6257797	Nitrite Nitrogen	04/14/11	AK	11104105103B	N.D.	0.2	NA	0.21	NA	mg/l	107	NA	90 - 110	NA	NA

Comments: (2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: HSP14
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
6257798	Nitrate Nitrogen	04/18/11	AK	11108106103A	3.4	3.3	mg/l	4*	2
P257768	Nitrate Nitrogen	04/18/11	AK	11108106102B	0.78	0.78	mg/l	1	2
6257797	Nitrite Nitrogen	04/14/11	AK	11104105103B	N.D.	N.D.	mg/l	0(1)	20
P257764	Nitrite Nitrogen	04/14/11	AK	11104105103A	0.040 J	0.033 J	mg/l	18(1)	20

HSP14 8858

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Instrumental Water Quality
SDG: HSP14
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11108106102	Nitrate Nitrogen	04/18/11	AK	21	20.3	NA	mg/l	18.8 - 23.2	NA	NA
11108106103	Nitrate Nitrogen	04/18/11	AK	21	20.6	NA	mg/l	18.8 - 23.2	NA	NA
11104105103	Nitrite Nitrogen	04/14/11	AK	1.92	1.9	NA	mg/l	1.719 - 2.12	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP14

Instrument ID: 09037
Calibration Date: 04/18/2011

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.3017	2.6204	1.1236	0.7314	0.4411	0.3907	0.9996

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 11108106102A, 11108106102B, 11108106103A
Run Start Dates: 04/18/2011

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.56636	103
ICB	0	ND	NA
CCV2	2.5	2.38325	95
CCB 2	0	ND	NA
CCV2	2.5	2.41617	97
CCB 3	0	ND	NA
CCV2	2.5	2.43141	97
CCB 4	0	ND	NA
CCV2	2.5	2.46556	99
CCB 5	0	ND	NA
CCV2	2.5	2.47917	99
CCB 6	0	ND	NA
CCV2	2.5	2.44320	98
CCB 7	0	ND	NA
CCV2	2.5	2.45255	98
CCB 8	0	ND	NA
CCV2	2.5	2.44361	98
CCB 9	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: HSP14

Instrument ID: 09106
Calibration Date: 04/14/2011

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	2.3346	1.9520	1.1511	0.7322	0.5241	0.4365	0.9999

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 11104105103A, 11104105103B
Run Start Dates: 04/14/2011

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.60743	101
ICB	0	ND	NA
CCV2	0.6	0.60386	101
CCB 1	0	ND	NA
CCV2	0.6	0.60454	101
CCB 2	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

LOQ/MDL Summary
Instrumental Water Quality

SDG: HSP14

Parameter	Default MDL	Default LOQ	Units
Nitrate Nitrogen	0.040	0.10	mg/l
Nitrite Nitrogen	0.015	0.050	mg/l

HSP14 9862

Miscellaneous Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP14

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
6257790	X		
6257791	X		
6257792	X		
6257793	X		
6257794	X		
6257795	X		
6257796	X		Field Duplicate Sample
6257797	X		
6257798	X		
6257799	X		Field Duplicate Sample

ANALYSIS:

There were no dilutions performed for analyses associated with samples in this SDG.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC 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 or by the client.

All QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Narrative Reviewed and Approved by:

Betty J Umble for Date 04-25-1 HSP14 0065

Dana Kauffman
Manager of Data Deliverables

Betty L. Umble
Specialist

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP14

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	11110022101A	6257790
		6257791
		6257792
		6257793
		6257794
		6257795
		6257796
		6257797
		6257798
		6257799
		P257160 U,D
		Blank
		LCS/LCSD

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP14
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/20/11	TI	11110022101	N.D.	mg/l	0.20	0.60

HSP14 8868

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: HSP14
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P257160	Ammonia Nitrogen	04/20/11	TI	11110022101A	1.6	1.7	mg/l	8(1)*	2

HSP14 8869

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Miscellaneous Wet Chemistry
SDG: HSP14
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11110022101	Ammonia Nitrogen	04/20/11	TI	10	9.6	9.5	mg/l	8.5 - 10.5	1	5

Lancaster Laboratories

LOQ/MDL Summary
Miscellaneous Wet Chemistry

SDG: HSP14

Parameter	Default MDL	Default LOQ	Units
Ammonia Nitrogen	0.20	0.60	mg/l

HSP14 8871

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Modified Type III Data Package

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

Project: Southpoint
Water Samples
Collected on 04/14/11

SDG# HSP15

GROUP	SAMPLE NUMBERS
1242311	6258980-6258984

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date: 05/06/2011**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Wendy Kozma at Ext. 1522.

Total Number of Pages 58

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Sample Reference List for SDG Number HSP15 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6258980	POB34	SPOB34-S-110414 Grab Water Sample
6258981	PIS23	SPIS23-S-110414 Unspiked Grab Water Sample
6258982	PIS23	SPIS23-MS-S-110414 Matrix Spike Grab Water Sample
6258983	PIS23	SPIS23-MSD-S-110414 Matrix Spike Dup Grab Water
6258984	PIS23	SPIS23DP-S-110414 Duplicate Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 41411 Semi-Annual
Group# 1242311
A10651 1 of 1
Sample #s 6258980-84

NOTE: This COC is based on your requested bottles and analyses. If your project scope changes, please document below.

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #: _____
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Charles D Miller - Steve Moore
Quote #: 205651
Name of State where samples were collected: Ohio

SF#:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Comments:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2										Temperature of samples upon receipt (if requested)	Remarks:
SPOB34-S-110414	4/14/2011	8:50	X			X		4	X	X	X											
SPIS23-S-110414	4/14/2011	9:30	X			X		4	X	X	X											
SPIS23DP-S-110414	4/14/2011	9:30	X			X		4	X	X	X											
SPIS23-MS-S-110414 (Matrix Spike)	4/14/2011	9:30	X			X		4	X	X	X											
SPIS23-MSD-S-110414 (Matrix Spike Duplicate)	4/14/2011	9:30	X			X		2	X	X	X											

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Data Package Options:

SDG Complete? Yes No

Site-specific QC Required (MS/MSD/DUP)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody Required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Charles D Miller	4-14-11	1200			

Received by: [signature] 4/15/11 0955

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 4/15/11

Time of Receipt: 0955

Source Code: 50

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	429951	0.9	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody Ø

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [signature] 964 **Date/Time:** 4/15/11 1010

USP15 0883

Issued by Dept. 6042 Management

2174.06

Lancaster Laboratories

pH Historical Data

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
Vincent Norton									
SDG: HSP15									
Group: 1242311									
Sample: 6258980									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6258981									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6258982									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6258983									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
	Check Res. Cl.			Checked? N	Present? N	Corrective Substance		Lot #	

* linked sample

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
Sample: 6258984									
008A	<2	<2			HNO3	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011
056A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
011A	<2	<2			H2SO4	Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

Check	Checked?	Present?	Corrective Substance	Lot #
Res. Cl.	N	N		

Bottle Code	Expected pH	Actual pH	Adjusted pH	Lot #	Preservative	Lab Submitted?	Sub-contracted?	Preservation Code	Date Entered
008A	<2	<2				Y	N	PK - Original container checked - pH is within correct range. (No preservative was added)	04/15/2011

* linked sample

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01848 WW SW846 ICP Digest (tot rec)

The sample is digested with nitric acid and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3005A, July 1992

07035 Arsenic
07047 Beryllium
07049 Cadmium
07053 Copper
07058 Manganese
07061 Nickel

The solution resulting from the metals digestion is analyzed by Trace ICP.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6010B, December 1996.

00219 Nitrite Nitrogen

Nitrite ions react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00220 Nitrate Nitrogen

Nitrate ions are reduced to nitrite by passing through a cadmium coil. The nitrite ions then react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00221 Ammonia Nitrogen

The sample is distilled into a solution of boric acid, then titrated with standard sulfuric acid using a mixed indicator.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 4500-NH3 B,C Modified

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

April 26, 2011

Project: Southpoint

Submittal Date: 04/15/2011
Group Number: 1242311
SDG: HSP15
PO Number: 4500013808
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPOB34-S-110414 Grab Water Sample	6258980
SPIS23-S-110414 Unspiked Grab Water Sample	6258981
SPIS23-MS-S-110414 Matrix Spike Grab Water Sample	6258982
SPIS23-MSD-S-110414 Matrix Spike Dup Grab Water	6258983
SPIS23DP-S-110414 Duplicate Grab Water Sample	6258984

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

ELECTRONIC COPY TO	MACTEC	Attn: Chris Ricardi
ELECTRONIC COPY TO	Mactec	Attn: Nick Rogers
1 COPY TO	Data Package Group	

HSP15 0000

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
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717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300 Ext. 1522

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

HSP15 0009

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2425 New Holland Pike
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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)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ 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

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	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.

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Lancaster Laboratories

Sample Description: SPOB34-S-110414 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6258980
LLI Group # 1242311
Account # 10651

Project Name: Southpoint

Collected: 04/14/2011 08:50 by CDM

Submitted: 04/15/2011 09:55
Reported: 04/26/2011 07:07

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

POB34 SDG#: HSP15-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	**Arsenic**	7440-38-2	**0.0120 J**	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.423**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**0.60 J**	0.60	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
07035	Arsenic	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	11108184800B	04/25/2011 23:47	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	11108184800B	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103B	04/18/2011 17:45	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11105105101A	04/15/2011 19:33	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11111022101A	04/21/2011 15:30	Luz M Groff	1

HSP15 0011

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS23-S-110414 Unspiked Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6258981
LLI Group # 1242311
Account # 10651

Project Name: Southpoint

Collected: 04/14/2011 09:30 by CDM

Submitted: 04/15/2011 09:55
Reported: 04/26/2011 07:07

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

PIS23 SDG#: HSP15-02BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.237**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.6**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	111081848008	04/25/2011 22:32	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848008	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103B	04/18/2011 17:42	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11105105101A	04/15/2011 19:29	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11111022101A	04/21/2011 15:30	Luz M Groff	1

HSP15 2012

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS23-MS-S-110414 Matrix Spike Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6258982
LLI Group # 1242311
Account # 10651

Project Name: Southpoint

Collected: 04/14/2011 09:30 by CDM

Submitted: 04/15/2011 09:55
Reported: 04/26/2011 07:07

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

PIS23 SDG#: HSP15-02MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	**Arsenic**	7440-38-2	**0.152**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0487**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0488**	0.0050	1
07053	**Copper**	7440-50-8	**0.244**	0.0100	1
07058	**Manganese**	7439-96-5	**0.715**	0.0050	1
07061	**Nickel**	7440-02-0	**0.492**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.2**	0.10	1
00219	**Nitrite Nitrogen**	14797-65-0	**0.19**	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**9.6**	0.60	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
07035	Arsenic	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	11108184800B	04/25/2011 22:42	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	11108184800B	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103B	04/18/2011 17:44	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11105105101A	04/15/2011 19:32	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11111022101A	04/21/2011 15:30	Luz M Groff	1

HSP15 0913

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS23-MSD-S-110414 Matrix Spike Dup Grab Water
Ironton Southpoint

LLI Sample # WW 6258983
LLI Group # 1242311
Account # 10651

Project Name: Southpoint

Collected: 04/14/2011 09:30 by CDM

Submitted: 04/15/2011 09:55
Reported: 04/26/2011 07:07

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

PIS23 SDG#: HSP15-02MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	**Arsenic**	7440-38-2	**0.153**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0501**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0496**	0.0050	1
07053	**Copper**	7440-50-8	**0.250**	0.0100	1
07058	**Manganese**	7439-96-5	**0.728**	0.0050	1
07061	**Nickel**	7440-02-0	**0.501**	0.0100	1
Wet Chemistry		**SM20 4500NH3 B/C modified**	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**9.6**	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	111081848008	04/25/2011 22:45	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848008	04/18/2011 20:00	Mirit S Shenouda	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11111022101A	04/21/2011 15:30	Luz M Groff	1

HSP15 0014

Lancaster Laboratories, Inc.
2425 New Holland Pike
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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS23DP-S-110414 Duplicate Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6258984
LLI Group # 1242311
Account # 10651

Project Name: Southpoint

Collected: 04/14/2011 09:30 by CDM

Submitted: 04/15/2011 09:55
Reported: 04/26/2011 07:07

Honeywell
MN10-132B
1985 Douglas Drive North
Golden Valley MN 55422

PIS23 SDG#: HSP15-02DUP*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Metals		**SW-846 6010B**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0200	1
07047	Beryllium	7440-41-7	N.D.	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	Copper	7440-50-8	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.234**	0.0050	1
07061	Nickel	7440-02-0	N.D.	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.6**	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	Ammonia Nitrogen	7664-41-7	N.D.	0.60	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
07035	Arsenic	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	111081848008	04/25/2011 22:38	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	111081848008	04/18/2011 20:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	11108106103B	04/18/2011 17:43	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	11105105101A	04/15/2011 19:30	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	11111022101A	04/21/2011 15:30	Luz M Groff	1

HSP15 0815

Lancaster Laboratories, Inc.
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717-656-2300 Fax: 717-656-2681

Metals Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP15

Date Received: 04/15/2011

Dilutions:
Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:
Method defined actions are taken for any failed matrix QC.

Explanatory Notes:
The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Case Narrative reviewed and approved by:

Betty L Menefee for Date 5/05/11

Dana M. Kauffman, Manager
Data Deliverables

HSP15 0010

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6258980
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/15/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	12.0	B		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	423			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6258981BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 04/15/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	237			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6258982MS
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/15/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	152			P
7440-41-7	Beryllium	48.7			P
7440-43-9	Cadmium	48.8			P
7440-50-8	Copper	244			P
7439-96-5	Manganese	715			P
7440-02-0	Nickel	492			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6258983MSD
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/15/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	153			P
7440-41-7	Beryllium	50.1			P
7440-43-9	Cadmium	49.6			P
7440-50-8	Copper	250			P
7439-96-5	Manganese	728			P
7440-02-0	Nickel	501			P

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6258984DUP % Solids: 0.0
Concentration Units: UG/L Date Received: 04/15/2011

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	234			P
7440-02-0	Nickel	3.0	U		P

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Quality Control and Calibration Summary Forms

Lancaster Laboratories

QUALITY CONTROL REFERENCE LIST

SDG No.: HSP15
Matrix: WATER

Analyte	Batch ID	Lab Sample ID
Arsenic	P10848H	6258980
Beryllium		6258981BKG
Cadmium		6258982MS
Copper		6258983MSD
Manganese		6258984DUP
Nickel		P10848HB
		P10848HQ

HSP15 0026

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP15

Method: P
Run Name: 1111504T72
Calibration Date(s): 04/25/2011 - 04/26/2011
Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (UG/L) Mass		C	Lab Sample ID
Arsenic		3.7	U	3.7	U	3.7	U	3.7	U		9.800	U	P10848HB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P10848HB
Cadmium		0.33	U	-0.45	B	0.33	U	-0.52	B		2.000	U	P10848HB
Copper		2.0	U	2.0	U	2.0	U	2.0	U		2.700	U	P10848HB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P10848HB
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		3.000	U	P10848HB

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP15 0027

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP15

Method: P
Run Name: 1111504T72
Calibration Date(s): 04/25/2011 - 04/26/2011

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Lab Sample ID
Arsenic				3.7	U								
Beryllium				0.67	U								
Cadmium				-0.45	B								
Copper				2.0	U								
Manganese				1.0	U								
Nickel				1.0	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

HSP15 0020

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6258981BKG Matrix Spike Lab Sample ID: 6258982MS Matrix Spike Duplicate Lab Sample ID: 6258983MSD
% Solids for Sample: 0.0
Batch Id(s): P10848H

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Arsenic		9.8000	U	152.4200		153.2500		150.0000	150.0000	UG/L	102		102		1		75 - 125	20	P
Beryllium		1.4000	U	48.7100		50.0800		50.0000	50.0000	UG/L	97		100		3		87 - 114	20	P
Cadmium		2.0000	U	48.7600		49.5700		50.0000	50.0000	UG/L	98		99		2		83 - 116	20	P
Copper		2.7000	U	243.9700		249.8300		250.0000	250.0000	UG/L	98		100		2		86 - 122	20	P
Manganese		237.2000		714.8800		727.5400		500.0000	500.0000	UG/L	96		98		2		75 - 125	20	P
Nickel		3.0000	U	492.4700		500.6000		500.0000	500.0000	UG/L	98		100		2		86 - 115	20	P

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: HSP15
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6258981BKG
% Solids for Duplicate: 0.0
Batch ID(s): P10848H
Concentration Units: UG/L

Duplicate Lab Sample ID: 6258984DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			9.8000	U	9.8000	U			P
Beryllium			1.4000	U	1.4000	U			P
Cadmium			2.0000	U	2.0000	U			P
Copper			2.7000	U	2.7000	U			P
Manganese			237.2000		234.1700		1		P
Nickel			3.0000	U	3.0000	U			P

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

HSP15 0035

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	FLAGS:
AF = Cold Vapor Atomic Fluorescence	* = Duplicate Out of Spec

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: HSP15
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P10848HQ	UG/L	150.00	143.40		133.50	173.00	96	P	Yes
Beryllium		P10848HQ	UG/L	50.00	47.56		44.00	55.00	95	P	Yes
Cadmium		P10848HQ	UG/L	50.00	49.60		45.00	56.00	99	P	Yes
Copper		P10848HQ	UG/L	250.00	247.55		225.00	280.00	99	P	Yes
Manganese		P10848HQ	UG/L	500.00	499.58		450.00	550.00	100	P	Yes
Nickel		P10848HQ	UG/L	500.00	509.11		450.00	555.00	102	P	Yes

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Preparation and Run Logs

NSF15 0032

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP15

Method: P
Batch ID: P10848H

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6258980	04/18/2011	50.00	50
6258981BKG	04/18/2011	50.00	50
6258984DUP	04/18/2011	50.00	50
6258983MSD	04/18/2011	50.00	50
6258982MS	04/18/2011	50.00	50
P10848HB	04/18/2011	50.00	50
P10848HQ	04/18/2011	1.00	1

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP15 0033

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP15

Method: P
Instrument ID: 16417
Run Name: 1111504T72

Run Start Date: 04/25/2011
Run End Date: 04/26/2011

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
S0	1.00	21:47	X	X	X	X	X	X
S	1.00	21:50						
S	1.00	21:54	X	X	X	X	X	X
S	1.00	21:57						
ICV	1.00	22:01	X	X	X	X	X	X
ICB	1.00	22:04	X	X	X	X	X	X
LLC	1.00	22:08	X	X	X	X	X	X
ICSA	1.00	22:11	X	X	X	X	X	X
ICSAB	1.00	22:15	X	X	X	X	X	X
CCV	1.00	22:18	X	X	X	X	X	X
CCB	1.00	22:21	X	X	X	X	X	X
P10848HB	1.00	22:25	X	X	X	X	X	X
P10848HQ	1.00	22:28	X	X	X	X	X	X
6258981BKG	1.00	22:32	X	X	X	X	X	X
6258981A	1.00	22:35						
6258984DUP	1.00	22:38	X	X	X	X	X	X
6258982MS	1.00	22:42	X	X	X	X	X	X
6258983MSD	1.00	22:45	X	X	X	X	X	X
6258981L	5.00	22:49	X	X	X	X	X	X
ZZZZZZ	1.00	22:52						
ZZZZZZ	1.00	22:56						
CCV	1.00	22:59	X	X	X	X	X	X
CCB	1.00	23:02	X	X	X	X	X	X
ZZZZZZ	1.00	23:06						
ZZZZZZ	1.00	23:09						
ZZZZZZ	1.00	23:13						
ZZZZZZ	1.00	23:16						
ZZZZZZ	1.00	23:20						
ZZZZZZ	1.00	23:23						
ZZZZZZ	1.00	23:26						
ZZZZZZ	1.00	23:30						
ZZZZZZ	1.00	23:33						
ZZZZZZ	1.00	23:37						
CCV	1.00	23:40	X	X	X	X	X	X
CCB	1.00	23:43	X	X	X	X	X	X
6258980	1.00	23:47	X	X	X	X	X	X
ZZZZZZ	1.00	23:50						
ZZZZZZ	1.00	23:54						

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP15 0034

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP15

Method: P
Instrument ID: 16417
Run Name: 1111504T72

Run Start Date: 04/25/2011
Run End Date: 04/26/2011

Lab Sample ID	D/F	Time	Analytes																												
			AS	BE	CD	CU	MN	NI																							
ZZZZZZ	1.00	23:57																													
ZZZZZZ	1.00	00:01																													
ZZZZZZ	1.00	00:04																													
ZZZZZZ	1.00	00:08																													
LLC	1.00	00:11	X	X	X	X	X	X																							
ICSA	1.00	00:14	X	X	X	X	X	X																							
ICSAB	1.00	00:18	X	X	X	X	X	X																							
CCV	1.00	00:21	X	X	X	X	X	X																							
CCB	1.00	00:25	X	X	X	X	X	X																							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

HSP15 0035

Instrumental Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP15

Instrumental Water Quality

Sample #	Matrix Liquid	Matrix Solid	Comments
6258980	X		
6258981	X		Background/Unspiked
6258982	X		Matrix Spike
6258984	X		Duplicate

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen	Nitrite Nitrogen
LCS	DF10	DF5

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC 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 or by the client.

Batch#: 11108106103B (Sample number(s): 6258980-6258982, 6258984, UNSPK: 6258981, BKG: 6258981)
The recovery for the MS is outside the acceptance window for Nitrate Nitrogen

All other QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP15

Narrative Reviewed and Approved by: Betty L Umble

Betty L. Umble
Specialist

For Date 05-06-11

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP15

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	11108106103A	Blank
		LCS
Nitrate Nitrogen	11108106103B	6258980
		6258981 U/BKG
		6258982 R
		6258984 D
Nitrite Nitrogen	11105105101A	6258980
		6258981 U/BKG
		6258982 R
		6258984 D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP15
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/18/11	AK	11108106103	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/15/11	AK	11105105101	N.D.	mg/l	0.015	0.050

HSP15 0042

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Instrumental Water Quality
SDG: HSP15
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
6258982 R	Nitrate Nitrogen	04/18/11	AK	11108106103B	1.6	1	NA	2.4	NA	mg/l	84*	NA	90 - 110	NA	NA
6258982 R	Nitrite Nitrogen	04/15/11	AK	11105105101A	N.D.	0.2	NA	0.19	NA	mg/l	96	NA	90 - 110	NA	NA

Comments: (2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

HSP15 00045

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: HSP15
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
6258984	Nitrate Nitrogen	04/18/11	AK	11108106103B	1.6	1.6	mg/l	1	2
6258984	Nitrite Nitrogen	04/15/11	AK	11105105101A	N.D.	N.D.	mg/l	0(1)	20

HSP15 0044

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Instrumental Water Quality
SDG: HSP15
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11108106103	Nitrate Nitrogen	04/18/11	AK	21	20.6	NA	mg/l	18.8 - 23.2	NA	NA
11105105101	Nitrite Nitrogen	04/15/11	AK	1.92	1.9	NA	mg/l	1.719 - 2.12	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: HSP15

Instrument ID: 09106
Calibration Date: 04/15/2011

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	2.3185	1.8774	1.1262	0.7095	0.5300	0.4281	0.9998

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 11105105101A
Run Start Dates: 04/15/2011

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.62515	104
ICB	0	ND	NA
CCV2	0.6	0.61974	103
CCB 1	0	ND	NA

HSP15 SDG#

* = Out Of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP15

Instrument ID: 09037
Calibration Date: 04/18/2011

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.3017	2.6204	1.1236	0.7314	0.4411	0.3907	0.9996

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 11108106103A, 11108106103B
Run Start Dates: 04/18/2011

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.56636	103
ICB	0	ND	NA
CCV2	2.5	2.47917	99
CCB 6	0	ND	NA
CCV2	2.5	2.44320	98
CCB 7	0	ND	NA
CCV2	2.5	2.45255	98
CCB 8	0	ND	NA

HSP15 004

* = Out of Specifications

Lancaster Laboratories

LOQ/MDL Summary
Instrumental Water Quality

SDG: HSP15

Parameter	Default MDL	Default LOQ	Units
Nitrate Nitrogen	0.040	0.10	mg/l
Nitrite Nitrogen	0.015	0.050	mg/l

HSP15 0840

Miscellaneous Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP15

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Matrix Solid	Comments
6258980	X		
6258981	X		Background/Unspiked
6258982	X		Matrix Spike
6258983	X		Matrix Spike Duplicate
6258984	X		Duplicate

ANALYSIS:

There were no dilutions performed for analyses associated with samples in this SDG.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC 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 or by the client.

All QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Narrative Reviewed and Approved by:

Betty L. Umble
Specialist

For Date 04-28-11

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP15

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	11111022101A	6258980
		6258981 U/BKG
		6258982 R
		6258983 M
		6258984 D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP15
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/21/11	TI	11111022101	N.D.	mg/l	0.20	0.60

HSP15 0054

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Miscellaneous Wet Chemistry
SDG: HSP15
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
6258982 R 6258983 M	Ammonia Nitrogen	04/21/11	TI	11111022101A	N.D.	10	10	9.6	9.6	mg/l	96	96	80 - 112	1	8

Comments: (2) The unspiked sample result is greater than four times the spike added.
= Out of Specification

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: HSP15
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
6258984	Ammonia Nitrogen	04/21/11	TI	11111022101A	N.D.	N.D.	mg/l	0(1)	2

HSP15 0056

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Miscellaneous Wet Chemistry
SDG: HSP15
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
11111022101	Ammonia Nitrogen	04/21/11	TI	10	9.6	NA	mg/l	8.5 - 10.5	NA	NA

Lancaster Laboratories

LOQ/MDL Summary
Miscellaneous Wet Chemistry

SDG: HSP15

Parameter	Default MDL	Default LOQ	Units
Ammonia Nitrogen	0.20	0.60	mg/l

HSP15 0858

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-11056-1
Client Project/Site: 37134 - Ironton - South Point

For:
Honeywell International Inc
101 Columbia Road
Morristown, New Jersey 07962

Attn: Mr. John Mojka

Authorized for release by:
11/10/2011 12:34:12 PM
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John Schove
Department Manager I
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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-11056-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-11056-1

Receipt
All samples were received in good condition within temperature requirements.

Metals
Method 6010B: The method blank for preparation batch 35118 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010B: The method blank for preparation batch 35326 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

General Chemistry
Method 353.2: The following sample was analyzed outside of analytical holding time due to analyst error. The Total Nitrate-Nitrite analysis was performed within analytical holding time; however, the Nitrite analysis was not performed: SPMW13-S-111012 (480-11137-5).

Method 353.2: The following samples were analyzed outside of analytical holding time due to analyst error: SPIS23-MS-S-111011 (480-11056-10 MS) and SPIS23-MSD-S-111011 (480-11056-10 MSD). However, the base sample associated with this matrix spike / matrix spike duplicate (MS/MSD) was analyzed within holding time.

No other analytical or quality issues were noted.

Detection Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW10R-S-111011 — Lab Sample ID: 480-11056-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00077	J	0.0010	0.00033	mg/L	1		6010B	Total/NA
Manganese	0.13	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.015		0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	1.1		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW06R-S-111011 — Lab Sample ID: 480-11056-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.51	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Ammonia	11.1		0.20	0.090	mg/L	10		350.1	Total/NA
Nitrate as N	5.7		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW08-S-111011 — Lab Sample ID: 480-11056-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00072	J	0.0010	0.00033	mg/L	1		6010B	Total/NA
Manganese	2.9	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0067	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	0.38		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	0.030	J	0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW02-S-111011 — Lab Sample ID: 480-11056-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00035	J	0.0010	0.00033	mg/L	1		6010B	Total/NA
Manganese	0.23	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0021	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	4.7		0.050	0.011	mg/L	1		353.2	Total/NA
Nitrite as N	0.048	J	0.050	0.020	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW03-S-111011 — Lab Sample ID: 480-11056-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.090	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0027	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	2.6		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW07-S-111011 — Lab Sample ID: 480-11056-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00050	J	0.0010	0.00033	mg/L	1		6010B	Total/NA
Manganese	0.39	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0025	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	30.1		0.40	0.18	mg/L	20		350.1	Total/NA
Nitrate as N	3.7		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW07DP-S-111011 — Lab Sample ID: 480-11056-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.39	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0014	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	35.0		0.40	0.18	mg/L	20		350.1	Total/NA
Nitrate as N	3.8		0.050	0.011	mg/L	1		353.2	Total/NA

Detection Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPOB34-S-111011 — Lab Sample ID: 480-11056-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0094	J	0.010	0.0056	mg/L	1		6010B	Total/NA
Manganese	0.43	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Ammonia	0.55		0.020	0.0090	mg/L	1		350.1	Total/NA

Client Sample ID: SPOB12R2-S-111011 — Lab Sample ID: 480-11056-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.017	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0037	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	3.0		0.040	0.018	mg/L	2		350.1	Total/NA
Nitrate as N	1.5		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPIS23-S-111011 — Lab Sample ID: 480-11056-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	0.0016	J	0.010	0.0015	mg/L	1		6010B	Total/NA
Manganese	0.24	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0025	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	0.19		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	2.2		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPIS23DP-S-111011 — Lab Sample ID: 480-11056-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.24	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0021	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	0.19		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	2.2		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW01-S-111012 — Lab Sample ID: 480-11137-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.013	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0020	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	2.6		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW05-S-111012 — Lab Sample ID: 480-11137-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.010	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0053	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	1.8		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW11R-S-111012 — Lab Sample ID: 480-11137-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.038	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0096	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	0.35		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	2.4		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW12-S-111012 — Lab Sample ID: 480-11137-4

Detection Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW12-S-111012 (Continued) — Lab Sample ID: 480-11137-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.034	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0057	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	0.17		0.020	0.0090	mg/L	1		350.1	Total/NA
Nitrate as N	4.0		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW13-S-111012 — Lab Sample ID: 480-11137-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.24	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nitrate as N	0.69		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW04-S-111012 — Lab Sample ID: 480-11137-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.044	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0052	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Nitrate as N	2.2		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPMW09-S-111012 — Lab Sample ID: 480-11137-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.0050		0.0020	0.00030	mg/L	1		6010B	Total/NA
Cadmium	0.0083		0.0010	0.00033	mg/L	1		6010B	Total/NA
Copper	2.3		0.010	0.0015	mg/L	1		6010B	Total/NA
Manganese	11.9	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.50		0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	12.5		0.20	0.090	mg/L	10		350.1	Total/NA
Nitrate as N	3580		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPIS24-S-111012 — Lab Sample ID: 480-11137-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00037	J	0.0010	0.00033	mg/L	1		6010B	Total/NA
Copper	0.0050	J	0.010	0.0015	mg/L	1		6010B	Total/NA
Manganese	0.54	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0034	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	18.7		0.20	0.090	mg/L	10		350.1	Total/NA
Nitrate as N	9.2		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample ID: SPIS24-DP-S-111012 — Lab Sample ID: 480-11137-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	0.0044	J	0.010	0.0015	mg/L	1		6010B	Total/NA
Manganese	0.54	B	0.0030	0.00030	mg/L	1		6010B	Total/NA
Nickel	0.0034	J	0.010	0.0013	mg/L	1		6010B	Total/NA
Ammonia	18.1		0.20	0.090	mg/L	10		350.1	Total/NA
Nitrate as N	9.7		0.050	0.011	mg/L	1		353.2	Total/NA

Client Sample Results

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW10R-S-111011

Lab Sample ID: 480-11056-1

Date Collected: 10/11/11 12:55
Date Received: 10/12/11 10:10

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:17	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:17	1
Cadmium	**0.00077**	**J**	0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:17	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:17	1
Manganese	**0.13**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:17	1
Nickel	**0.015**		0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/14/11 15:50	1
Nitrate as N	**1.1**		0.050	0.011	mg/L			10/13/11 01:01	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:10	1

Client Sample ID: SPMW06R-S-111011

Lab Sample ID: 480-11056-2

Date Collected: 10/11/11 13:30
Date Received: 10/12/11 10:10

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:19	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:19	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:19	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:19	1
Manganese	**0.51**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:19	1
Nickel	ND		0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**11.1**		0.20	0.090	mg/L			10/21/11 17:28	10
Nitrate as N	**5.7**		0.050	0.011	mg/L			10/13/11 01:01	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:11	1

Client Sample ID: SPMW08-S-111011

Lab Sample ID: 480-11056-3

Date Collected: 10/11/11 14:05
Date Received: 10/12/11 10:10

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:21	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:21	1
Cadmium	**0.00072**	**J**	0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:21	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:21	1
Manganese	**2.9**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:21	1
Nickel	**0.0067**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.38**		0.020	0.0090	mg/L			10/14/11 15:51	1
Nitrate as N	**0.030**	**J**	0.050	0.011	mg/L			10/13/11 01:02	1

Client Sample ID: SPMW08-S-111011

Lab Sample ID: 480-11056-3
Date Collected: 10/11/11 14:05
Matrix: Water
Date Received: 10/12/11 10:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 00:43	1

Client Sample ID: SPMW02-S-111011

Lab Sample ID: 480-11056-4
Date Collected: 10/11/11 11:50
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:24	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:24	1
Cadmium	**0.00035**	**J**	0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:24	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:24	1
Manganese	**0.23**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:24	1
Nickel	**0.0021**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/14/11 15:52	1
Nitrate as N	**4.7**		0.050	0.011	mg/L			10/13/11 01:03	1
Nitrite as N	**0.048**	**J**	0.050	0.020	mg/L			10/13/11 01:12	1

Client Sample ID: SPMW03-S-111011

Lab Sample ID: 480-11056-5
Date Collected: 10/11/11 11:11
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:26	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:26	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:26	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:26	1
Manganese	**0.090**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:26	1
Nickel	**0.0027**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/14/11 15:55	1
Nitrate as N	**2.6**		0.050	0.011	mg/L			10/13/11 01:03	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:13	1

Client Sample ID: SPMW07-S-111011

Lab Sample ID: 480-11056-6
Date Collected: 10/11/11 10:25
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:28	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:28	1
Cadmium	**0.00050**	**J**	0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:28	1

Client Sample ID: SPMW07-S-111011

Lab Sample ID: 480-11056-6
Date Collected: 10/11/11 10:25
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:28	1
Manganese	**0.39**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:28	1
Nickel	**0.0025**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**30.1**		0.40	0.18	mg/L			10/21/11 17:31	20
Nitrate as N	**3.7**		0.050	0.011	mg/L			10/13/11 01:04	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:16	1

Client Sample ID: SPMW07DP-S-111011

Lab Sample ID: 480-11056-7
Date Collected: 10/11/11 10:25
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:30	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:30	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:30	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:30	1
Manganese	**0.39**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:30	1
Nickel	**0.0014**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**35.0**		0.40	0.18	mg/L			10/25/11 13:12	20
Nitrate as N	**3.8**		0.050	0.011	mg/L			10/13/11 01:05	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:17	1

Client Sample ID: SPOB34-S-111011

Lab Sample ID: 480-11056-8
Date Collected: 10/11/11 08:30
Matrix: Water
Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0094**	**J**	0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:37	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:37	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:37	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:37	1
Manganese	**0.43**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:37	1
Nickel	ND		0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.55**		0.020	0.0090	mg/L			10/14/11 15:58	1
Nitrate as N	ND		0.050	0.011	mg/L			10/13/11 01:05	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 00:44	1

Client Sample ID: SPOB12R2-S-111011

Lab Sample ID: 480-11056-9

Date Collected: 10/11/11 09:10

Matrix: Water

Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:39	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:39	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:39	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:39	1
Manganese	**0.017**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:39	1
Nickel	**0.0037**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**3.0**		0.040	0.018	mg/L			10/21/11 17:33	2
Nitrate as N	**1.5**		0.050	0.011	mg/L			10/13/11 01:06	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:18	1

Client Sample ID: SPIS23-S-111011

Lab Sample ID: 480-11056-10

Date Collected: 10/11/11 09:30

Matrix: Water

Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:41	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:41	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:41	1
Copper	**0.0016**	**J**	0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:41	1
Manganese	**0.24**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:41	1
Nickel	**0.0025**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.19**		0.020	0.0090	mg/L			10/14/11 16:00	1
Nitrate as N	**2.2**		0.050	0.011	mg/L			10/13/11 01:07	1
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:19	1

Client Sample ID: SPIS23DP-S-111011

Lab Sample ID: 480-11056-11

Date Collected: 10/11/11 09:30

Matrix: Water

Date Received: 10/12/11 10:10

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:52	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:52	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:52	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:52	1
Manganese	**0.24**	**B**	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:52	1
Nickel	**0.0021**	**J**	0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.19**		0.020	0.0090	mg/L			10/14/11 16:03	1
Nitrate as N	**2.2**		0.050	0.011	mg/L			10/13/11 01:08	1

Client Sample ID: SPIS23DP-S-111011 — Lab Sample ID: 480-11056-11

Date Collected: 10/11/11 09:30 — **Matrix: Water**
Date Received: 10/12/11 10:10

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:20	1

Client Sample ID: SPMW01-S-111012 — Lab Sample ID: 480-11137-1

Date Collected: 10/12/11 08:20 — **Matrix: Water**
Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 16:46	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 16:46	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 16:46	1
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 16:46	1
Manganese	**0.013**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 16:46	1
Nickel	**0.0020**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 16:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/17/11 14:58	1
Nitrate as N	**2.6**		0.050	0.011	mg/L			10/13/11 23:05	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:29	1

Client Sample ID: SPMW05-S-111012 — Lab Sample ID: 480-11137-2

Date Collected: 10/12/11 09:00 — **Matrix: Water**
Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 16:48	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 16:48	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 16:48	1
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 16:48	1
Manganese	**0.010**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 16:48	1
Nickel	**0.0053**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 16:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/17/11 14:59	1
Nitrate as N	**1.8**		0.050	0.011	mg/L			10/13/11 23:06	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:30	1

Client Sample ID: SPMW11R-S-111012 — Lab Sample ID: 480-11137-3

Date Collected: 10/12/11 10:20 — **Matrix: Water**
Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 16:50	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 16:50	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 16:50	1

Client Sample ID: SPMW11R-S-111012

Lab Sample ID: 480-11137-3

Date Collected: 10/12/11 10:20

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 16:50	1
Manganese	**0.038**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 16:50	1
Nickel	**0.0096**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 16:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.35**		0.020	0.0090	mg/L			10/17/11 15:02	1
Nitrate as N	**2.4**		0.050	0.011	mg/L			10/13/11 23:07	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:31	1

Client Sample ID: SPMW12-S-111012

Lab Sample ID: 480-11137-4

Date Collected: 10/12/11 11:10

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:01	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:01	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:01	1
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:01	1
Manganese	**0.034**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:01	1
Nickel	**0.0057**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.17**		0.020	0.0090	mg/L			10/17/11 15:03	1
Nitrate as N	**4.0**		0.050	0.011	mg/L			10/13/11 23:08	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:32	1

Client Sample ID: SPMW13-S-111012

Lab Sample ID: 480-11137-5

Date Collected: 10/12/11 11:45

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:07	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:07	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:07	1
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:07	1
Manganese	**0.24**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:07	1
Nickel	ND		0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/17/11 15:04	1
Nitrate as N	**0.69**		0.050	0.011	mg/L			10/13/11 23:08	1
Nitrite as N	ND	H	0.050	0.020	mg/L			11/04/11 02:17	1

Client Sample ID: SPMW04-S-111012

Lab Sample ID: 480-11137-6

Date Collected: 10/12/11 13:10

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:10	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:10	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:10	1
Copper	ND		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:10	1
Manganese	**0.044**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:10	1
Nickel	**0.0052**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/17/11 15:05	1
Nitrate as N	**2.2**		0.050	0.011	mg/L			10/13/11 23:09	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:33	1

Client Sample ID: SPMW09-S-111012

Lab Sample ID: 480-11137-7

Date Collected: 10/12/11 14:00

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:12	1
Beryllium	**0.0050**		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:12	1
Cadmium	**0.0083**		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:12	1
Copper	**2.3**		0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:12	1
Manganese	**11.9**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:12	1
Nickel	**0.50**		0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**12.5**		0.20	0.090	mg/L			10/17/11 15:06	10
Nitrate as N	**3580**		0.050	0.011	mg/L			10/13/11 23:10	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 02:29	1

Client Sample ID: SPIS24-S-111012

Lab Sample ID: 480-11137-8

Date Collected: 10/12/11 09:25

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:14	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:14	1
Cadmium	**0.00037**	**J**	0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:14	1
Copper	**0.0050**	**J**	0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:14	1
Manganese	**0.54**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:14	1
Nickel	**0.0034**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**18.7**		0.20	0.090	mg/L			10/17/11 15:07	10
Nitrate as N	**9.2**		0.050	0.011	mg/L			10/13/11 23:10	1

Client Sample ID: SPIS24-S-111012

Lab Sample ID: 480-11137-8

Date Collected: 10/12/11 09:25

Matrix: Water

Date Received: 10/13/11 09:45

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:35	1

Client Sample ID: SPIS24-DP-S-111012

Lab Sample ID: 480-11137-9

Date Collected: 10/12/11 09:25

Matrix: Water

Date Received: 10/13/11 09:45

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/14/11 08:40	10/14/11 17:16	1
Beryllium	ND		0.0020	0.00030	mg/L		10/14/11 08:40	10/14/11 17:16	1
Cadmium	ND		0.0010	0.00033	mg/L		10/14/11 08:40	10/14/11 17:16	1
Copper	**0.0044**	**J**	0.010	0.0015	mg/L		10/14/11 08:40	10/14/11 17:16	1
Manganese	**0.54**	**B**	0.0030	0.00030	mg/L		10/14/11 08:40	10/14/11 17:16	1
Nickel	**0.0034**	**J**	0.010	0.0013	mg/L		10/14/11 08:40	10/14/11 17:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**18.1**		0.20	0.090	mg/L			10/17/11 15:08	10
Nitrate as N	**9.7**		0.050	0.011	mg/L			10/13/11 23:11	1
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:36	1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 480-35118/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35409 — **Prep Batch: 35118**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 08:00	10/13/11 14:13	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 08:00	10/13/11 14:13	1
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 08:00	10/13/11 14:13	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 08:00	10/13/11 14:13	1
Manganese	0.000380	J	0.0030	0.00030	mg/L		10/13/11 08:00	10/13/11 14:13	1
Nickel	ND		0.010	0.0013	mg/L		10/13/11 08:00	10/13/11 14:13	1

Lab Sample ID: LCS 480-35118/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35409 — **Prep Batch: 35118**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.195		mg/L		97	80 - 120
Beryllium	0.200	0.201		mg/L		100	80 - 120
Cadmium	0.200	0.197		mg/L		98	80 - 120
Copper	0.200	0.204		mg/L		102	80 - 120
Manganese	0.200	0.200		mg/L		100	80 - 120
Nickel	0.200	0.198		mg/L		99	80 - 120

Lab Sample ID: 480-11056-10 MS — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35409 — **Prep Batch: 35118**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.200	0.210		mg/L		105	75 - 125
Beryllium	ND		0.200	0.210		mg/L		105	75 - 125
Cadmium	ND		0.200	0.206		mg/L		103	75 - 125
Copper	0.0016	J	0.200	0.211		mg/L		105	75 - 125
Manganese	0.24	B	0.200	0.435		mg/L		100	75 - 125
Nickel	0.0025	J	0.200	0.208		mg/L		103	75 - 125

Lab Sample ID: 480-11056-10 MSD — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35409 — **Prep Batch: 35118**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.208		mg/L		104	75 - 125	1	20
Beryllium	ND		0.200	0.209		mg/L		105	75 - 125	0	20
Cadmium	ND		0.200	0.205		mg/L		103	75 - 125	0	20
Copper	0.0016	J	0.200	0.212		mg/L		105	75 - 125	0	20
Manganese	0.24	B	0.200	0.438		mg/L		102	75 - 125	1	20
Nickel	0.0025	J	0.200	0.207		mg/L		102	75 - 125	0	20

Lab Sample ID: MB 480-35326/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35684 — **Prep Batch: 35326**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		10/13/11 16:39	10/14/11 16:42	1
Beryllium	ND		0.0020	0.00030	mg/L		10/13/11 16:39	10/14/11 16:42	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 480-35326/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35684 — **Prep Batch: 35326**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.0010	0.00033	mg/L		10/13/11 16:39	10/14/11 16:42	1
Copper	ND		0.010	0.0015	mg/L		10/13/11 16:39	10/14/11 16:42	1
Manganese	0.00108	J	0.0030	0.00030	mg/L		10/13/11 16:39	10/14/11 16:42	1
Nickel	ND		0.010	0.0013	mg/L		10/13/11 16:39	10/14/11 16:42	1

Lab Sample ID: LCS 480-35326/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35684 — **Prep Batch: 35326**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.193		mg/L		97	80 - 120
Beryllium	0.200	0.194		mg/L		97	80 - 120
Cadmium	0.200	0.199		mg/L		99	80 - 120
Copper	0.200	0.196		mg/L		98	80 - 120
Manganese	0.200	0.197		mg/L		99	80 - 120
Nickel	0.200	0.199		mg/L		100	80 - 120

Lab Sample ID: 480-11137-3 MS — **Client Sample ID: SPMW11R-S-111012**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35684 — **Prep Batch: 35326**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.200	0.200		mg/L		100	75 - 125
Beryllium	ND		0.200	0.202		mg/L		101	75 - 125
Cadmium	ND		0.200	0.199		mg/L		99	75 - 125
Copper	ND		0.200	0.198		mg/L		99	75 - 125
Manganese	0.038	B	0.200	0.235		mg/L		99	75 - 125
Nickel	0.0096	J	0.200	0.209		mg/L		100	75 - 125

Lab Sample ID: 480-11137-3 MSD — **Client Sample ID: SPMW11R-S-111012**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35684 — **Prep Batch: 35326**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.200	0.198		mg/L		99	75 - 125	1	20
Beryllium	ND		0.200	0.197		mg/L		99	75 - 125	2	20
Cadmium	ND		0.200	0.197		mg/L		99	75 - 125	1	20
Copper	ND		0.200	0.196		mg/L		98	75 - 125	1	20
Manganese	0.038	B	0.200	0.231		mg/L		97	75 - 125	2	20
Nickel	0.0096	J	0.200	0.207		mg/L		99	75 - 125	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-35541/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/14/11 15:44	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-35541/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.988		mg/L		99	90 - 110

Lab Sample ID: 480-11056-10 MS — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35541

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.19		0.200	0.386		mg/L		96	54 - 150

Lab Sample ID: 480-11056-10 MSD — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35541

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.19		0.200	0.372		mg/L		89	54 - 150	4	20

Lab Sample ID: MB 480-35775/123 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35775

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/17/11 14:50	1

Lab Sample ID: LCS 480-35775/124 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35775

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.957		mg/L		96	90 - 110

Lab Sample ID: MB 480-36726/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 36726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/21/11 17:20	1

Lab Sample ID: LCS 480-36726/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 36726

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.962		mg/L		96	90 - 110

Lab Sample ID: MB 480-37197/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 37197

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.020	0.0090	mg/L			10/25/11 12:56	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-37197/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 37197

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.05		mg/L		105	90 - 110

Method: 353.2 - Nitrogen, Nitrite

Lab Sample ID: MB 480-35184/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			10/13/11 01:04	1

Lab Sample ID: LCS 480-35184/8 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.58		mg/L		105	90 - 110

Lab Sample ID: MB 480-35379/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			10/14/11 00:16	1

Lab Sample ID: LCS 480-35379/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.59		mg/L		106	90 - 110

Lab Sample ID: 480-11137-9 MS — **Client Sample ID: SPIS24-DP-S-111012**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	ND		1.00	1.10		mg/L		110	61 - 147

Lab Sample ID: 480-11137-9 DU — **Client Sample ID: SPIS24-DP-S-111012**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 35379

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N	ND		ND		mg/L		NC	20

Method: 353.2 - Nitrogen, Nitrite (Continued)

Lab Sample ID: MB 480-38867/34 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 38867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			11/04/11 01:58	1

Lab Sample ID: LCS 480-38867/35 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 38867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.57		mg/L		105	90 - 110

Lab Sample ID: MB 480-39478/27 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 39478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.050	0.020	mg/L			11/09/11 00:42	1

Lab Sample ID: LCS 480-39478/28 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 39478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	1.50	1.53		mg/L		102	90 - 110

Lab Sample ID: 480-11056-10 MS — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 39478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	ND		1.00	1.02	H	mg/L		102	61 - 147

Lab Sample ID: 480-11056-10 MSD — **Client Sample ID: SPIS23-S-111011**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 39478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		1.00	0.877	H	mg/L		88	61 - 147	15	20

QC Association Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Metals

Prep Batch: 35118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-1	SPMW10R-S-111011	Total/NA	Water	3005A	
480-11056-2	SPMW06R-S-111011	Total/NA	Water	3005A	
480-11056-3	SPMW08-S-111011	Total/NA	Water	3005A	
480-11056-4	SPMW02-S-111011	Total/NA	Water	3005A	
480-11056-5	SPMW03-S-111011	Total/NA	Water	3005A	
480-11056-6	SPMW07-S-111011	Total/NA	Water	3005A	
480-11056-7	SPMW07DP-S-111011	Total/NA	Water	3005A	
480-11056-8	SPOB34-S-111011	Total/NA	Water	3005A	
480-11056-9	SPOB12R2-S-111011	Total/NA	Water	3005A	
480-11056-10	SPIS23-S-111011	Total/NA	Water	3005A	
480-11056-10 MS	SPIS23-S-111011	Total/NA	Water	3005A	
480-11056-10 MSD	SPIS23-S-111011	Total/NA	Water	3005A	
480-11056-11	SPIS23DP-S-111011	Total/NA	Water	3005A	
LCS 480-35118/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-35118/1-A	Method Blank	Total/NA	Water	3005A	

Prep Batch: 35326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-1	SPMW01-S-111012	Total/NA	Water	3005A	
480-11137-2	SPMW05-S-111012	Total/NA	Water	3005A	
480-11137-3	SPMW11R-S-111012	Total/NA	Water	3005A	
480-11137-3 MS	SPMW11R-S-111012	Total/NA	Water	3005A	
480-11137-3 MSD	SPMW11R-S-111012	Total/NA	Water	3005A	
480-11137-4	SPMW12-S-111012	Total/NA	Water	3005A	
480-11137-5	SPMW13-S-111012	Total/NA	Water	3005A	
480-11137-6	SPMW04-S-111012	Total/NA	Water	3005A	
480-11137-7	SPMW09-S-111012	Total/NA	Water	3005A	
480-11137-8	SPIS24-S-111012	Total/NA	Water	3005A	
480-11137-9	SPIS24-DP-S-111012	Total/NA	Water	3005A	
LCS 480-35326/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-35326/1-A	Method Blank	Total/NA	Water	3005A	

Analysis Batch: 35409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-1	SPMW10R-S-111011	Total/NA	Water	6010B	35118
480-11056-2	SPMW06R-S-111011	Total/NA	Water	6010B	35118
480-11056-3	SPMW08-S-111011	Total/NA	Water	6010B	35118
480-11056-4	SPMW02-S-111011	Total/NA	Water	6010B	35118
480-11056-5	SPMW03-S-111011	Total/NA	Water	6010B	35118
480-11056-6	SPMW07-S-111011	Total/NA	Water	6010B	35118
480-11056-7	SPMW07DP-S-111011	Total/NA	Water	6010B	35118
480-11056-8	SPOB34-S-111011	Total/NA	Water	6010B	35118
480-11056-9	SPOB12R2-S-111011	Total/NA	Water	6010B	35118
480-11056-10	SPIS23-S-111011	Total/NA	Water	6010B	35118
480-11056-10 MS	SPIS23-S-111011	Total/NA	Water	6010B	35118
480-11056-10 MSD	SPIS23-S-111011	Total/NA	Water	6010B	35118
480-11056-11	SPIS23DP-S-111011	Total/NA	Water	6010B	35118
LCS 480-35118/2-A	Lab Control Sample	Total/NA	Water	6010B	35118
MB 480-35118/1-A	Method Blank	Total/NA	Water	6010B	35118

Metals (Continued)

Analysis Batch: 35684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-1	SPMW01-S-111012	Total/NA	Water	6010B	35326
480-11137-2	SPMW05-S-111012	Total/NA	Water	6010B	35326
480-11137-3	SPMW11R-S-111012	Total/NA	Water	6010B	35326
480-11137-3 MS	SPMW11R-S-111012	Total/NA	Water	6010B	35326
480-11137-3 MSD	SPMW11R-S-111012	Total/NA	Water	6010B	35326
480-11137-4	SPMW12-S-111012	Total/NA	Water	6010B	35326
480-11137-5	SPMW13-S-111012	Total/NA	Water	6010B	35326
480-11137-6	SPMW04-S-111012	Total/NA	Water	6010B	35326
480-11137-7	SPMW09-S-111012	Total/NA	Water	6010B	35326
480-11137-8	SPIS24-S-111012	Total/NA	Water	6010B	35326
480-11137-9	SPIS24-DP-S-111012	Total/NA	Water	6010B	35326
LCS 480-35326/2-A	Lab Control Sample	Total/NA	Water	6010B	35326
MB 480-35326/1-A	Method Blank	Total/NA	Water	6010B	35326

General Chemistry

Analysis Batch: 35184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-1	SPMW10R-S-111011	Total/NA	Water	353.2	
480-11056-2	SPMW06R-S-111011	Total/NA	Water	353.2	
480-11056-4	SPMW02-S-111011	Total/NA	Water	353.2	
480-11056-5	SPMW03-S-111011	Total/NA	Water	353.2	
480-11056-6	SPMW07-S-111011	Total/NA	Water	353.2	
480-11056-7	SPMW07DP-S-111011	Total/NA	Water	353.2	
480-11056-9	SPOB12R2-S-111011	Total/NA	Water	353.2	
480-11056-10	SPIS23-S-111011	Total/NA	Water	353.2	
480-11056-11	SPIS23DP-S-111011	Total/NA	Water	353.2	
LCS 480-35184/8	Lab Control Sample	Total/NA	Water	353.2	
MB 480-35184/7	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 35350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-1	SPMW10R-S-111011	Total/NA	Water	353.2	
480-11056-2	SPMW06R-S-111011	Total/NA	Water	353.2	
480-11056-3	SPMW08-S-111011	Total/NA	Water	353.2	
480-11056-4	SPMW02-S-111011	Total/NA	Water	353.2	
480-11056-5	SPMW03-S-111011	Total/NA	Water	353.2	
480-11056-6	SPMW07-S-111011	Total/NA	Water	353.2	
480-11056-7	SPMW07DP-S-111011	Total/NA	Water	353.2	
480-11056-8	SPOB34-S-111011	Total/NA	Water	353.2	
480-11056-9	SPOB12R2-S-111011	Total/NA	Water	353.2	
480-11056-10	SPIS23-S-111011	Total/NA	Water	353.2	
480-11056-11	SPIS23DP-S-111011	Total/NA	Water	353.2	

Analysis Batch: 35374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-3	SPMW08-S-111011	Total/NA	Water	353.2	
480-11056-8	SPOB34-S-111011	Total/NA	Water	353.2	

Analysis Batch: 35378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-7	SPMW09-S-111012	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 35379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-1	SPMW01-S-111012	Total/NA	Water	353.2	
480-11137-2	SPMW05-S-111012	Total/NA	Water	353.2	
480-11137-3	SPMW11R-S-111012	Total/NA	Water	353.2	
480-11137-4	SPMW12-S-111012	Total/NA	Water	353.2	
480-11137-6	SPMW04-S-111012	Total/NA	Water	353.2	
480-11137-8	SPIS24-S-111012	Total/NA	Water	353.2	
480-11137-9	SPIS24-DP-S-111012	Total/NA	Water	353.2	
480-11137-9 DU	SPIS24-DP-S-111012	Total/NA	Water	353.2	
480-11137-9 MS	SPIS24-DP-S-111012	Total/NA	Water	353.2	
LCS 480-35379/4	Lab Control Sample	Total/NA	Water	353.2	
MB 480-35379/3	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 35541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-1	SPMW10R-S-111011	Total/NA	Water	350.1	
480-11056-3	SPMW08-S-111011	Total/NA	Water	350.1	
480-11056-4	SPMW02-S-111011	Total/NA	Water	350.1	
480-11056-5	SPMW03-S-111011	Total/NA	Water	350.1	
480-11056-8	SPOB34-S-111011	Total/NA	Water	350.1	
480-11056-10	SPIS23-S-111011	Total/NA	Water	350.1	
480-11056-10 MS	SPIS23-S-111011	Total/NA	Water	350.1	
480-11056-10 MSD	SPIS23-S-111011	Total/NA	Water	350.1	
480-11056-11	SPIS23DP-S-111011	Total/NA	Water	350.1	
LCS 480-35541/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-35541/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 35775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-1	SPMW01-S-111012	Total/NA	Water	350.1	
480-11137-2	SPMW05-S-111012	Total/NA	Water	350.1	
480-11137-3	SPMW11R-S-111012	Total/NA	Water	350.1	
480-11137-4	SPMW12-S-111012	Total/NA	Water	350.1	
480-11137-5	SPMW13-S-111012	Total/NA	Water	350.1	
480-11137-6	SPMW04-S-111012	Total/NA	Water	350.1	
480-11137-7	SPMW09-S-111012	Total/NA	Water	350.1	
480-11137-8	SPIS24-S-111012	Total/NA	Water	350.1	
480-11137-9	SPIS24-DP-S-111012	Total/NA	Water	350.1	
LCS 480-35775/124	Lab Control Sample	Total/NA	Water	350.1	
MB 480-35775/123	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 36726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-2	SPMW06R-S-111011	Total/NA	Water	350.1	
480-11056-6	SPMW07-S-111011	Total/NA	Water	350.1	
480-11056-9	SPOB12R2-S-111011	Total/NA	Water	350.1	
LCS 480-36726/4	Lab Control Sample	Total/NA	Water	350.1	
MB 480-36726/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 37197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-7	SPMW07DP-S-111011	Total/NA	Water	350.1	
LCS 480-37197/4	Lab Control Sample	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 37197 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-37197/3	Method Blank	Total/NA	Water	350.1	

Analysis Batch: 37201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-1	SPMW01-S-111012	Total/NA	Water	353.2	
480-11137-2	SPMW05-S-111012	Total/NA	Water	353.2	
480-11137-3	SPMW11R-S-111012	Total/NA	Water	353.2	
480-11137-4	SPMW12-S-111012	Total/NA	Water	353.2	
480-11137-5	SPMW13-S-111012	Total/NA	Water	353.2	
480-11137-6	SPMW04-S-111012	Total/NA	Water	353.2	
480-11137-7	SPMW09-S-111012	Total/NA	Water	353.2	
480-11137-8	SPIS24-S-111012	Total/NA	Water	353.2	
480-11137-9	SPIS24-DP-S-111012	Total/NA	Water	353.2	

Analysis Batch: 38867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11137-5	SPMW13-S-111012	Total/NA	Water	353.2	
LCS 480-38867/35	Lab Control Sample	Total/NA	Water	353.2	
MB 480-38867/34	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 39478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-11056-10 MS	SPIS23-S-111011	Total/NA	Water	353.2	
480-11056-10 MSD	SPIS23-S-111011	Total/NA	Water	353.2	
LCS 480-39478/28	Lab Control Sample	Total/NA	Water	353.2	
MB 480-39478/27	Method Blank	Total/NA	Water	353.2	

Lab Chronicle

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW10R-S-111011 — Lab Sample ID: 480-11056-1

Date Collected: 10/11/11 12:55 — **Matrix: Water**
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:17	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:10	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:01	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 15:50	KS	TAL BUF

Client Sample ID: SPMW06R-S-111011 — Lab Sample ID: 480-11056-2

Date Collected: 10/11/11 13:30 — **Matrix: Water**
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:19	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:11	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:01	ES	TAL BUF
Total/NA	Analysis	350.1		10	36726	10/21/11 17:28	KS	TAL BUF

Client Sample ID: SPMW08-S-111011 — Lab Sample ID: 480-11056-3

Date Collected: 10/11/11 14:05 — **Matrix: Water**
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:21	LH	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:02	ES	TAL BUF
Total/NA	Analysis	353.2		1	35374	10/13/11 00:43	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 15:51	KS	TAL BUF

Client Sample ID: SPMW02-S-111011 — Lab Sample ID: 480-11056-4

Date Collected: 10/11/11 11:50 — **Matrix: Water**
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:24	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:12	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:03	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 15:52	KS	TAL BUF

Lab Chronicle

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW03-S-111011 — Lab Sample ID: 480-11056-5

Date Collected: 10/11/11 11:11
Date Received: 10/12/11 10:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:26	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:13	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:03	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 15:55	KS	TAL BUF

Client Sample ID: SPMW07-S-111011 — Lab Sample ID: 480-11056-6

Date Collected: 10/11/11 10:25
Date Received: 10/12/11 10:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:28	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:16	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:04	ES	TAL BUF
Total/NA	Analysis	350.1		20	36726	10/21/11 17:31	KS	TAL BUF

Client Sample ID: SPMW07DP-S-111011 — Lab Sample ID: 480-11056-7

Date Collected: 10/11/11 10:25
Date Received: 10/12/11 10:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:30	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:17	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:05	ES	TAL BUF
Total/NA	Analysis	350.1		20	37197	10/25/11 13:12	KS	TAL BUF

Client Sample ID: SPOB34-S-111011 — Lab Sample ID: 480-11056-8

Date Collected: 10/11/11 08:30
Date Received: 10/12/11 10:10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:37	LH	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:05	ES	TAL BUF
Total/NA	Analysis	353.2		1	35374	10/13/11 00:44	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 15:58	KS	TAL BUF

Lab Chronicle

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPOB12R2-S-111011

Lab Sample ID: 480-11056-9

Date Collected: 10/11/11 09:10
Matrix: Water
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:39	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:18	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:06	ES	TAL BUF
Total/NA	Analysis	350.1		2	36726	10/21/11 17:33	KS	TAL BUF

Client Sample ID: SPIS23-S-111011

Lab Sample ID: 480-11056-10

Date Collected: 10/11/11 09:30
Matrix: Water
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:41	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:19	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:07	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 16:00	KS	TAL BUF

Client Sample ID: SPIS23DP-S-111011

Lab Sample ID: 480-11056-11

Date Collected: 10/11/11 09:30
Matrix: Water
Date Received: 10/12/11 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35118	10/13/11 08:00	JM	TAL BUF
Total/NA	Analysis	6010B		1	35409	10/13/11 14:52	LH	TAL BUF
Total/NA	Analysis	353.2		1	35184	10/13/11 01:20	ES	TAL BUF
Total/NA	Analysis	353.2		1	35350	10/13/11 01:08	ES	TAL BUF
Total/NA	Analysis	350.1		1	35541	10/14/11 16:03	KS	TAL BUF

Client Sample ID: SPMW01-S-111012

Lab Sample ID: 480-11137-1

Date Collected: 10/12/11 08:20
Matrix: Water
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 16:46	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:29	ES	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 14:58	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:05	ES	TAL BUF

Lab Chronicle

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW05-S-111012 — Lab Sample ID: 480-11137-2

Date Collected: 10/12/11 09:00 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 16:48	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:30	ES	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 14:59	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:06	ES	TAL BUF

Client Sample ID: SPMW11R-S-111012 — Lab Sample ID: 480-11137-3

Date Collected: 10/12/11 10:20 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 16:50	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:31	ES	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 15:02	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:07	ES	TAL BUF

Client Sample ID: SPMW12-S-111012 — Lab Sample ID: 480-11137-4

Date Collected: 10/12/11 11:10 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:01	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:32	ES	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 15:03	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:08	ES	TAL BUF

Client Sample ID: SPMW13-S-111012 — Lab Sample ID: 480-11137-5

Date Collected: 10/12/11 11:45 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:07	JRK	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 15:04	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:08	ES	TAL BUF
Total/NA	Analysis	353.2		1	38867	11/04/11 02:17	ES	TAL BUF

Lab Chronicle

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Client Sample ID: SPMW04-S-111012 — Lab Sample ID: 480-11137-6

Date Collected: 10/12/11 13:10 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:10	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:33	ES	TAL BUF
Total/NA	Analysis	350.1		1	35775	10/17/11 15:05	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:09	ES	TAL BUF

Client Sample ID: SPMW09-S-111012 — Lab Sample ID: 480-11137-7

Date Collected: 10/12/11 14:00 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:12	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35378	10/14/11 02:29	ES	TAL BUF
Total/NA	Analysis	350.1		10	35775	10/17/11 15:06	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:10	ES	TAL BUF

Client Sample ID: SPIS24-S-111012 — Lab Sample ID: 480-11137-8

Date Collected: 10/12/11 09:25 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:14	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:35	ES	TAL BUF
Total/NA	Analysis	350.1		10	35775	10/17/11 15:07	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:10	ES	TAL BUF

Client Sample ID: SPIS24-DP-S-111012 — Lab Sample ID: 480-11137-9

Date Collected: 10/12/11 09:25 — **Matrix: Water**
Date Received: 10/13/11 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3005A			35326	10/14/11 08:40	JM	TAL BUF
Total/NA	Analysis	6010B		1	35684	10/14/11 17:16	JRK	TAL BUF
Total/NA	Analysis	353.2		1	35379	10/14/11 00:36	ES	TAL BUF
Total/NA	Analysis	350.1		10	35775	10/17/11 15:08	KS	TAL BUF
Total/NA	Analysis	353.2		1	37201	10/13/11 23:11	ES	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Buffalo	Arkansas	State Program	6	88-0686
TestAmerica Buffalo	California	NELAC	9	1169CA
TestAmerica Buffalo	Connecticut	State Program	1	PH-0568
TestAmerica Buffalo	Florida	NELAC	4	E87672
TestAmerica Buffalo	Georgia	Georgia EPD	4	N/A
TestAmerica Buffalo	Georgia	State Program	4	956
TestAmerica Buffalo	Illinois	NELAC	5	100325 / 200003
TestAmerica Buffalo	Iowa	State Program	7	374
TestAmerica Buffalo	Kansas	NELAC	7	E-10187
TestAmerica Buffalo	Kentucky	Kentucky UST	4	30
TestAmerica Buffalo	Kentucky	State Program	4	90029
TestAmerica Buffalo	Louisiana	NELAC	6	02031
TestAmerica Buffalo	Maine	State Program	1	NY0044
TestAmerica Buffalo	Maryland	State Program	3	294
TestAmerica Buffalo	Massachusetts	State Program	1	M-NY044
TestAmerica Buffalo	Michigan	State Program	5	9937
TestAmerica Buffalo	Minnesota	NELAC	5	036-999-337
TestAmerica Buffalo	New Hampshire	NELAC	1	2337
TestAmerica Buffalo	New Hampshire	NELAC	1	68-00281
TestAmerica Buffalo	New Jersey	NELAC	2	NY455
TestAmerica Buffalo	New York	NELAC	2	10026
TestAmerica Buffalo	North Dakota	State Program	8	R-176
TestAmerica Buffalo	Oklahoma	State Program	6	9421
TestAmerica Buffalo	Oregon	NELAC	10	NY200003
TestAmerica Buffalo	Pennsylvania	NELAC	3	68-00281
TestAmerica Buffalo	Tennessee	State Program	4	TN02970
TestAmerica Buffalo	Texas	NELAC	6	T104704412-08-TX
TestAmerica Buffalo	USDA	USDA		P330-08-00242
TestAmerica Buffalo	Virginia	NELAC Secondary AB	3	460185
TestAmerica Buffalo	Virginia	State Program	3	278
TestAmerica Buffalo	Washington	State Program	10	C1677
TestAmerica Buffalo	Wisconsin	State Program	5	998310390

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL BUF
350.1	Nitrogen, Ammonia	MCAWW	TAL BUF
353.2	Nitrogen, Nitrite	MCAWW	TAL BUF
353.2	Nitrate	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Honeywell International Inc
Project/Site: 37134 - Ironton - South Point

TestAmerica Job ID: 480-11056-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-11056-1	SPMW10R-S-111011	Water	10/11/11 12:55	10/12/11 10:10
480-11056-2	SPMW06R-S-111011	Water	10/11/11 13:30	10/12/11 10:10
480-11056-3	SPMW08-S-111011	Water	10/11/11 14:05	10/12/11 10:10
480-11056-4	SPMW02-S-111011	Water	10/11/11 11:50	10/12/11 10:10
480-11056-5	SPMW03-S-111011	Water	10/11/11 11:11	10/12/11 10:10
480-11056-6	SPMW07-S-111011	Water	10/11/11 10:25	10/12/11 10:10
480-11056-7	SPMW07DP-S-111011	Water	10/11/11 10:25	10/12/11 10:10
480-11056-8	SPOB34-S-111011	Water	10/11/11 08:30	10/12/11 10:10
480-11056-9	SPOB12R2-S-111011	Water	10/11/11 09:10	10/12/11 10:10
480-11056-10	SPIS23-S-111011	Water	10/11/11 09:30	10/12/11 10:10
480-11056-11	SPIS23DP-S-111011	Water	10/11/11 09:30	10/12/11 10:10
480-11137-1	SPMW01-S-111012	Water	10/12/11 08:20	10/13/11 09:45
480-11137-2	SPMW05-S-111012	Water	10/12/11 09:00	10/13/11 09:45
480-11137-3	SPMW11R-S-111012	Water	10/12/11 10:20	10/13/11 09:45
480-11137-4	SPMW12-S-111012	Water	10/12/11 11:10	10/13/11 09:45
480-11137-5	SPMW13-S-111012	Water	10/12/11 11:45	10/13/11 09:45
480-11137-6	SPMW04-S-111012	Water	10/12/11 13:10	10/13/11 09:45
480-11137-7	SPMW09-S-111012	Water	10/12/11 14:00	10/13/11 09:45
480-11137-8	SPIS24-S-111012	Water	10/12/11 09:25	10/13/11 09:45
480-11137-9	SPIS24-DP-S-111012	Water	10/12/11 09:25	10/13/11 09:45

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Buffalo — 10 Hazelwood Drive / Amherst, NY / 14228 / 716-691.2600

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other Groundwater/South Point

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: CH2M HILL/ OMI	Client Project Manager: Patrick Holmes	Site Contact: Charles D. Miller	Lab Contact: John Schove
Address: 3329 So. 3rd. St.	Telephone: 1-(740) 547-6784	Telephone: 1-(740) 547-6783	Telephone: 1-(716)-691-2600
City/State/Zip: Ironton, Ohio. 45638	Email: Patrick Holmes@ch2m.com		
Phone: 1-(740) 532-9486			
Project Name: Honeywell-South Point			
Project Number: 48004546	Method of Shipment/Carrier: Fed-X		
PO # 45000 18811	Shipping/Tracking No: 8771 0048 9917		

COC No: SP101111

1 of 2 COCs

For lab use only

Walk-in client

Lab sampling

Job/SDG No:

Analysis Turnaround Time

TAT if different from below

☐ 3 weeks
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite—C / Grab—G	350.1-Ammonia	6010B-(MOD) Metals (ICP)	353.2,353.2_Nitrite,Nitrate_Calc	Sample Specific Notes / Special Instructions:
SPMW10R-S-111011	10/11/2011	12:55		X				1	1				2			G	x	x	x	
[redacted] SPMW06R-S-111011	10/11/2011	13:30		X				1	1				2			G	x	x	x	
SPMW08-S-111011	10/11/2011	14:05		X				1	1				2			G	x	x	x	
SPMW02-S-111011	10/11/2011	11:50		X				1	1				2			G	x	x	x	
SPMW03-S-111011	10/11/2011	11:11		X				1	1				2			G	x	x	x	
SPMW07-S-111011	10/11/2011	10:25		X				1	1				2			G	x	x	x	
SPMW07DP-S-111011	10/11/2011	10:25		x				1	1				2			G	x	x	x	Duplicate

Page 33 of 37

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For 3 Months

Special Instructions/QC Requirements & Comments:

Program- South Point

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Steve Moss	CH2M HILL / OMI	10-11-11 / 15:00			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA Buffalo	Date/Time: 10.12.11 1010

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11/10/2011

2.2

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Buffalo --- 10 Hazelwood Drive / Amherst, NY / 14228 / 716-691.2600

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other Groundwater/South Point

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: CH2M HILL/ OMI	Client Project Manager: Patrick Holmes	Site Contact: Charles D. Miller	Lab Contact: John Schove
Address: 3329 So. 3rd. St.	Telephone: 1-(740) 547-6784	Telephone: 1- (740) 547-6783	Telephone: 1-(716)-691-2600
City/State/Zip: Ironton, Ohio. 45638	Email: Patrick.Holmes@ch2m.com		
Phone: 1-(740) 532-9486			
Project Name: Honeywell-South Point			
Project Number: 48004546	Method of Shipment/Carrier: Fed-X		
PO # 45000 18811	Shipping/Tracking No: 8771 0048 9917		

COC No: SP101111

2 of 2 COCs

For lab use only

Walk-in client

Lab sampling

Job/SDG No:

Analysis Turnaround Time

TAT if different from below

☐ 3 weeks
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	350.1-Ammonia	6010B-(MOD) Metals (ICP)	353.2,353.2_Nitrite,Nitrate_Calc	Sample Specific Notes / Special Instructions:
SPOB34-S-111011	10/11/2011	8:30		X				1	1				2			G	x	x	x	
SPOB12R2-S-111011	10/11/2011	9:10		X				1	1				2			G	x	x	x	
SPIS23-S-111011	10/11/2011	9:30		X				1	1				2			G	x	x	x	
SPIS23DP-S-111011	10/11/2011	9:30		X				1	1				2			G	x	x	x	Duplicate
SPIS23-MS-S-111011	10/11/2011	9:30		X				1	1				2			G	x	x	x	Matrix Spike
SPIS23-MSD-S-111011	10/11/2011	9:30		x				1	1				2			G	x	x	x	Matrix Spike Duplicate

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For 3 Months

Special Instructions/QC Requirements & Comments:

Program- South Point

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Steve Moore	CH2M HILL / OMI	10-11-11 / 15:00			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA Buffalo	10-12-11 1010

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2.2

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Buffalo --- 10 Hazelwood Drive / Amherst, NY / 14228 / 716-691.2600

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other Groundwater/South Point

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: CH2M HILL/ OMI	Client Project Manager: Patrick Holmes	Site Contact: Charles D. Miller	Lab Contact: John Schove
Address: 3329 So. 3rd. St.	Telephone: 1-(740) 547-6784	Telephone: 1- (740) 547-6783	Telephone: 1-(716)-691-2600
City/State/Zip: Ironton, Ohio. 45638	Email: Patrick Holmes@ch2m.com		COC No: SP101211
Phone: 1-(740) 532-9486			1 of 1 COCs
Project Name: Honeywell-South Point		Analysis Turnaround Time	For lab use only
Project Number: 48004546	Method of Shipment/Carrier: Fed-X	TAT if different from below ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day	Walk-in client
PO # 45000 18811	Shipping/Tracking No: 8771 0048 5820		Lab sampling
			Job/SDG No:

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y / N)	Composite=C / Grab=G	Analyses: 350.1-Ammonia	6010B-(MOD) Metals (ICP)	353.2,353.2_Nitrite,Nitrate_Calc								Sample Specific Notes / Special Instructions:
SPMW01-S-111012	10/12/2011	8:20		X				1	1				2			G	x	x	x								
SPMW05-S-111012	10/12/2011	9:00		X				1	1				2			G	x	x	x								
SPMW11R-S-111012	10/12/2011	10:20		X				1	1				2			G	x	x	x								
SPMW12-S-111012	10/12/2011	11:10		X				1	1				2			G	x	x	x								
SPMW13-S-111012	10/12/2011	11:45		X				1	1				2			G	x	x	x								
SPMW04-S-111012	10/12/2011	13:10		X				1	1				2			G	x	x	x								
SPMW09-S-111012	10/12/2011	14:00		X				1	1				2			G	x	x	x								
SPIS24-S-111012	10/12/2011	9:25		X				1	1				2			G	x	x	x								Duplicate
SPIS24-DP-S-111012	10/12/2011	9:25		X				1	1				2			G	x	x	x								Matrix Spike

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☑ Disposal By Lab ☐ Archive For 3 Months

Special Instructions/QC Requirements & Comments:

Program- South Point

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Steve Moore	CH2M HILL / OMI	10-12-11 / 15:00			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA Buffalo	Date/Time: 10.13.11 0845

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3.8

Login Sample Receipt Checklist

Client: Honeywell International Inc

Job Number: 480-11056-1

Login Number: 11056
List Number: 1
Creator: Janish, Carl

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	CH2M HILL
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Honeywell International Inc

Job Number: 480-11056-1

Login Number: 11137
List Number: 1
Creator: Janish, Carl

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ch2m hill
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	