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SOUTH POINT PLANT SUPERFUND SITE
2010 ANNUAL GROUNDWATER MONITORING REPORT

South Point, Ohio

Prepared for:

Honeywell

1985 DOUGLAS DRIVE NORTH
GOLDEN VALLEY, MINNESOTA

May 4, 2011

MACTEC

May 4, 2011

Nabil Fayoumi
Remedial Project Manager
Superfund Division
U. S. EPA - Region V
77 West Jackson Blvd.
Chicago, Illinois 60640

Re: South Point – 2010 Annual Groundwater Monitoring Report

Dear Mr. Fayoumi:

On behalf of Honeywell International Inc. (Honeywell), Mactec Engineering and Consulting, Inc. (Mactec) is pleased to provide you with one copy of the *2010 Annual Groundwater Monitoring Report, South Point Plant Superfund Site, South Point, Ohio*. This submittal is the ninth annual report and presents the groundwater quality and groundwater flow evaluations for two semi-annual sampling events in 2010.

If you have any questions or comments concerning the information presented in the report, please feel free to contact Steve Conn at (952) 806-0660.

Sincerely,
Mactec Engineering and Consulting, Inc.

Erin Siewert, AEP
Staff Scientist

Steve Conn
Senior Principal

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

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2010 ANNUAL GROUNDWATER MONITORING REPORT

South Point, Ohio

Prepared for:

HONEYWELL INTERNATIONAL INC.
1985 Douglas Drive North
Golden Valley, Minnesota

Prepared by:

Mactec Engineering and Consulting, Inc.

Edina, Minnesota

May 4, 2011
Projects 3293-10-1403

Erin Siewert, AEP
Staff Scientist

Steve G. Conn
Senior Principal

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1.0 INTRODUCTION

This document represents the annual report for the groundwater monitoring program conducted at the South Point Plant Superfund Site (Site) in South Point, Ohio during the year 2010. Groundwater monitoring was conducted, and 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 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 2011. In addition, the groundwater quality data was provided to United States Environmental Protection Agency (USEPA) in an electronic form consistent with USEPA Region 5's electronic data deliverable format.

In 2006, a 5-Year Review, as required by Section 121 of CERCLA, was conducted by the USEPA and the Ohio Environmental Protection Agency (Ohio EPA). On April 19, 2006, USEPA and Ohio EPA performed a 5-Year Review inspection at the site. Following their inspection, the USEPA issued the site's 5-Year Review Report on May 8, 2006. The report concluded with USEPA requesting the following actions be performed:

- An Institutional Controls (ICs) Plan shall be prepared within six months of the date of the Five Year Review Report is signed,
- 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.

On November 17, 2006, a draft IC Plan was submitted to the USEPA and Ohio EPA, which addressed the IC issues presented in the 5-Year Review Report. Since then, as requested by USEPA, updated figures that show specific property ownership at the site, and draft environmental covenants have been submitted to the USEPA for their review and approval.

As of this date, neither Honeywell nor Honeywell's consultant, Mactec Engineering and Consulting, Inc. (Mactec), have received final approval from USEPA on the draft IC Plan, figures or proposed environmental covenants.

On October 2, 2006, Mactec 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 26, 2009 email, USEPA provided comments to Mactec's October 2, 2006 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. The work plan defined the actions to be taken to prepare for, monitor, and evaluate the effect of temporary cessation of pumping wells SPIS-23 and SPIS-24 in the Central Well Field on local groundwater flow directions. 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.

A summary of the investigation activities, results and recommendations were presented in the Pumping Well Modification Report submitted to the USEPA and Ohio EPA in March 2011.

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 2010. 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 two containment wells were shutdown as part of the pumping well shutdown evaluation program. The purpose of this program is to evaluate the effect of temporary cessation of the Site's pumping wells on local groundwater flow directions. The wells were shutdown 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 well shutdown program was submitted to USEPA and Ohio EPA in March 2011.

Biomass indicated that monitoring wells SPMW-06R and SPMW-10R were located in an area where they plan to expand a railroad spur on their property and the wells may need to 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 2010 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 2010.

3.3 GROUNDWATER SAMPLING

The wells used for collection of groundwater samples are indicated on Table 3-1. Samples were submitted to Lancaster Laboratories in Lancaster, Pennsylvania for laboratory analyses of ammonia, selected total metals (arsenic, beryllium, cadmium, copper, manganese, nickel), and nitrate/nitrite.

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 2010 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 2010 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 0.002548 and 0.001966 in April and October 2010, respectively. Based on a hydraulic conductivity of 386 ft/day and an effective porosity of 0.2 (Geraghty & Miller, 1994), groundwater flow velocity of 4.92 ft/day in April and 3.79 ft/day in October 2010 were calculated.

4.2 GROUNDWATER QUALITY

Analytical results for the two semi-annual 2010 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, and cadmium were reported above their respective PS in groundwater collected during both sampling events. Nitrate/nitrite concentrations were detected above their respective PS during the October 2010 sampling event. 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 2010 (Table 4-1). This location was:

- SPMW-07 42.6 mg/L in April; 32.3 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. The plumes are confined upgradient of the two containment wells (SPIS-23 and SPIS-24). Figure 4-5 presents a comparison of ammonia concentration trends for selected wells since the monitoring program began in 2000. The 2010 monitoring results for ammonia show a general decline or little change in concentration in the wells. The October samples from the new replacement wells SPMW-06R2 and SPMW-10R2 were both non-detect for ammonia.

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 only one location during October 2010 (Table 4-1). Nitrate/nitrate was detected at a concentration of 32.6 mg/L in the sample from SPMW-09, which is downgradient of Disposal Area D.

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 2010 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 2010. The October samples from the new replacement wells SPMW-06R2 and SPMW-10R2 had detections for nitrate/nitrite below the PS of 10 mg/L at 2.4 mg/L and 1 mg/L, respectively.

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 three locations (Table 4-1). These locations are:

- SPMW-06R 1.56 mg/L in April
- SPMW-08 3.66 mg/L in April; 3.03 mg/L in October
- SPMW-09 8.99 mg/L in April; 15.8 mg/L in October
- SPIS-23 4.05 mg/L in October
- SPIS-24 1.56 mg/L (duplicate) 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 except for SPMW-09 which has slightly increased after the April 2008 sampling event. 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 seen in the ammonia data also (Figure 4-5). The October samples from the two new replacement monitoring wells, SPMW-06R2 and SPMW-10R2, had detections for manganese below the PS at 1.09 mg/L and 0.432 mg/L, respectively.

4.2.4 Beryllium

Beryllium was detected in 2010 above the site-specific PS of 0.004 mg/L twice at SPMW-09 (Table 4-1). The detection of beryllium at 0.0061 mg/L and 0.0089 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 3.30, and in October the pH was 3.78. 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. The October samples from the two new replacement monitoring wells, SPMW-06R2 and SPMW-10R2, were non-detect for beryllium.

4.2.5 Cadmium

Cadmium was detected in samples collected from monitoring well SPMW-09 in 2010 above the site-specific PS of 0.005 mg/l. Cadmium was detected at 0.0072 mg/L in April and 0.0114 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. October samples collected from replacement monitoring wells SPMW-06R2 and SPMW-10R2 were non-detect for cadmium.

4.3 EXTRACTED GROUNDWATER AND CONTAMINANT MASS

In-line cumulative flow meter readings show that a combined total of approximately 172 million gallons of groundwater was extracted by the containment wells SPIS-23 and SPIS-24 during the

year 2010. This amount is less than the Site's average yearly amount of extracted groundwater due to the three month pump shutdown period associated with the pumping well shutdown evaluation program conducted in 2010. Individual totals for SPIS-23 and SPIS-24 were approximately 30 million gallons and 142 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 2010 is as follows:

- Ammonia – 11,082 kg;
- Nitrate/Nitrite - 795 kg; and
- Manganese – 4,965 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 2010, SPIS-23 and SPIS-24 pumped at average rates of 91 gpm and 395 gpm, respectively.

5.0 NPDES DISCHARGE TRENDS

Groundwater from extraction 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 2010 was within these limits.

Discharge data for ammonia and nitrate/nitrite from January 1997 through December 2010 are provided in Table 5-1 and presented graphically on Figure 5-1. The data shows an average discharge concentration of ammonia at 10.30 mg/l and an average nitrate concentration at 4.80 mg/l for 2010.

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. Beryllium, cadmium, and manganese were detected in an isolated occurrence above their respective PSs in monitor well SPMW-09 and only manganese in SPMW-06, SPMW-08, SPIS-23 and SPIS-24. The two primary contaminant plumes are being captured by containment wells SPIS-23 and SPIS-24. Capture-zone models and inspection of groundwater flow maps support this. The present scope of groundwater monitoring should be continued for the year 2011.

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: EDS 12/23/10
Reviewed by: SGC 3/10/11

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: EDS 12/23/10
Reviewed by: SGC 3/10/11

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

	Depth-To-Water (1)		Water Level Elevation (2)	
Name	4/12/2010	10/18/2010	4/12/2010	10/18/2010
Caisson	34.39	34.15	515.90	516.14
SPIS-01	41.73	42.20	519.73	519.26
SPIS-02	42.22	42.11	519.69	519.80
SPIS-05	42.45	42.70	519.29	519.04
SPIS-06	47.62	48.11	518.95	518.46
SPIS-10	43.52	44.25	519.03	518.30
SPIS-15	41.21	42.88	522.48	520.81
SPIS-15A	34.45	37.58	524.74	521.61
SPIS-18	34.92	37.65	524.36	521.63
SPIS-22	44.68	44.21	518.69	519.16
SPIS-26	45.34	45.05	523.42	523.71
SPIS-28	44.51	44.04	518.68	519.15
SPMW-01	37.67	37.47	525.65	525.85
SPMW-02	46.70	46.05	521.92	522.57
SPMW-03	42.71	42.70	519.76	519.77
SPMW-04	47.54	47.96	518.63	518.21
SPMW-05	60.98	60.68	522.15	522.45
SPMW-06R	71.67		523.90	
SPMW-06R2*		64.09		524.33
SPMW-07	42.24	41.65	519.89	520.48
SPMW-08	40.99	41.60	523.95	523.34
SPMW-09	38.31	41.30	525.81	522.82
SPMW-10R	67.46	69.60	524.25	
SPMW-10R2*		69.60		524.54
SPMW-11R	40.55	47.05	525.28	518.78
SPMW-12	47.02	46.67	518.55	518.90
SPMW-13	46.58	46.78	518.71	518.51
SPMW-14**		39.69		520.84
SPMW-15**		41.02		519.52
SPMW-16**		42.93		518.85
SPMW-17**		39.49		520.91
SPMW-18**		40.18		519.32
SPMW-19**		33.89		516.97
SPOB-12R2	48.32	47.68	518.06	518.70
SPOB-15R2	43.22	43.80	519.76	519.18
SPOB-17R	34.94	31.10	513.56	517.40
SPOB-18R	35.11	35.18	516.60	516.53
SPOB-26	34.00	34.51	518.36	517.85
SPOB-29	41.35	42.55	521.58	520.38
SPOB-34	45.79	45.57	518.71	518.93
T2-B	16.21	17.92	526.33	524.62

Notes:
(1) Depth to Water in Feet
(2) Water Level Elevation in Feet above Mean Sea Level
* Replacement wells transitioned to in October 2010.
** New monitoring wells installed in July 2010.

Table 4-1
Analytical Results for Year 2010 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**	**SPIS-23-DUPLICA**	**SPIS-24**	**SPIS-24-DUPLICA**	**SPIS-24**	**SPIS-24 DUPLICA**	**SPMW-01**	**SPMW-01**
Sample Date			4/13/2010	10/21/2010	10/21/2010	4/13/2010	4/13/2010	10/21/2010	10/21/2010	4/13/2010	10/13/2009
Sample Type			Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Industrial Production Well	Monitor Well	Monitor Well
Media	Concentration	PS	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Laboratory	Units	MG/L	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs
Arsenic	MG/L	0.05	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beryllium	MG/L	0.004	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	MG/L	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	MG/L	3.8	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Manganese	MG/L	1.4	0.248	**4.05**	**3.88**	0.475	0.472	**1.54**	**1.56**	0.0171	0.115
Nickel	MG/L	2	0.01 U	0.0036 J	0.01 U	0.0028 J	0.0018 J	0.0149	0.0155	0.0138	0.0111
Ammonia as Nitrogen	MG/L	30	0.6 U	0.95	1	13.7	12.9	26.4	27.3	0.6 U	0.6 U
Nitrate/Nitrite	MG/L	10	2	0.1 U	0.1 U	6.9	7.2	9.8	9.6	2.6	2.9

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-02**	**SPMW-02**	**SPMW-03**	**SPMW-03**	**SPMW-04**	**SPMW-04**	**SPMW-05**	**SPMW-05**
Sample Date			4/13/2010	10/19/2010	4/20/2010	10/20/2010	4/21/2010	10/21/2010	4/13/2010	10/19/2010
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	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs
Arsenic	MG/L	0.05	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beryllium	MG/L	0.004	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	MG/L	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	MG/L	3.8	0.01 U	0.0044 J	0.01 U	0.01 U	0.01 U	0.0029 J	0.0804	0.0037 J
Manganese	MG/L	1.4	0.155	0.161	0.0805	0.163	0.0374	0.0389	0.245	1.09
Nickel	MG/L	2	0.01 U	0.01 U	0.0026 J	0.0147	0.0085 J	0.0042 J	0.0547	0.014
Ammonia as Nitrogen	MG/L	30	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	15.7
Nitrate/Nitrite	MG/L	10	8.8	2.8	3	2.1	2.3	2.9	2.7	2.4

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-06R**	**SPMW-06R2**	**SPMW-07**	**SPMW-07-DUPLICA**	**SPMW-07**	**SPMW-07 DUPLICA**	**SPMW-08**	**SPMW-08**
Sample Date			4/20/2010	10/19/2010	4/20/2010	4/20/2010	10/20/2010	10/20/2010	4/20/2010	10/19/2010
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	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs
Arsenic	MG/L	0.05	0.0118 J	0.02 U	0.0107 J	0.0124 J	0.02 U	0.02 U	0.02 U	0.02 U
Beryllium	MG/L	0.004	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	MG/L	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	MG/L	3.8	0.01 U	0.0037 J	0.01 U	0.0037 J	0.01 U	0.01 U	0.01 U	0.01 U
Manganese	MG/L	1.4	**1.56**	1.09	0.513	0.669	0.374	0.4	**3.66**	**3.03**
Nickel	MG/L	2	0.031	0.014	0.0045 J	0.005 J	0.01 U	0.01 U	0.0098 J	0.0079 J
Ammonia as Nitrogen	MG/L	30	17.8	15.7	42.6	40.8	31.8	32.3	0.42 J	0.6 U
Nitrate/Nitrite	MG/L	10	4	2.4	5.6	5.8	6.5	6.7	0.1 U	0.1 U

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: EDS 12/23/10
Reviewed by: SGC 3/10/11

Table 4-1
Analytical Results for Year 2010 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-10R**	**SPMW-10R2**	**SPMW-11R**	**SPMW-11R**	**SPMW-12**	**SPMW-12**
Sample Date			4/20/2010	10/19/2010	4/20/2010	10/19/2010	4/21/2010	10/20/2010	4/21/2010	10/20/2010
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	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs
Arsenic	MG/L	0.05	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Beryllium	MG/L	0.004	**0.0061**	**0.0089**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	MG/L	0.005	**0.0072**	**0.0114**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	MG/L	3.8	3.22	3.47	0.01 U	0.0033 J	0.01 U	0.01 U	0.01 U	0.01 U
Manganese	MG/L	1.4	**8.99**	**15.8**	0.264	0.432	0.0394	0.0465	0.031	0.0185
Nickel	MG/L	2	0.398	0.69	0.0765	0.0295	0.0153	0.0091 J	0.0053 J	0.01 U
Ammonia as Nitrogen	MG/L	30	7.9	11	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Nitrate/Nitrite	MG/L	10	7.3	**32.6**	2.7	1	3.8	2.9	2	4.1

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			4/21/2010	10/21/2010	4/20/2010	10/20/2010	4/20/2010	10/20/2010
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	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs	Lancaster Labs
Arsenic	MG/L	0.05	0.02 U	0.02 U	0.0091 J	0.02 U	0.0169 J	0.0133 J
Beryllium	MG/L	0.004	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	MG/L	0.005	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	MG/L	3.8	0.01 U	0.0032 J	0.01 U	0.01 U	0.01 U	0.01 U
Manganese	MG/L	1.4	0.197	0.259	0.0198	0.0156	0.452	0.422
Nickel	MG/L	2	0.01 U	0.01 U	0.0026 J	0.01 U	0.01 U	0.01 U
Ammonia as Nitrogen	MG/L	30	0.6 U	0.6 U	11.7	4.2	0.6 U	0.6 U
Nitrate/Nitrite	MG/L	10	0.6	0.39	3.9	1.4	0.01 U	0.1 U

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

Table 4-2
Extracted Groundwater Volume During Year 2010
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-10	6	96	459,957,000	13	395	704,896,000
Feb-10	4	93	465,593,000	13	394	732,181,000
Mar-10	2	72	468,367,000	12	398	747,796,000
Apr-10	20	80	471,579,000	12	399	767,643,000
May-10	24	94	475,069,000	12	398	783,210,000
Jun-10	21	89	478,628,000	14	394	798,759,000
Jul-10	16	89	483,247,000	12	391	817,308,000
Aug-10	7	88	484,071,000	12	400	821,048,000
Sep-10	0	0	484,071,000	0	0	821,048,000
Oct-10	0	0	484,071,000	0	0	821,048,000
Nov-10	8	109	484,987,000	12	390	828,051,000
Dec-10	7	104	490,271,000	11	388	846,967,000
Annual Flow (Gallons)			**30,314,000**			**142,071,000**
Average Flow (GPM)			**91**			**395**
Total Annual System Flow (Gallons)			**172,385,000**			

GPM = gallons per minute
PSI = pounds per square inch
Gal. = gallons

Table 4-3
Extracted Contaminant Mass During Year 2010
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-10	Oct-10	Average		
SPIS-23					
Ammonia as Nitrogen	0.6 U	1	0.5	30,314,000	57
Manganese	0.248	4.05	2.15	30,314,000	247
Nitrate/Nitrite	2	0.1 U	1	30,314,000	394
SPIS-24					
Ammonia as Nitrogen	13.7	27.3	20.5	142,071,000	11,025
Manganese	0.475	1.56	1.02	142,071,000	549
Nitrate/Nitrite	7.2	9.8	8.5	142,071,000	4,571
TOTALS					
Ammonia as Nitrogen					**11,082**
Nitrate/Nitrite					**795**
Manganese					**4,965**

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

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

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

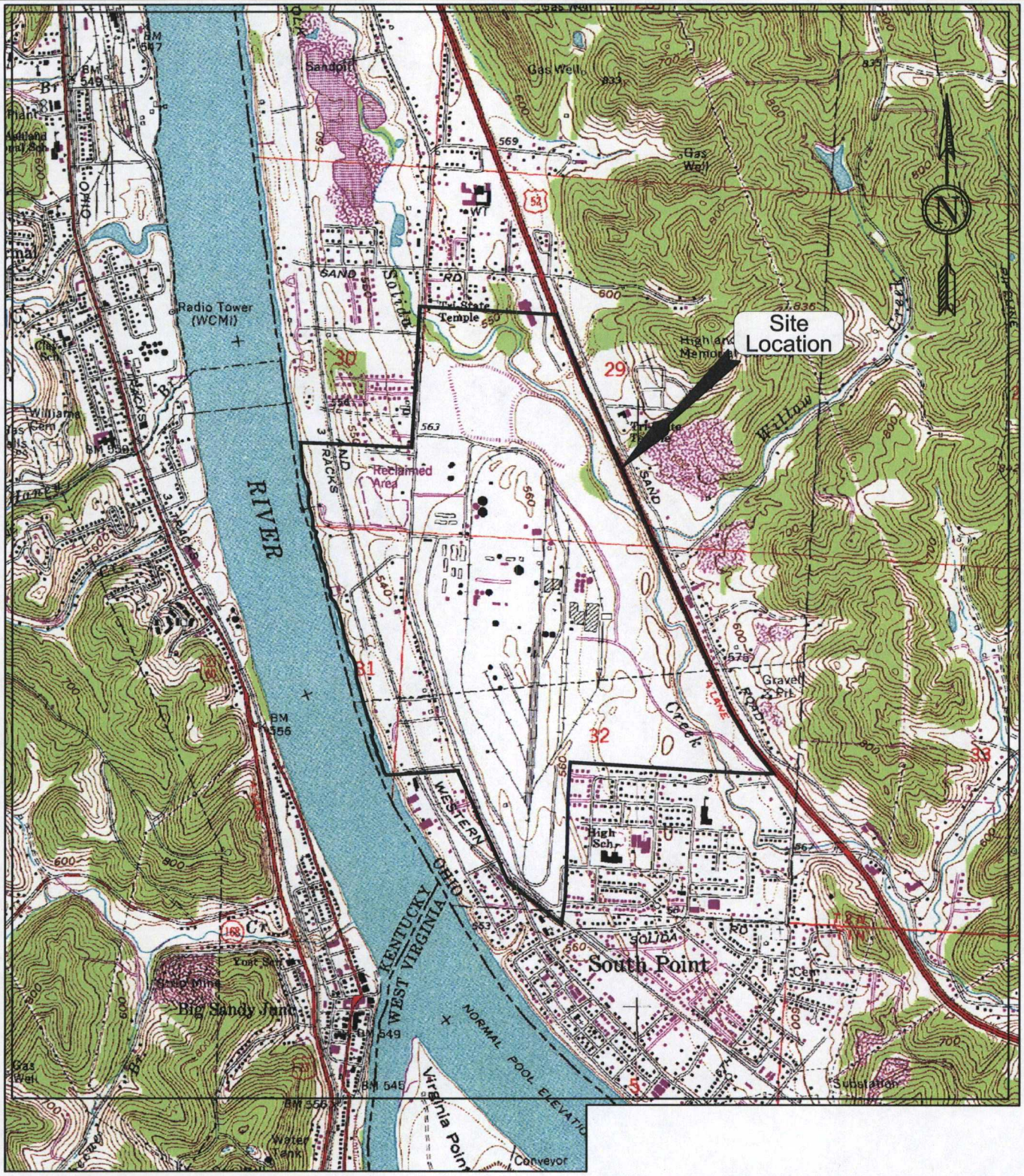
ND = no data
MGD = Million gallons per day
MG/L = Milligram per Liter

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

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

FIGURES



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

SCALE (FT)

2,000 0 1,000 2,000

FIGURE 2-1

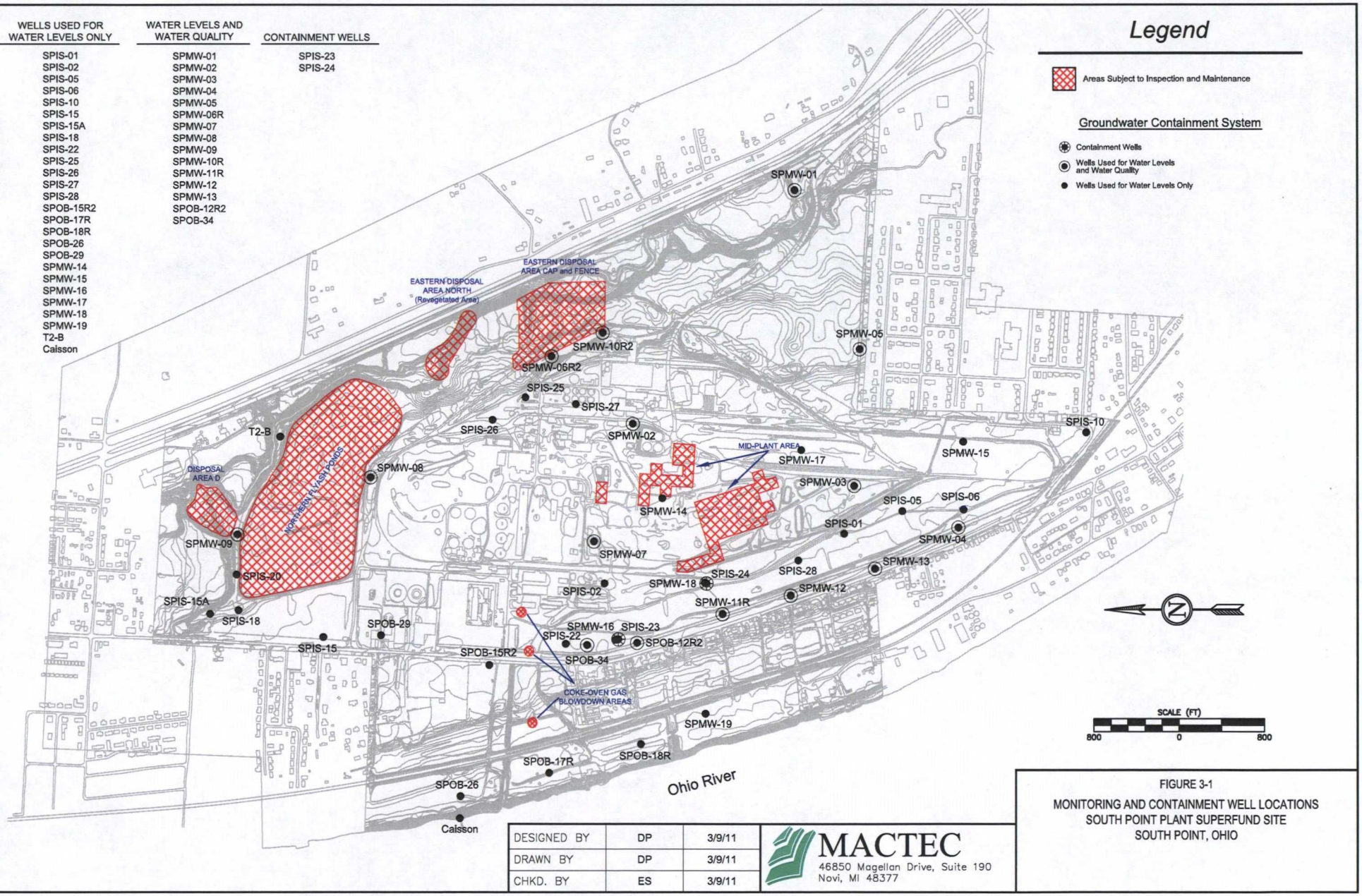
SITE LOCATION
SOUTHPOINT PLANT SUPERFUND SITE
SOUTHPOINT, OHIO

DESIGNED BY	JK	8/25/06
DRAWN BY	DP	8/25/06
CHKD. BY	BW	8/25/06

MACTEC
46850 Magellan Drive, Suite 190
Novi, MI 48377

P:\INDUSTRIAL PROJECTS\Honeywell\IRONTON TAR\South Point\4.0 Project Deliverables\4.1 Reports\Annual06Draft\Rpt\FIG 2-1.dwg Th, eb 2010 - 9:18am 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-06R	
SPIS-15A	SPMW-07	
SPIS-18	SPMW-08	
SPIS-22	SPMW-09	
SPIS-25	SPMW-10R	
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		

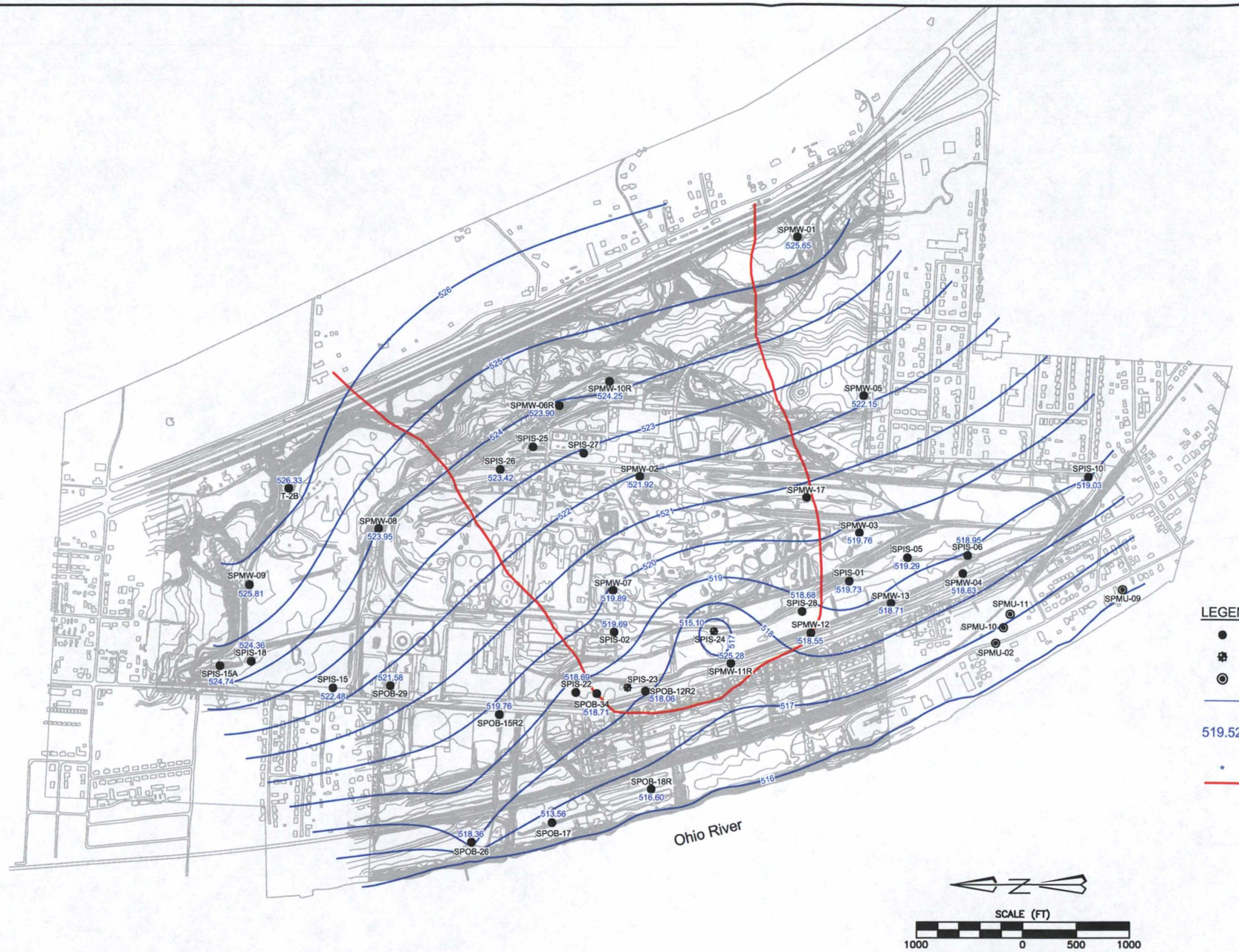


DESIGNED BY	DP	3/9/11
DRAWN BY	DP	3/9/11
CHKD. BY	ES	3/9/11

MACTEC
46850 Magellan Drive, Suite 190
Novi, MI 48377

FIGURE 3-1
MONITORING AND CONTAINMENT WELL LOCATIONS
SOUTH POINT PLANT SUPERFUND SITE
SOUTH POINT, OHIO

P:\INDUSTRIAL PROJECTS\Honeywell\South Point\3293061272-3293101405-3293101314\4.0 Project Deliverables\4.3 Drawings\4th Quarter 2009\Fig 3-1.dwg Wed, 09 Mar 2011 - 10:40am dpcase



LEGEND

- ● OBSERVATION / MONITORING WELL
- ✱ PUMPING WELL
- ◉ MUNICIPAL WELL
- —— GROUNDWATER CONTOUR
- 519.52 GROUNDWATER ELEVATION (ELEVATION IN FEET SURVEYED TO NAVD 88)
- * NOT USED IN CONTOURING
- —— CAPTURE ZONE

NOTE:
GROUNDWATER ELEVATION DATA FROM APRIL 12, 2010.

N

SCALE (FT)
1000 0 500 1000

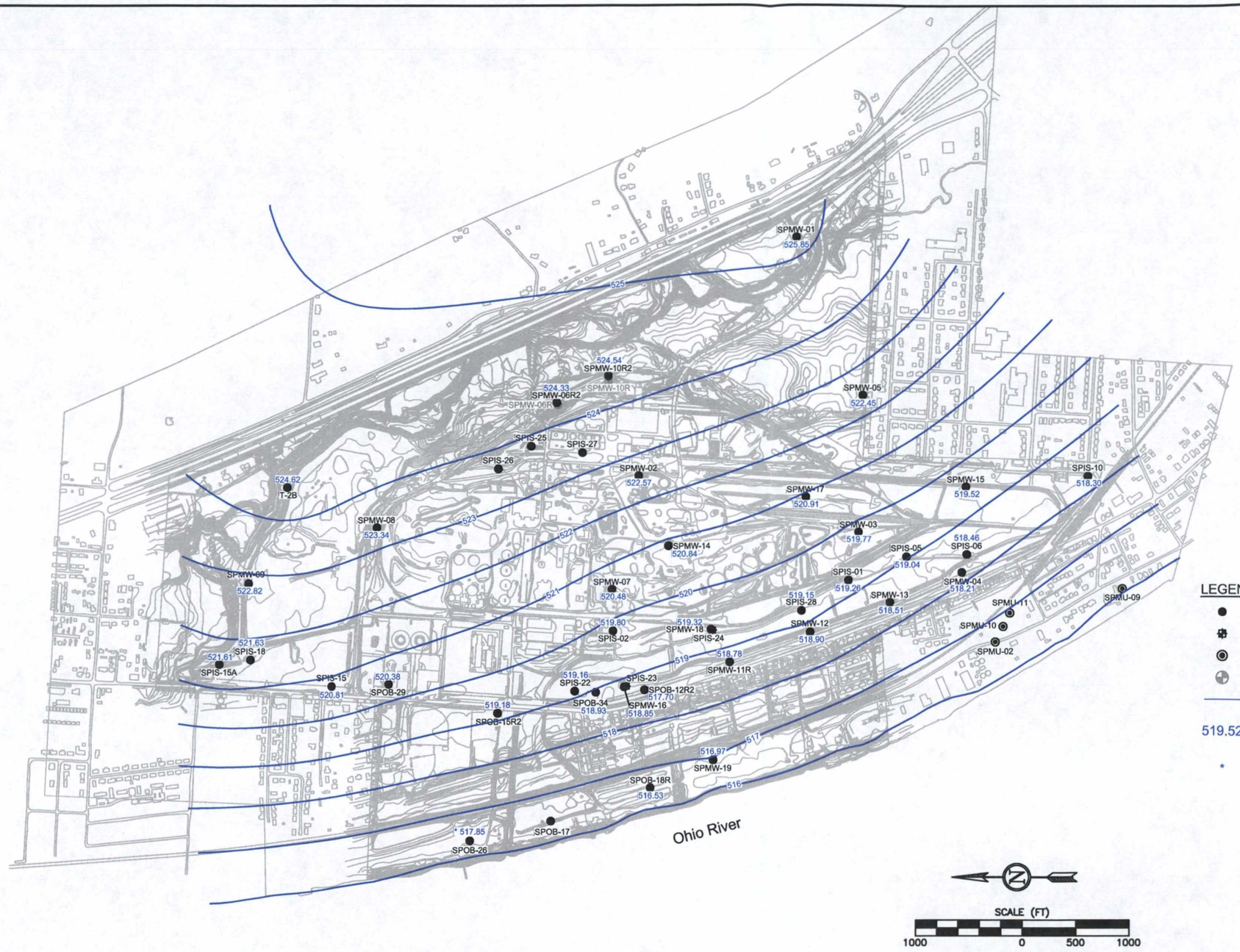
Prepared/Date: TIG 3/1/11
Checked/Date: AF 3/1/11

HONEYWELL
SOUTHPOINT, OHIO

MACTEC

GROUNDWATER FLOW MAP
APRIL 2010
SOUTHPOINT PLANT SUPERFUND SITE
PROJECT 3293-10-1403 Figure 4-1

P:\HW - SOUTH POINT\hw south point\FIGURE 4-1 april 2010.dwg Thu, 10 Mar 2011 - 2:14pm tigraham



LEGEND

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

NOTE:
SPMW-06R2 INSTALLED ON 10/6/2010
REPLACING SPMW-06R.

SPMW-10R2 INSTALLED ON 10/5/2010
REPLACING SPMW-10R.

GROUNDWATER ELEVATION DATA FROM
OCTOBER 18, 2010.

SCALE (FT)
1000 0 500 1000

Prepared/Date: TIG 3/1/11
Checked/Date: AF 3/1/11

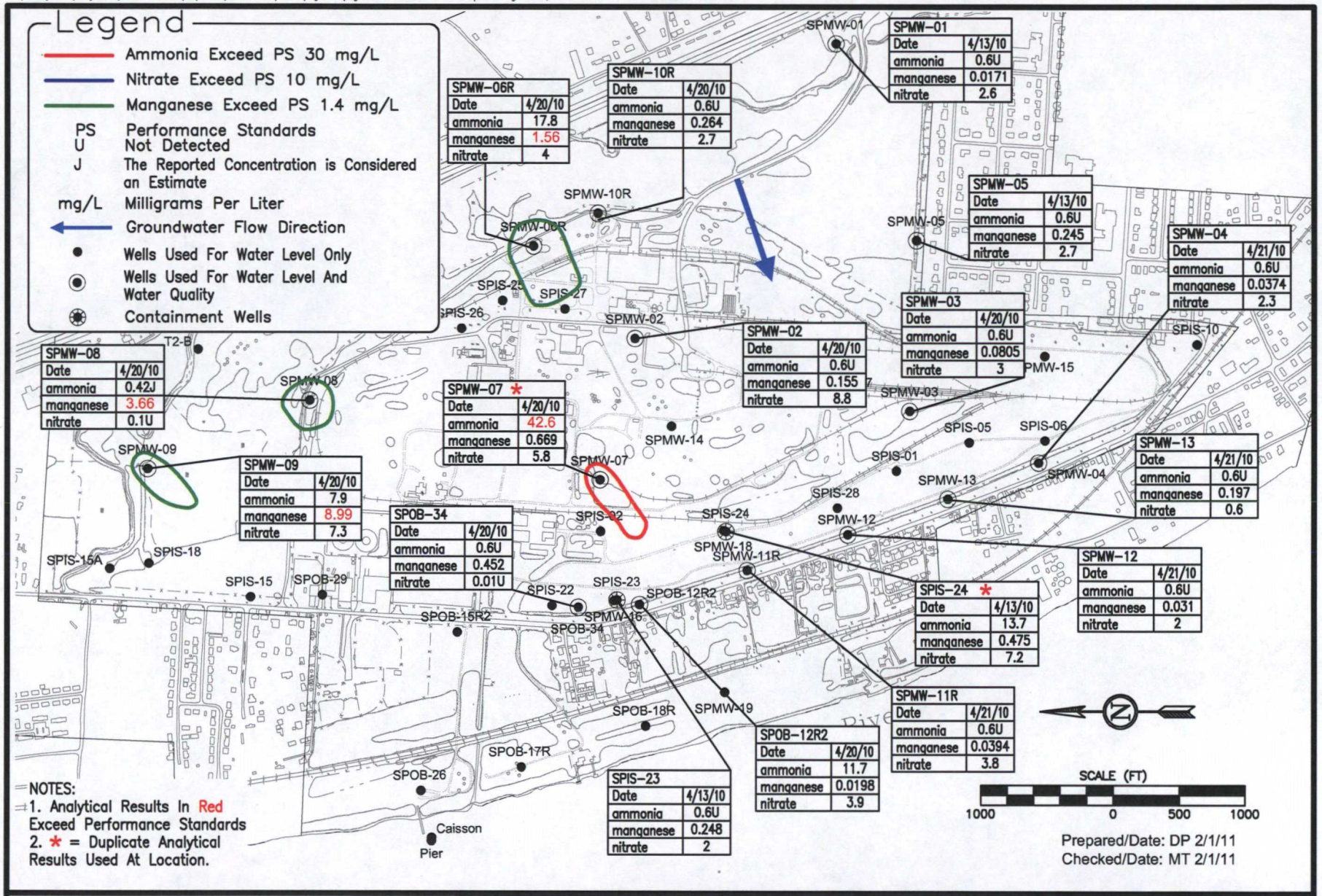
HONEYWELL
SOUTHPOINT, OHIO

MACTEC

GROUNDWATER FLOW MAP
OCTOBER 2010
SOUTHPOINT PLANT SUPERFUND SITE
PROJECT 3293-10-1403 Figure 4-2

P:\HW - SOUTH POINT\hw south point\FIGURE 4-3 - 4-4.dwg Fri, 11 Mar 2011 - 9:44am tigraham

Z:\Honeywell\Projects\South Point\Reports\Annual Reports\Figures\Fig 4-3 Inferred Plume Apr10.dwg Fri, 11 Mar 2011 – 11:02am mtorres

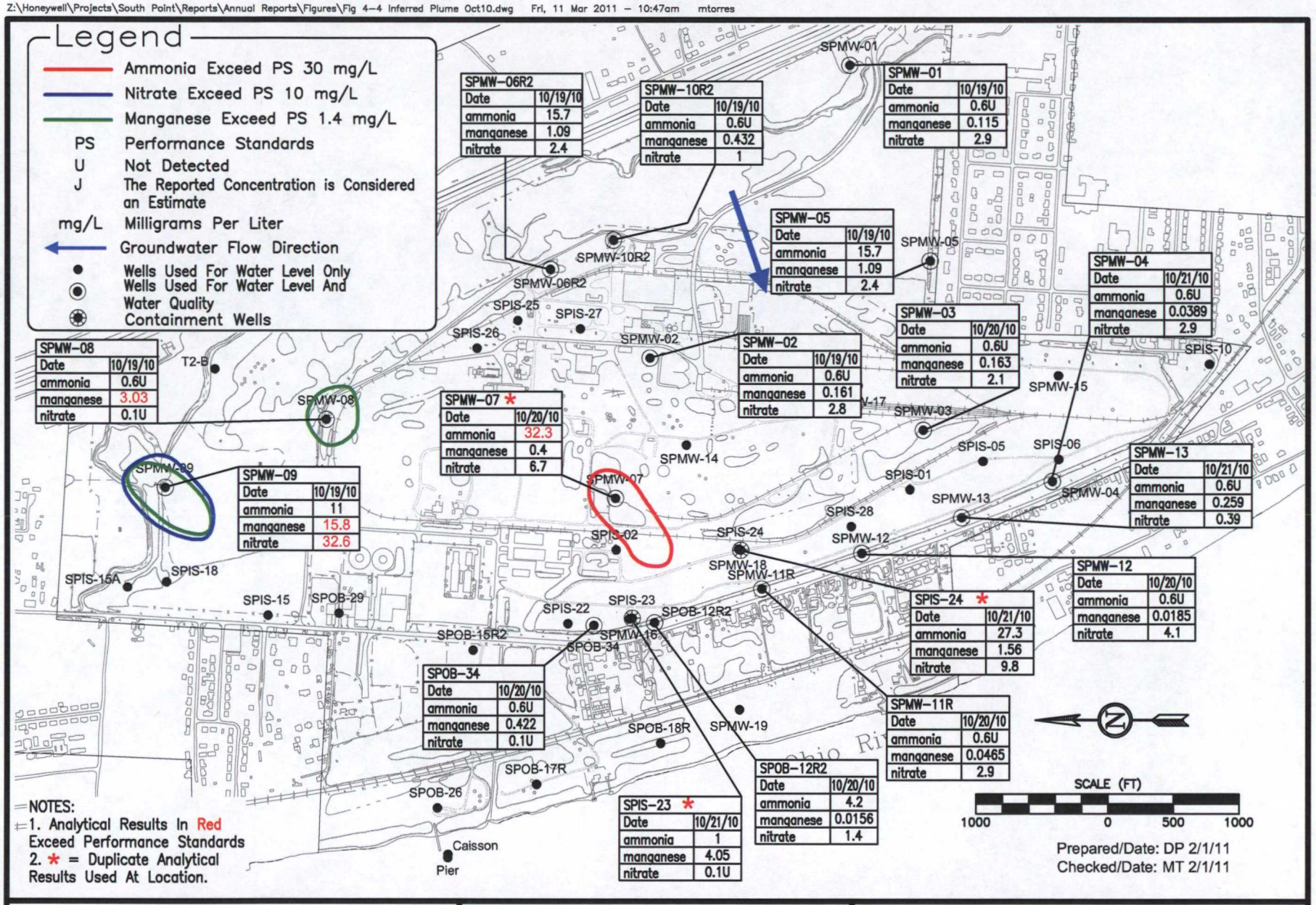


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - APRIL 2010
Project 3293-10-1403
Figure 4-3

Z:\Honeywell\Projects\South Point\Reports\Annual Reports\Figures\Fig 4-4 Inferred Plume Oct10.dwg Fri, 11 Mar 2011 - 10:47am mtorres

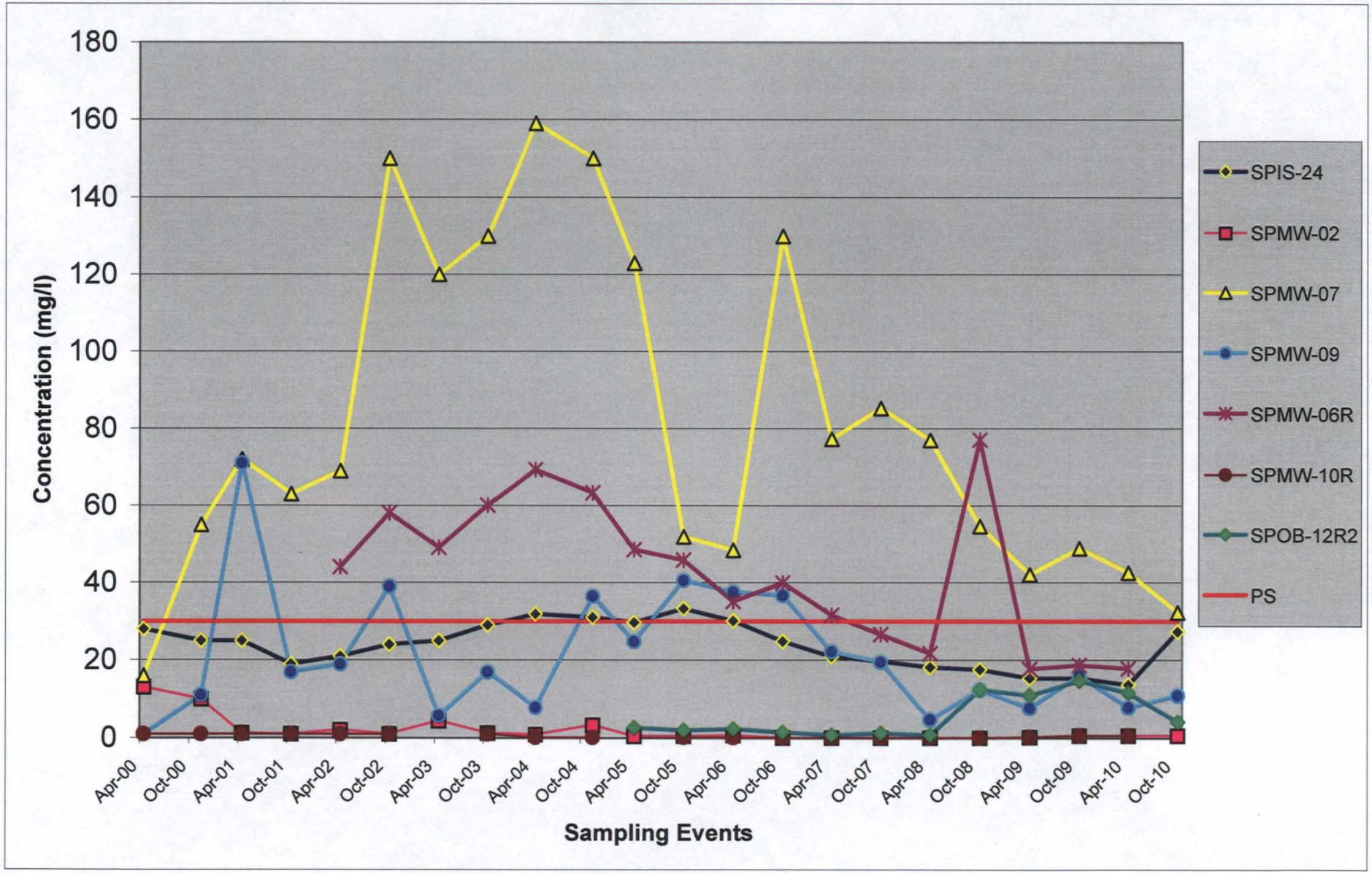


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - OCTOBER 2010
Project 3293-10-1403
Figure 4-4

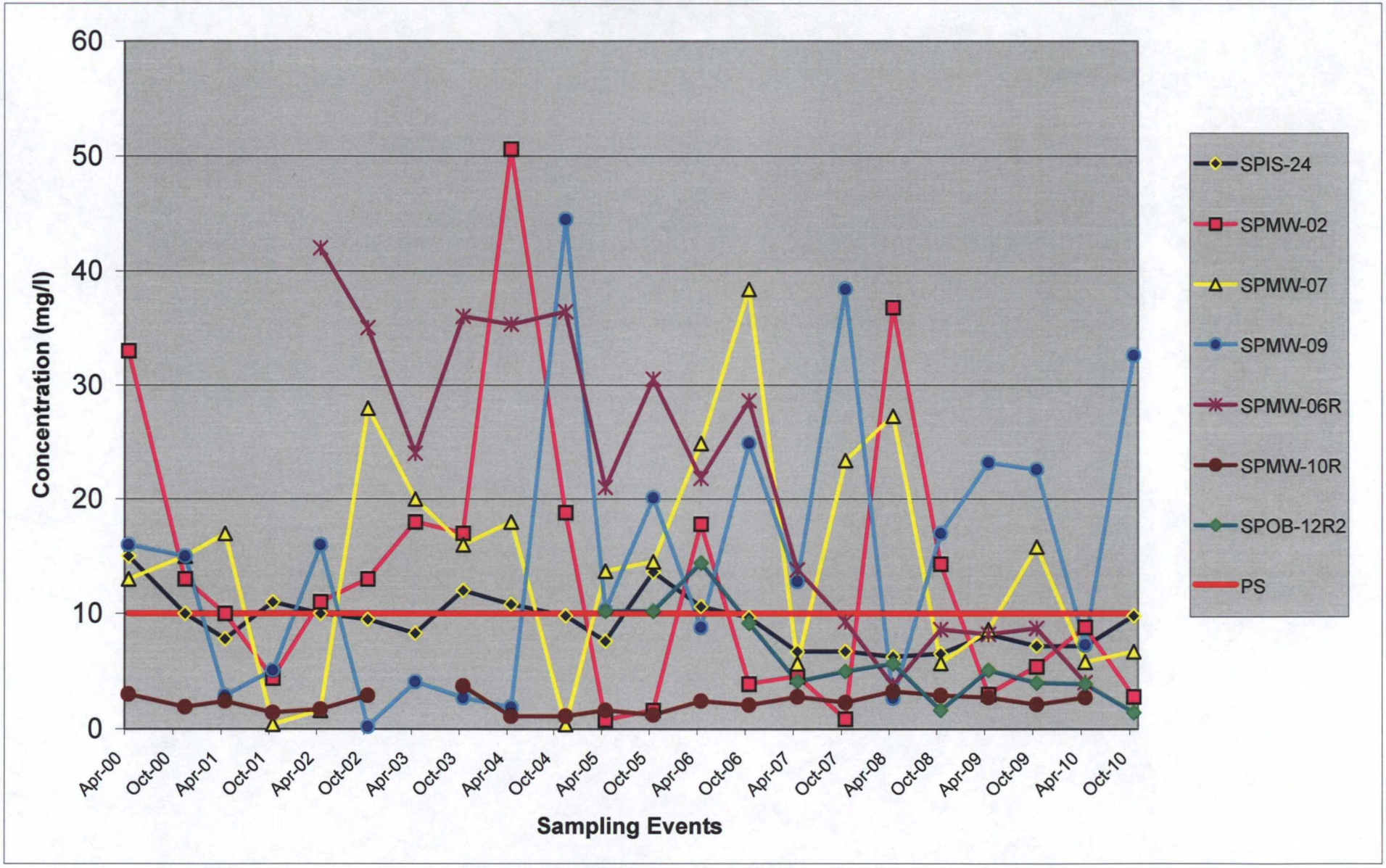
Figure 4-5
Ammonia Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



Mactec Engineering and Consulting, Inc.

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

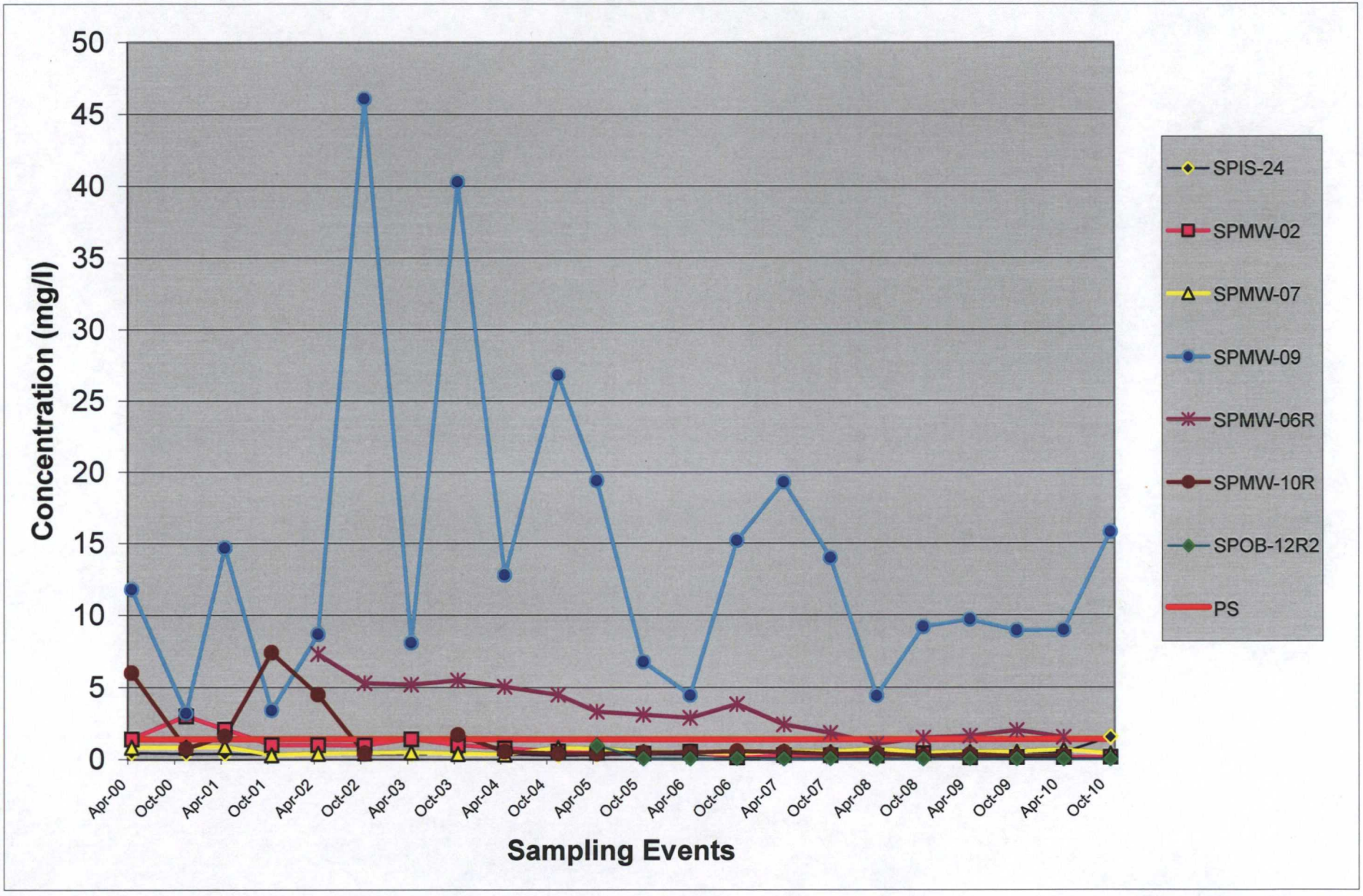
Figure 4-6
Nitrate/Nitrite Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



Mactec Engineering and Consulting, Inc.

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

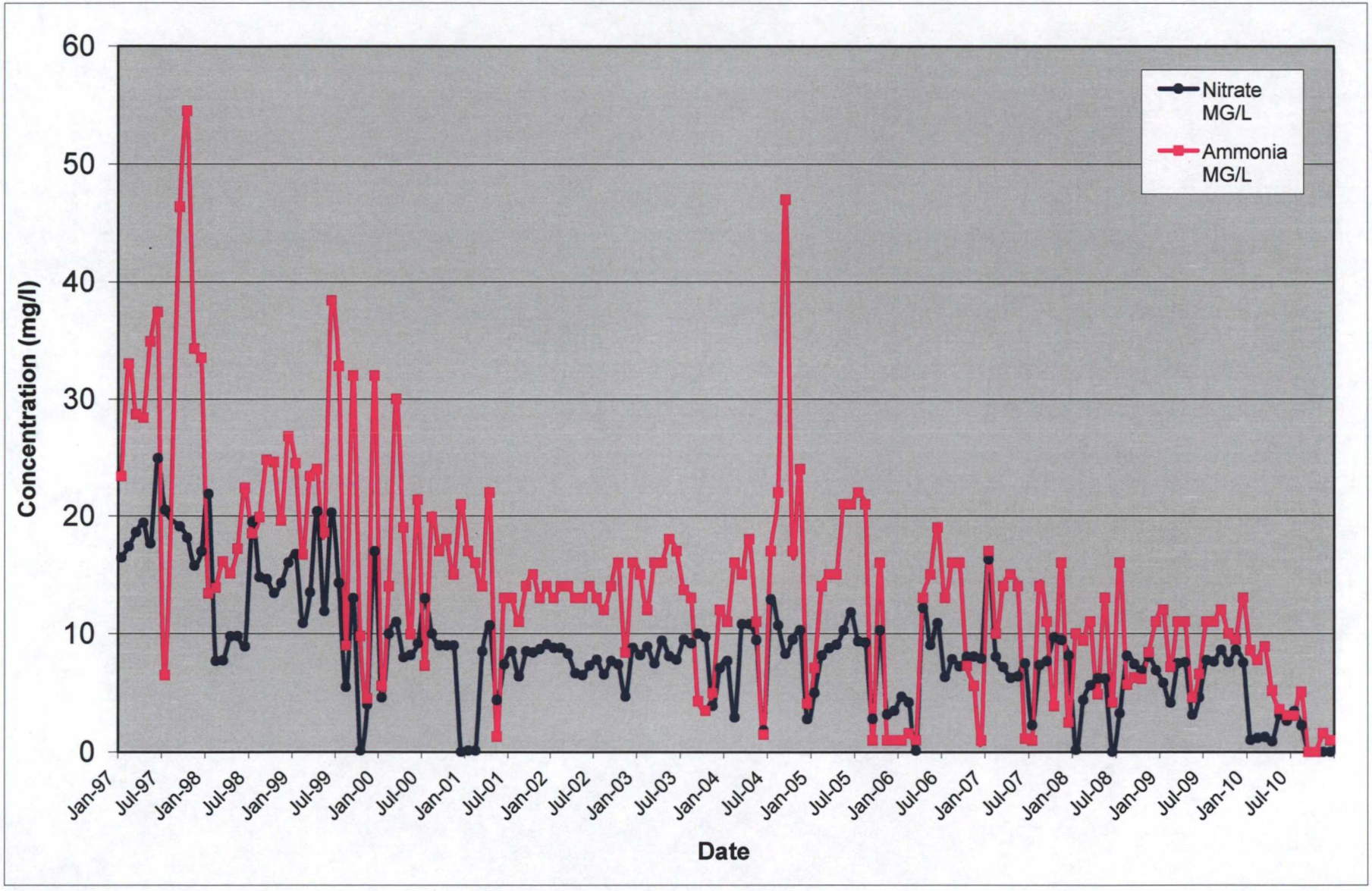
Figure 4-7
Manganese Trends in Groundwater
South Point Plant Superfund Site
South Point, Ohio



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

Mactec Engineering and Consulting, Inc.

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



Mactec Engineering and Consulting, Inc.

Prepared by : MT 3/8/11
Reviewed by: SGC 3/10/11

APPENDIX A

WATER SAMPLING LOGS

JOB NUMBER

PROJECT: Honeywell/omI
FIELD SAMPLE NUMBER: SPMW 06R
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-20-10
ACTIVITY: START 08:37 END 09:15
SAMPLE TIME: 09:05
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 71.67 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL PURGED: GAL
HISTORICAL WELL DEPTH (TOR): 101.6 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:
PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING:
CASING / WELL DIFFERENCE: FT
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
08:43	71.67	500mL	4.93	1.21	31.5	0.00	14.35	99		
08:47	71.67	500mL	5.07	1.21	47.2	0.00	14.62	90		
08:50	71.68	500mL	5.32	1.17	45.1	0.00	15.63	75		
08:53	71.68	500mL	5.44	1.18	47.8	0.00	15.42	72		
08:56	71.69	500mL	5.48	1.18	37.9	0.00	15.43	70		
08:59	71.69	500mL	5.51	1.19	36.6	0.00	15.37	68		

EQUIPMENT DOCUMENTATION

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

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 (circled) NO

NOTES:

Prepared/Date: 4-20-10 cm
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

JOB NUMBER

PROJECT: Honeywell / DMI
FIELD SAMPLE NUMBER: SPMW 08
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-20-10
ACTIVITY: START 09:19 END 09:55
SAMPLE TIME: 09:50
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 40.99 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: 0.0 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 0.00025 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	40.99	500mL	5.10	0.787	60.0	0.02	15.30	86		
09:28	40.99	500mL	5.27	0.837	46.4	0.00	14.75	80		
09:31	41:00	500mL	5.28	0.835	39.7	0.00	14.74	79		
09:34	41:00	500mL	5.30	0.836	35.0	0.00	14.74	78		
09:37	41:01	500mL	5.31	0.836	23.7	0.00	14.74	78		
09:40	41:01	500mL	5.31	0.835	23.2	0.00	14.73	77		

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:

Prepared/Date: 4-20-10 CM
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPMW 09
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 10:02 END 10:45	SAMPLE TIME	10:30

JOB NUMBER:
EVENT NO.:
DATE: 4-20-10
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 38.31 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING
HISTORICAL WELL DEPTH (TOR): 60.30 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.3 PPM
DISCHARGE SETTING:

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

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
10:06	38.31	500mL	4.43	0.774	28.8	0.00	13.15	353		
10:09	38.31	500mL	4.01	0.758	34.2	0.00	13.13	380		
10:12	38.33	500mL	3.09	0.810	32.0	0.00	13.20	401		
10:15	38.34	500mL	3.49	0.895	30.0	0.00	13.17	413		
10:18	38.34	500mL	3.29	0.920	15.0	0.00	13.17	419		
10:21	38.35	500mL	3.30	0.925	0.0	0.00	13.16	420		

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:

Prepared/Date: 4-20-10 CM
Checked/Date:

Honeywell
192 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

JOB NUMBER

PROJECT: Honey Well / UMI
FIELD SAMPLE NUMBER: SPMW 02
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-20-10
ACTIVITY: START 12:25 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: 46.70 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 75.20 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING:

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

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
12:33	46.70	500mL	6.74	0.376	157.0	0.00	15.41	125		
12:36	46.70	500mL	6.83	0.386	146.0	0.00	15.23	119		
12:39	46.71	500mL	6.92	0.402	136.0	0.00	15.16	115		
12:42	46.71	500mL	7.02	0.458	130.0	0.00	15.15	111		
12:45	46.72	500mL	7.11	0.600	127.0	0.00	15.34	109		
12:48	46.72	500mL	7.16	0.624	120.0	0.00	15.30	109		

EQUIPMENT DOCUMENTATION

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

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:

4-20-10 CW

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

PROJECT	Honeywell / [redacted] (OMI	FIELD SAMPLE NUMBER	SPMW 03
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 13:02 END 13:30	SAMPLE TIME	13:25

JOB NUMBER
EVENT NO.
DATE 4-20-10
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	42.71 FT	HISTORICAL WELL DEPTH (TOR)	67.00 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
13:05	42.71	500mL	6.52	0.405	142.0	0.00	14.95	126		
13:08	42.71	500mL	6.56	0.408	122.0	0.00	14.51	121		
13:11	42.72	500mL	6.65	0.405	113.0	0.00	14.39	116		
13:14	42.72	500mL	6.68	0.407	89.2	0.00	14.37	115		
13:17	42.73	500mL	6.72	0.406	61.6	0.00	14.42	113		
13:20	42.74	500mL	6.72	0.406	43.3	0.00	14.41	113		

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:

Prepared/Date: 4-20-10
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

JOB NUMBER

PROJECT: Honeywell / OMI
FIELD SAMPLE NUMBER: SPMW 07
EVENT NO.
SITE ID: South Point
SITE TYPE
DATE: 4-20-10
ACTIVITY: START 13:37 END 14:12
SAMPLE TIME: 14:05
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 42.24 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
HISTORICAL WELL DEPTH (TOC): 67.21 FT
PRESSURE TO PUMP: PSI
REFILL SETTING
PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING
CASING / WELL DIFFERENCE: FT
WELL DIAMETER: 2" IN

(purge volume (milliliters per minute) x time duration (minutes) x 0.00025 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. F)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:44	42.24	500mL	7.38	1.46	84.6	0.00	16.14	74		
13:47	42.24	500mL	7.51	1.49	79.5	0.00	15.77	68		
13:50	42.25	500mL	7.55	1.49	61.1	0.00	15.63	65		
13:53	42.25	500mL	7.60	1.48	64.2	0.00	15.58	64		
13:56	42.26	500mL	7.62	1.49	12.8	0.00	15.58	63		
13:59	42.27	500mL	7.62	1.50	13.2	0.00	15.59	63		

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

Duplicate

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

4-20-10 CM

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

JOB NUMBER

PROJECT: Honeywell /om I
FIELD SAMPLE NUMBER: SPoB 34
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 4-20-10
ACTIVITY: START 14:20 END 14:55
SAMPLE TIME: 14:50
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 45.79 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
HISTORICAL WELL DEPTH (TOR): 81.90 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:
PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 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
14:25	45.79	500mL	10.51	0.837	75.5	0.00	15.97	-181		
14:28	45.79	500mL	10.45	0.838	65.5	0.00	15.94	-181		
14:31	45.80	500mL	10.36	0.838	53.2	0.00	15.98	-182		
14:34	45.81	500mL	10.31	0.837	81.5	0.00	15.96	-183		
14:37	45.81	500mL	10.28	0.836	95.9	0.00	15.95	-184		
14:40	45.82	500mL	10.21	0.941	90.2	0.00	16.00	-186		

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:

4-20-10 cm

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	Honeywell OMI	FIELD SAMPLE NUMBER	SPOB 12 R 2	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 15:00 END 15:45	SAMPLE TIME	15:30	DATE	4-20-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	48.32 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TCR)	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
15:05	48.32	500 mL	7.13	0.797	51.0	0.00	16.13	66		
15:08	48.32	500 mL	7.15	0.810	14.0	0.00	15.59	66		
15:11	48.33	500 mL	7.15	0.809	44.5	0.00	15.54	66		
15:14	48:33	500 mL	7.14	0.809	38.0	0.00	15.51	67		
15:17	48:34	500 mL	7.13	0.808	34.0	0.00	15.52	68		
15:20	48:34	500 mL	7.12	0.809	31.4	0.00	15.62	69		

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:

Prepared/Date: 4-20-10 CM

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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JOB NUMBER

PROJECT: Honeywell / OMF

FIELD SAMPLE NUMBER: SP1523

EVENT NO.

SITE ID: South Point

SITE TYPE

DATE: 4-13-10

ACTIVITY: START 07:25 END 07:45

SAMPLE TIME: 07:35

FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

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

CASING / WELL DIFFERENCE: FT

WELL DIAMETER: 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
07:30			6.90	0.708	73.6	3.13	16.72	31		

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

Pump Ring well

MS

MSD

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-13-10

Checked/Date:

Honeywell

102 COLUMBIA RD. BOX 2105
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JOB NUMBER

PROJECT: Honeywell/OMF
FIELD SAMPLE NUMBER: SPIS 24
EVENT NO.
SITE ID: South Point
SITE TYPE
DATE: 4-13-10
ACTIVITY: START 07:55 END
SAMPLE TIME: 08:00
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

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

(gauge 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
07:58			6.98	0.804	2.8	4.93	15.5	60		

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
DIP

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-13-10 CM
Checked/Date:

Honeywell
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PROJECT	Honeywell /omI	FIELD SAMPLE NUMBER	SPmw 01	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:26 END 09:00	SAMPLE TIME	08:55	DATE	4-13-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	37.67 FT	HISTORICAL WELL DEPTH (TOB)	62.15 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 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
08:35	37.67	500mL	7.15	0.296	17.2	0.00	15.01	-22		
08:38	37.67	500mL	7.11	0.291	11.3	0.00	14.93	-22		
08:41	37.68	500mL	7.06	0.271	9.4	0.00	14.82	-17		
08:44	37.68	500mL	7.13	0.265	3.7	0.00	14.77	-30		
08:47	37.69	500mL	7.19	0.264	2.3	0.00	14.75	-38		
08:50	37.69	500mL	7.23	0.262	2.5	0.00	14.75	-43		

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:

Prepared/Date: 4-13-10 CM

Checked/Date:

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PROJECT	Honeywell/OMI	FIELD SAMPLE NUMBER	SPMW 05	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:05 END	SAMPLE TIME	09:30	DATE	4-13-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	60.98 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	0.0 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 0.00029 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
09:08	60.98	500mL	7.70	0.437	105.0	0.81	14.49	-6		
09:11	60.98	500mL	7.75	0.438	95.6	0.63	14.48	-6		
09:14	60.99	500mL	7.79	0.439	72.8	0.44	14.53	-7		
09:17	61.00	500mL	7.84	0.440	46.5	0.15	14.44	-11		
09:20	61.00	500mL	7.85	0.440	30.0	0.03	14.44	-11		
09:23	61.01	500mL	7.87	0.440	18.6	0.00	14.42	-12		

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:

Prepared/Date: 4-13-10 CM

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	HONEYWELL/OMI	FIELD SAMPLE NUMBER	SPMW11R	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO.	
ACTIVITY	START 08:09 END 08:55	SAMPLE TIME	08:50	DATE	4-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	40.55 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	2 3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOB)	64.50 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 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
08:28	40.55	500 ML	4.67	0.382	9.9	0.00	15.54	188		
08:31	40.55	500 ML	4.81	0.394	0.0	0.00	15.20	183		
08:34	40.57	500 ML	4.89	0.400	0.0	0.00	15.61	181		
08:37	40.59	500 ML	4.92	0.403	0.0	0.00	15.16	180		
08:40	40.59	500 ML	4.95	0.407	0.0	0.00	15.16	179		
08:43	40.59	500 ML	4.97	0.408	9.7	0.00	15.13	178		

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:

Prepared/Date: 4-21-10 RC

Checked/Date:

Honeywell

102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	HONEYWELL/OMI	FIELD SAMPLE NUMBER	SPMW12
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 08:58 END 09:30	SAMPLE TIME	09:25

JOB NUMBER
EVENT NO.
DATE 4-21-10
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	47.02 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	64.9 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 0.000025 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
09:05	47.02	500 ML	5.91	0.504	0.0	0.00	14.57	146		
09:08	47.02	500 ML	5.92	0.496	0.0	0.00	14.56	142		
09:11	47.02	500 ML	5.94	0.494	0.0	0.00	14.64	138		
09:14	47.05	500 ML	5.96	0.491	0.0	0.00	14.66	136		
09:17	47.05	500 ML	5.96	0.496	0.0	0.00	14.66	135		
09:20	47.08	500 ML	5.97	0.516	0.0	0.00	14.66	134		

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: 4-21-10 RO
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	HONEYWELL/OMC	FIELD SAMPLE NUMBER	SPMW13	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:33 END 10:05	SAMPLE TIME	10:00	DATE	4-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	46.58 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	71.03 FT	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.00 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0.00 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
09:41	46.58	500mL	6.21	0.501	1.1	0.00	14.52	137		
09:44	46.61	500mL	6.42	0.502	2.1	0.00	14.42	126		
09:47	46.64	500mL	6.50	0.502	3.6	0.00	14.42	122		
09:50	46.64	500mL	6.57	0.501	6.4	0.00	14.43	118		
09:53	46.67	500mL	6.61	0.501	11.8	0.00	14.41	115		
09:56	46.67	500mL	6.65	0.502	15.9	0.00	14.43	112		

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: 4-21-10 RC

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	HONEYWELL IOMI	FIELD SAMPLE NUMBER	SPMW04	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:08 END 10:40	SAMPLE TIME	10:35	DATE	4-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	47.54 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	0.00 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		PID WELL MOUTH	0.00 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
10:16	47.54	500mL	5.46	0.434	3.0	0.00	14.85	153		
10:19	47.54	500mL	5.99	0.441	10.6	0.00	14.76	112		
10:22	47.57	500mL	6.17	0.441	10.8	0.00	14.76	105		
10:25	47.60	500mL	6.17	0.446	10.6	0.00	14.78	105		
10:28	47.60	500mL	6.16	0.444	17.6	0.00	14.74	106		
10:31	47.63	500mL	6.15	0.445	24.3	0.00	14.77	107		

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:

4-21-10 RC

Prepared/Date: _____

Checked/Date: _____

Honeywell
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JOB NUMBER

PROJECT: Honeywell/OMJ
FIELD SAMPLE NUMBER: SPMW 10 R
EVENT NO.
SITE ID: South Point
SITE TYPE
DATE: 4-20-10
ACTIVITY: START 07:55 END 08:35
SAMPLE TIME: 08:30
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 67.46 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 95.90 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING:

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

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
08:06	67.46	500 mL	2.97	0.313	253.0	0.00	14.30	178		
08:09	67.46	500 mL	3.52	0.310	247.0	0.00	14.12	153		
08:12	67.47	500 mL	3.17	0.309	188.0	0.00	14.08	160		
08:15	67.47	500 mL	3.09	0.307	162.0	0.00	14.05	164		
08:18	67.48	500 mL	3.05	0.308	148.0	0.00	14.17	169		
08:21	67.48	500 mL	3.05	0.306	102.0	0.00	14.09	170		

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:

4-20-10

Prepared/Date:
Checked/Date:

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PROJECT	HONEYWELL IOM I	FIELD SAMPLE NUMBER	SPMW01	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO.	
ACTIVITY	START 0815 END 0855	SAMPLE TIME	08:45	DATE	10-19-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	37.47 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	0.0 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 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
08:20	37.47	500 ML	6.15	0.317	32.3	1.80	13.99	91		
08:23	37.47	500 ML	6.17	0.311	50.0	0.94	14.20	70		
08:26	37.48	500 ML	6.16	0.297	40.0	0.92	14.18	70		
08:29	37.48	500 ML	6.17	0.278	40.0	1.01	14.30	71		
08:32	37.49	500 ML	6.18	0.283	41.8	1.06	14.11	62		
08:35	37.49	500 ML	6.16	0.309	43.0	0.62	14.07	63		

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:

Prepared/Date: 10-19-10 SM

Checked/Date:

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PROJECT	HONEYWELL/OMI	FIELD SAMPLE NUMBER	SPMW 05	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:00 END 09:40	SAMPLE TIME	09:30	DATE	10-19-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	60.68 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' 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	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
09:05	60.68	500 mL	7.42	0.433	36.1	3.66	14.15	11		
09:08	60.68	500 mL	7.45	0.431	122.0	3.81	14.17	6		
09:11	60.69	500 mL	7.46	0.431	119.0	2.44	13.92	10		
09:14	60.69	500 mL	7.46	0.430	81.5	2.32	13.85	17		
09:17	60.70	500 mL	7.47	0.430	35.9	2.17	13.74	20		
09:20	60.70	500 mL	7.48	0.431	32.7	1.94	13.57	39		

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:

Prepared/Date: 10-19-10 SM

Checked/Date:

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PROJECT	HONEYWELL IOM-I	FIELD SAMPLE NUMBER	SPMW 10R
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 09:45 END 10:25	SAMPLE TIME	10:15

JOB NUMBER
EVENT NO.
DATE 10-19-10
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	69.60 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

(surge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/ml/min)

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 (mscm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:48	69.60	500 mL	4.85	0.259	928	0.75	14.09	115		
09:51	69.60	500 mL	5.22	0.267	971	1.91	13.46	153		
09:54	69.61	500 mL	5.21	0.267	571	4.60	13.43	161		
09:57	69.61	500 mL	5.06	0.261	422	1.40	13.40	169		
10:00	69.62	500 mL	5.15	0.272	403	1.05	13.39	166		
10:03	69.63	500 mL	5.12	0.263	334	1.68	13.36	173		

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:

* NEW WELL

Prepared/Date: 10-19-10 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 10:30 END 11:15	SAMPLE TIME	11:00	DATE	10-19-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	64.09 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	101.6 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 INTEGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	pH (units)	SPECIFIC CONDUCTANCE (mS/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
10:35	64.09	500 mL	7.44	1.21	48.7	0.40	14.63	-67		
10:38	64.09	500 mL	7.27	1.33	59.4	0.32	14.75	-67		
10:41	64.10	500 mL	7.26	1.32	56.4	0.09	14.83	-64		
10:44	64.10	500 mL	7.26	1.30	113.0	0.00	14.88	-73		
10:47	64.11	500 mL	7.27	1.24	321.0	0.00	14.98	-86		
10:50	64.11	500 mL	7.31	1.14	279.0	0.00	15.12	-99		

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:

NEW WELL
FLUSH MOUNT

Prepared/Date: 10-19-10 SM
Checked/Date:

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PROJECT	HONEYWELL / GMI	FIELD SAMPLE NUMBER	SPMW08
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 11:20 END 12:00	SAMPLE TIME	11:50

JOB NUMBER:
EVENT NO.:
DATE: 10-19-10
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	41.60 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	66.22 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 gallon/liter)

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
11:25	41.60	500 mL	6.86	0.90	112.0	1.25	14.16	66		
11:28	41.60	500 mL	6.50	0.816	35.9	2.66	14.06	85		
11:31	41.61	500 mL	6.51	0.814	35.6	2.58	14.05	86		
11:34	41.61	500 mL	6.51	0.804	27.3	2.00	14.05	90		
11:37	41.62	500 mL	6.51	0.797	25.9	2.19	14.08	92		
11:40	41.63	500 mL	6.51	0.796	24.6	2.18	14.07	93		

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:

Prepared/Date: 10-19-10 JM
Checked/Date:

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PROJECT	HONEYWELL / OMI	FIELD SAMPLE NUMBER	SPMW 09
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 12:30 END 13:10	SAMPLE TIME	13:00

JOB NUMBER
EVENT NO.
DATE 10-19-10
FILE TYPE

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 41.30 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

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

HISTORICAL WELL DEPTH (TOR): 60.3 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

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

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

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
12:35	41.30	500mL	3.89	1.23	110.0	1.78	12.40	401		
12:38	41.30	500mL	3.81	1.19	113.0	2.60	12.35	421		
12:41	41.31	500mL	3.80	1.19	56.5	1.14	12.35	427		
12:44	41.31	500mL	3.79	1.19	44.8	1.64	12.31	431		
12:47	41.32	500mL	3.79	1.18	43.5	1.57	12.31	433		
12:50	41.32	500mL	3.78	1.18	43.4	1.50	12.31	434		

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:

Prepared/Date: 10-19-10 SM
Checked/Date:

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PROJECT	HONEYWELL / ONI	FIELD SAMPLE NUMBER	SPMW-02
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 13:15 END 13:55	SAMPLE TIME	13:45

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

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	46.05 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	31 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	75.2 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/min)	pH (units)	SPECIFIC CONDUCTANCE (mS/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
13:20	46.05	500 mL	6.69	0.686	193.0	1.25	14.76	204		
13:23	46.05	500 mL	6.99	0.678	136.0	0.31	14.85	181		
13:26	46.06	500 mL	7.10	0.630	194.0	0.12	14.86	184		
13:29	46.06	500 mL	7.27	0.586	105.0	0.00	14.63	175		
13:32	46.07	500 mL	7.31	0.580	105.0	0.00	14.53	170		
13:35	46.07	500 mL	7.35	0.576	84.7	0.00	14.49	166		

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 2455	[ ] 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: 10-19-10 SM

Checked/Date:

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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SPMW 03
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 08:15 END 08:55	SAMPLE TIME	08:45

JOB NUMBER: EVENT NO.: DATE: 102010 FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	42.70 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.00 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 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
08:24	42.70	500mL	6.38	0.415	70.7	0.78	13.38	152		
08:27	42.71	500mL	6.41	0.418	35.5	0.81	13.41	148		
08:30	42.71	500mL	6.32	0.422	30.1	2.76	13.40	134		
08:33	42.72	500mL	6.58	0.422	28.7	0.08	13.39	133		
08:36	42.73	500mL	6.48	0.420	20.0	0.49	13.40	132		
08:39	42.74	500mL	6.46	0.420	15.3	0.68	13.38	133		

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:

10-30-10 CM

Prepared/Date:

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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JOB NUMBER

PROJECT: Honeywell / OmI
FIELD SAMPLE NUMBER: SPMW 07
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 10-20-10
ACTIVITY: START 09:02 END 09:40
SAMPLE TIME: 09:30
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 41.65 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00028 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 67.21 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING:

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

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	pH (units)	SPECIFIC CONDUCTANCE (ms/cm)	TURBIDITY (ntu)	DO (mg/L)	TEMP. (+/- deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
09:06	41.65	500mL	7.09	1.51	0.0	0.00	14.71	121		Turbidity
09:09	41.66	500mL	7.08	1.51	0.0	0.35	14.73	114		0.0 Flashing
09:12	41.67	500mL	7.11	1.50	0.0	0.24	14.71	115		Cleaned Several
09:15	41.67	500mL	7.11	1.50	0.0	0.44	14.73	115		Times
09:18	41.68	500mL	7.12	1.50	0.0	0.43	14.71	116		
09:21	41.69	500mL	7.12	1.50	0.0	0.46	14.70	116		ReCalibrated
										cm RC

EQUIPMENT DOCUMENTATION

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

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

Duplicate

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

10-20-10 CM

Prepared/Date:
Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

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PROJECT	Honeywell / OMT	FIELD SAMPLE NUMBER	SPOB 34	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 09:45 END 10:20	SAMPLE TIME	10:15	DATE	10-20-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	45.57 FT	HISTORICAL WELL DEPTH (TOB)	81.90 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	REFILL SETTING		PID WELL MOUTH	0.0 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 0.00026 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
09:55	45.57	500 mL	7.26	0.757	59.2	0.05	15.17	-201		
09:58	45.57	500 mL	7.35	0.755	16.1	0.00	15.14	-206		
10:01	45.58	500 mL	7.37	0.753	16.3	0.00	15.15	-210		
10:03	45.58	500 mL	7.38	0.752	14.4	0.00	15.20	-212		
10:06	45.59	500 mL	7.38	0.751	2.8	0.00	15.21	-212		
10:09	45.59	500 mL	7.39	0.747	0.0	0.00	15.21	-213		

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:

CM 10-20-10

Prepared/Date:

Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

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PROJECT	Honeywell / OMI	FIELD SAMPLE NUMBER	SP0B12R2
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 10:33 END 11:15	SAMPLE TIME	11:05

JOB NUMBER:
EVENT NO.:
DATE: 10-20-10
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	47.68 FT	HISTORICAL WELL DEPTH (TOR)	67.04 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	REFILL SETTING		PID WELL MOUTH	0.0 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 0.00026 gal/ml/liter)

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
10:42	47.68	500mL	6.75	0.720	4.6	0.05	15.01	88		
10:45	47.68	500mL	6.76	0.721	10.0	0.36	15.03	85		
10:48	47.69	500mL	6.75	0.722	4.0	0.65	15.04	84		
10:51	47.69	500mL	6.75	0.721	4.8	0.72	15.07	86		
10:54	47.70	500mL	6.75	0.721	4.5	0.71	15.08	86		
10:57	47.71	500mL	6.74	0.720	3.8	0.75	15.09	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:

CM 10-20-10

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	Honeywell/DMI	FIELD SAMPLE NUMBER	SPMW 11R
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 12:05 END	SAMPLE TIME	12:30

JOB NUMBER
EVENT NO.
DATE 10-20-10
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	47.05 FT	HISTORICAL WELL DEPTH (TOB)	64.50 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	PID AMBIENT AIR	0.0 PPM	CASING / WELL DIFFERENCE	FT
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	WELL DIAMETER	2" IN
TOTAL VOL. PURGED	GAL	PID WELL MOUTH	0.0 PPM		
		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
12:12	47.05	500ML	6.39	0.431	84.0	0.42	14.35	126		
12:15	47.06	500ML	6.17	0.424	45.7	1.41	14.36	134		
12:18	47.07	500ML	6.17	0.420	42.7	1.53	14.36	138		
12:21	47.09	500ML	6.18	0.424	34.7	1.52	14.35	145		
12:24	47.10	500ML	6.19	0.427	34.2	1.53	14.33	146		
12:27	47.11	500ML	6.15	0.420	33.3	1.52	14.34	149		

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:

Prepared/Date: 10-20-10 CM
Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

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PROJECT	Honeywell/omI	FIELD SAMPLE NUMBER	SPMW 12	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 12:40 END 13:12	SAMPLE TIME	13:05	DATE	10-20-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER	46.67 FT	MEASUREMENT POINT: ☑ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOB)	64.90 FT	PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	2" IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM	WELL INTERGRITY: INTEGRITY: YES / NO / N/A
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING		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
12:47	46.67	500mL	6.81	0.515	44.8	0.00	14.12	130		
12:50	46.68	500mL	6.76	0.515	82.2	0.32	14.09	125		
12:53	46.70	500mL	6.75	0.515	71.2	0.42	14.15	124		
12:56	46.71	500mL	6.74	0.515	65.3	0.42	14.16	123		
12:59	46.72	500mL	6.77	0.516	78.5	0.38	14.14	121		
13:02	46.73	500mL	6.74	0.514	85.8	0.38	14.15	121		

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:

CML 10-20-10

Prepared/Date:

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PORT2005033a.cdr

JOB NUMBER

PROJECT: Honeywell / Om I
FIELD SAMPLE NUMBER: SPMW-13
EVENT NO.:
SITE ID: South Point
SITE TYPE:
DATE: 10-21-10
ACTIVITY: START 09:28 END 10:07
SAMPLE TIME: 10:00
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 46.78 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

HISTORICAL WELL DEPTH (TOR): 71.03 FT
PRESSURE TO PUMP: PSI
REFILL SETTING:

PROTECTIVE CASING STICKUP (FROM GROUND): 3' FT
PID AMBIENT AIR: 0.0 PPM
PID WELL MOUTH: 0.0 PPM
DISCHARGE SETTING:

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

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
09:42	46.78	500mL	7.36	0.492	57.2	0.02	14.27	176		
09:45	46.79	500mL	7.44	0.492	46.0	0.00	14.25	159		
09:48	46.79	500mL	7.45	0.494	41.3	0.00	14.63	157		
09:51	46.81	500mL	7.46	0.493	38.7	0.00	14.58	154		
09:54	46.82	500mL	7.45	0.492	38.1	0.00	14.57	153		
09:57	46.83	500mL	7.45	0.492	31.6	0.00	14.57	153		

EQUIPMENT DOCUMENTATION

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

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:

10-21-10 CM

Prepared/Date:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	Honey Well/amI	FIELD SAMPLE NUMBER	SPMW 04	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 10:10 END 10:55	SAMPLE TIME	10:40	DATE	10-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	47.96 FT	HISTORICAL WELL DEPTH (TOR)	66.75 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT
FINAL DEPTH TO WATER	FT	PID AMBIENT AIR	0.0 PPM	CASING / WELL DIFFERENCE	FT
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
10:16	47.96	500ML	5.53	0.304	74.2	0.36	14.40	206		
10:19	47.97	500ML	6.24	0.412	70.1	1.21	14.42	138		
10:22	47.98	500ML	6.25	0.413	66.4	1.24	14.43	119		
10:25	47.99	500ML	6.21	0.401	65.1	1.31	14.45	124		
10:28	48.00	500ML	6.19	0.401	63.7	1.30	14.45	125		
10:31	48.02	500ML	6.21	0.403	63.0	1.31	14.46	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" 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:

10-21-10 CMV

Prepared/Date:

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	Honeywell/omF	FIELD SAMPLE NUMBER	SPES 24	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 11:05 END 11:35	SAMPLE TIME	11:20	DATE	10-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	42.85 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3' FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	150+ FT	WELL DIAMETER	12" 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. (+/- 1 deg. c)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
11:15	42.85	500mL	6.33	0.594	180.0	2.58	14.63	155		

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

Pumping well
Well down since 8-6-10

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 10-21-10 CM
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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PROJECT	Honeywell / DMT	FIELD SAMPLE NUMBER	SPIS #23	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO.	
ACTIVITY	START 11:45 END 12:35	SAMPLE TIME	12:10	DATE	10-21-10
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER	44.98 FT	MEASUREMENT POINT: ☐ TOP OF WELL RISER ☐ TOP OF PROTECTIVE CASING		PROTECTIVE CASING STICKUP (FROM GROUND)	FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	150+ FT	PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	IN
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM	WELL INTERGRITY:	
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

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

WELL 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
12:00	44.98	500mL	7.06	0.817	79.4	0.83	15.21	-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 2" SS	☐ OTHER	☐ OTHER	☐ OTHER

ANALYTICAL PARAMETERS

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

Pumping well

Well Down Since 8-6-10

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

10-21-10 CM

Prepared/Date: _____

Checked/Date: _____

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

PORT2005033a.cdr

PROJECT: Ironton | DATE: 10-21-10

TASK ID: South Point | JOB NUMBER:

SAMPLER SIGNATURE: Charles D Miller

EQUIPMENT CALIBRATION	CALIBRATION INFORMATION				ACCEPTANCE CRITERIA **
	STANDARD VALUE		METER VALUE		
HORIBA MODEL NO. U-22	pH 4.0	units	pH 4.0	units	+/- 10% of standard
UNIT ID NO.	Conductivity 4.5	umho/cm	Conductivity 4.49	umho/cm	+/- 10% of standard
	Redox	mv	Redox	mv	see note 1
	DO	mg/L *	DO	mg/L	+/- 10% of standard
	Thermometer Temperature	deg. C	Temperature	deg. C	+/- 2.0 deg. C
TURBIDITY METER TYPE	0.0	NTU (low)	0.0	NTU	within 0.3 NTU of the standard
MODEL NO.					
UNIT ID NO.		NTU (high)		NTU	+/- 10% of standard
PHOTOIONIZATION					
METER TYPE	Background ppm	Zero Air ppm	Meter	ppm	within 5 ppm of Zero
MODEL NO.	Span Gas	ppm	Meter	ppm	+/- 10% of standard
UNIT ID NO.					
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2

MATERIALS RECORD	Lot Number	Calibration Fluids/ Standard Source:	
Deionized Water Source:		Lot Numbers pH	
Trip Blank Water Source:		mv	
Sample Preservatives Source:		Cond.	
Disposable Filter Type:		Turb.	
Other			

NOTES:

* = Indicate in notes section what was used as the DO standard (i.e. based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the specified parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

2 = specify acceptance criteria in the Notes section

10-24-10 CM

Prepared/Date:

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

FIELD INSTRUMENT CALIBRATION RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033c.cdr

PROJECT: Ironton | DATE: 10-19-10

TASK ID: South Point | JOB NUMBER:

SAMPLER SIGNATURE: Ron Cade

EQUIPMENT CALIBRATION	CALIBRATION INFORMATION STANDARD VALUE		METER VALUE		ACCEPTANCE CRITERIA **
HORIBA MODEL NO. U-22	pH 4.0	units	pH 4.0	units	+/- 10% of standard
UNIT ID NO.	Conductivity 4.5	umho/cm	Conductivity 4.49	umho/cm	+/- 10% of standard
	Redox	mv	Redox	mv	see note 1
	DO	mg/L *	DO	mg/L	+/- 10% of standard
	Thermometer Temperature	deg. C	Temperature	deg. C	+/- 2.0 deg. C
TURBIDITY METER TYPE	0.0	NTU (low)	0.2	NTU	within 0.3 NTU of the standard
MODEL NO.					
UNIT ID NO.		NTU (high)		NTU	+/- 10% of standard
PHOTOIONIZATION METER TYPE	Background ppm	Zero Air ppm	Meter	ppm	within 5 ppm of Zero
MODEL NO.	Span Gas	ppm	Meter	ppm	+/- 10% of standard
UNIT ID NO.					
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2

MATERIALS RECORD	Lot Number	Calibration Fluids/ Standard Source:	
Deionized Water Source:		Lot Numbers pH	
Trip Blank Water Source:		mv	
Sample Preservatives Source:		Cond.	
Disposable Filter Type:		Turb.	
Other			

NOTES:

* = indicate in notes section what was used as the DO standard (i.e.: based on saturation at room temperature)

** = if the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the specified parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

2 = specify acceptance criteria in the Notes section

Prepared/Date: 10-19-10 RC

Checked/Date: SM

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

FIELD INSTRUMENT CALIBRATION RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033c.cdr

PROJECT: Ironton DATE: 10-20-10

TASK ID: SOUTH POINT JOB NUMBER:

SAMPLER SIGNATURE:

EQUIPMENT CALIBRATION	CALIBRATION INFORMATION STANDARD VALUE		METER VALUE		ACCEPTANCE CRITERIA **
HORIBA MODEL NO. U-22	pH 4.0	units	pH 3.98	units	+/- 10% of standard
UNIT ID NO.	Conductivity 4.85	umho/cm	Conductivity 4.77	umho/cm	+/- 10% of standard
	Redox	mv	Redox	mv	see note 1
	DO	mg/L *	DO	mg/L	+/- 10% of standard
	Thermometer Temperature	deg. C	Temperature	deg. C	+/- 2.0 deg. C
TURBIDITY METER TYPE	0.0	NTU (low)	0.0	NTU	within 0.3 NTU of the standard
MODEL NO.					
UNIT ID NO.		NTU (high)		NTU	+/- 10% of standard
PHOTOIONIZATION					
METER TYPE	Background ppm	Zero Air ppm	Meter	ppm	within 5 ppm of Zero
MODEL NO.	Span Gas	ppm	Meter	ppm	+/- 10% of standard
UNIT ID NO.					
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2
OTHER METER TYPE					see note 2
MODEL NO.					see note 2
UNIT ID NO.					see note 2

MATERIALS RECORD	Lot Number	Calibration Fluids/ Standard Source:	
Deionized Water Source:		Lot Numbers pH	
Trip Blank Water Source:		mv	
Sample Preservatives Source:		Cond.	
Disposable Filter Type:		Turb.	
Other			

NOTES:

* = indicate in notes section what was used as the DO standard (i.e., based on saturation at room temperature)

** = If the meter reading is not within acceptance criteria, clean or replace probe and re-calibrate, or use a different meter if available. If project requirements necessitate use of the instrument, clearly document on all data sheets and log book entries that the specified parameter was not calibrated to the acceptance criteria.

1 = meter must read within specified range of the Zobell solution (usually 231 +/- 10 mv).

2 = specify acceptance criteria in the Notes section

Prepared/Date: 10-20-10 RC

Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

FIELD INSTRUMENT CALIBRATION RECORD

ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033c.cdr

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1

Group# _____

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: _____ | P.O.# 4987848
Sampler: 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	Remarks	Temperature of samples upon receipt (if requested)
SPMW01-S-101019	10/19/2010	08:45	X			X		4	X	X	X		
SPMW05-S-101019	10/19/2010	09:30	X			X		4	X	X	X		
SPMW10R-S-101019	10/19/2010	10:15	X			X		4	X	X	X		
SPMW06R-S-101019	10/19/2010	11:00	X			X		4	X	X	X		
SPMW08-S-101019	10/19/2010	11:50	X			X		4	X	X	X		
SPMW09-S-101019	10/19/2010	13:00	X			X		4	X	X	X		
SPMW02-S-101019	10/19/2010	13:45	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	10-19-10	14:00			
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

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#: 1 of 1

Group# _____

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

Sample #s _____

Client: Honeywell / OmI
Acct: 10651
Project Name: South Point
PWSID #: _____
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Ron Cade / Charles D Miller
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-101020	10/20/2010	10:15	X			X		4	X	X	X										
SPOB12R2-S-101020	10/20/2010	11:05	X			X		4	X	X	X										
SPMW11R-S-101020	10/20/2010	12:30	X			X		4	X	X	X										
SPMW12-S-101020	10/20/2010	13:05	X			X		4	X	X	X										
SPMW03-S-101020	10/20/2010	8:45	X			X		4	X	X	X										
SPMW07-S-101020	10/20/2010	9:30	X			X		4	X	X	X										
SPMW07DP-S-101020	10/20/2010	9:30	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
Charles D Miller	10-20-10	14:00			

p.22

1-740-533-0988

CH2MHILL

Oct 28 10 07:40a

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1

Group# _____

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: Charles D Miller 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:

Temperature of samples upon receipt (if requested)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Other	Total # of Containers	Total Metals (N)	NH3, / NO3 (S)	NO2									Remarks:
SPMW11R-S-101021	10/21/2010	13:00	X			X		1			X									
SPMW13-S-101021	10/21/2010	10:00	X			X		4	X	X	X									
SPMW04-S-101021	10/21/2010	10:40	X			X		4	X	X	X									
SPIS23-S-101021	10/21/2010	12:10	X			X		4	X	X	X									
SPIS23DP-S-101021	10/21/2010	12:10	X			X		4	X	X	X									
SPIS23-MS-S-101021 (Matrix Spike)	10/21/2010	12:10	X			X		4	X	X	X									
SPIS23-MSD-S-101021 (Matrix Spike Duplicate)	10/21/2010	12:10	X			X		2	X	X	X									
SPIS24-S-101021	10/21/2010	11:20	X			X		4	X	X	X									
SPIS24DP-S-101021	10/21/2010	11:20	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
Charles D Miller	10-21-10	14:30			

p.23

1-740-533-0988

CH2MHILL

Oct 28 10 07:40a

SOUTH POINT WELL WATER LEVELS

DATE: 10-18-10

WELL #	DTW	DTB	DTB-DTW	PID	TIME	LOCATION So. Point / RC
SPMW-01	37.47	62.15		0.0		NORTH ENTRANCE OFF ROAD BY FIELD
SPMW-05	60.68	85.83		0.0		ALONG SOUTH-EAST FENCE LINE IN PINES ADJACENT TO RESIDENTIAL PROPERTY
SPMW-10R	64.60	95.9		0.0		AT CAP AREA
SPMW-06R	64.09	101.6		0.0		AT CAP AREA
SPMW-08	41.60	66.22		0.0		FLY-ASH PONDS
SPIS-18	37.65	150		0.0		FLY-ASH PONDS
IS-15	42.38	150		0.0		ALONG County Rd Fence line
SPIS-15A	37.58	150		0.0		FLY-ASH PONDS
SPMW-09	41.30	60.3		0.0		FLY-ASH PONDS
T2-B	17.92	44.2		0.0		FLY-ASH PONDS
SPIS-26	75.05	150		0.0		FORMER PUMPING WELL
SPIS-25	47.25	150		0.0		FORMER PUMPING WELL
SPIS-27	48.12	150		0.0		FORMER PUMPING WELLS/ACROSS FROM CALGON BLDG.
SPMW-02	46.05	75.2		0.0		BY ROADWAY ON RIGHT GOING EAST TURN SOUTH
SPMW-07	41.65	67.21		0.0		HOOK LEFT ON ROADWAY BESIDE RR TRACKS
SPMW-03	42.76	67		0.0		BOON DOCKS NORTH OF TRACKS
SPIS-22	44.21	150		0.0		FORMER PW
SPOB-34	45.57	81.9		0.0		NEAR PINES
SPOB-12R2	47.68	67.04		0.0		NEAR PINES
SPMW-11R	42.05	64.5		0.0		NEAR PINES
SPMW-12	46.67	64.9		0.0		NEAR PINES
SPMW-13	46.78	71.03		0.0		NEAR PINES
SPMW-04	47.86	66.75		0.0		NEAR PINES
SPIS-06	48.11	150		0.0		FORMER PUMPING WELLS
SPIS-05	42.70	150		0.0		FORMER PUMPING WELLS
SPIS-01	42.20	150		0.0		INSIDE RED BRICK BLDG.
SPIS-28	44.04	150		0.0		FORMER PUMPING WELLS
SPIS-02	42.81	150		0.0		BRICK BLDG. NEXT TO TOWERS
SPOB-29	42.55	76.62		0.0		GO TO PYRO CHEM
SPOB-15D	43.80	62.51		0.0		SOUTH OF CO. RD. 1 INSIDE AND TO THE RIGHT
SPOB-26	34.51	72.02		0.0		NEAR THE DOCK
CAISSON	34.15					AT THE RIVER
SPOB-17D	31.10	50.56		0.0		EAST ON THE PATH TO TREE WITH LARGE BRANCH DOWN
SPOB-16D	35.18	52.63		0.0		FOLLOW THE LANE PAST PUMP HOUSE
SPIS-10	44.25	150		0.0		AT SP FIRE STATION
SPIS-23	44.98			0.0		Pumping Well
SPIS-24	42.85			0.0		Pumping Well

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 OF 1

Group# _____

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: RON CADE + CHARLIE MILLER 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
SPMW11RS-100421	4/21/2010		X			X		4	X	X	X		
SPMW12S-100421	4/21/2010		X			X		4	X	X	X		
SPMW13S-100421	4/21/2010		X			X		4	X	X	X		
SPMW04S-100421	4/21/2010		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
R-Cade	4-21-10	12:00			

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

p.18 1-740-533-0988 CH2MHILL Apr 22 10 08:59a

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1
Group# _____

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: Ron Cade – Charles D Miller
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:
SPOB34S-100420	4/20/2010	14:50	X			X		4	X	X	X		
SPOB12R2S-100420	4/20/2010	15:30	X			X		4	X	X	X		
SPMW10RS-100420	4/20/2010	8:30	X			X		4	X	X	X		
SPMW06RS-100420	4/20/2010	9:05	X			X		4	X	X	X		
SPMW08S-100420	4/20/2010	9:50	X			X		4	X	X	X		
SPMW09S-100420	4/20/2010	10:30	X			X		4	X	X	X		
SPMW02S-100420	4/20/2010	12:50	X			X		4	X	X	X		
SPMW03S-100420	4/20/2010	13:25	X			X		4	X	X	X		
SPMW07S-100420	4/20/2010	14:05	X			X		4	X	X	X		
SPMW07S-DP-100420	4/20/2010	14:05	X			X		4	X	X	X		

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
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
Charles D Miller	4-20-10	17:00			
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

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#: 1 of 1

Group# _____

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: R Cade C Miller | 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	Remarks	Temperature of samples upon receipt (if requested)
SPMW01-S-100413	4/13/2010	8:55	X			X		4	X	X	X		
SPMW08-S-100413	4/13/2010	9:30	X			X		4	X	X	X		
SPIS23-S-100413	4/13/2010	7:35	X			X		6	X	X	X		
SPIS23-S-MS-100413	4/13/2010	7:36	x			X		4	X	X	X		
SPIS23S-MSD-100413	4/13/2010	7:35	X			X		4	X	X	X		
SPIS24-S-100413	4/13/2010	8:00	X			X		4	X	X	X		
SPIS24S-DP-100413	4/13/2010	8:00	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
Charles D Miller	4/13/10	15:00			
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

p.20
1-740-533-0988
CH2MHILL
Apr 22 10 09:00a

SOUTH POINT WELL WATER LEVELS

DATE: 4-12-2010

CM - RC

	WELL #	DTW	DTB	DTB-DTW	PID	TIME	LOCATION
	[illegible]	37.67	62.15		0.0	07:44	NORTH ENTRANCE OFF ROAD BY FIELD
	[illegible]	60.98	85.83		0.0	07:51	ALONG SOUTH-EAST FENCE LINE IN PINES ADJACENT TO RESIDENTIAL PROPERTY
	[illegible]	67.46	95.9		0.0	07:56	AT CAP AREA
	[illegible]	71.67	101.6		0.0	08:00	AT CAP AREA
	[illegible]	40.99	65.22		0.0	08:06	FLY-ASH PONDS
	SPIS-18	34.92	150		0.0	08:16	FLY-ASH PONDS
	IS-15	41.21	150		0.0	08:12	ALONG County Rd Fence line
34.45	SPIS-15A	38.45	150		0.0	08:43	FLY-ASH PONDS
	[illegible]	38.31	60.3		0.3	08:25	FLY-ASH PONDS
	T2-B	16.21	44.2		0.0	08:33	FLY-ASH PONDS
	SPIS-26	45.34	150		0.0	08:53	FORMER PUMPING WELL
Capped off	SPIS-25	DOS	150				FORMER PUMPING WELL
	SPIS-27	DOS	150				FORMER PUMPING WELLS/ACROSS FROM CALGON BLDG.
	[illegible]	46.70	75.2		0.0	09:00	BY ROADWAY ON RIGHT GOING EAST TURN SOUTH
	[illegible]	42.24	67.21		0.0	09:18	HOOK LEFT ON ROADWAY BESIDE RR TRACKS
	[illegible]	42.71	67		0.0	09:09	BOON DOCKS NORTH OF TRACKS
	SPIS-22	44.68	150		0.0	10:35	FORMER PW
	[illegible]	45.79	81.9		0.0	10:39	NEAR PINES
	[illegible]	48.32	67.04		0.0	10:43	NEAR PINES
	[illegible]	40.55	64.5		0.0	10:48	NEAR PINES
	[illegible]	47.02	64.9		0.0	10:56	NEAR PINES
	[illegible]	46.58	71.03		0.0	11:00	NEAR PINES
	[illegible]	47.54	66.75		0.0	11:03	NEAR PINES
	SPIS-06	47.62	150		0.0	11:09	FORMER PUMPING WELLS
	SPIS-05	42.45	150		0.0	11:17	FORMER PUMPING WELLS
	SPIS-01	41.73	150		0.0	11:20	INSIDE RED BRICK BLDG.
	SPIS-28	44.51	150		0.0	11:23	FORMER PUMPING WELLS
	SPIS-02	42.22	150		0.0	11:34	BRICK BLDG. NEXT TO TOWERS
	SPOB-29	41.35	73.62		0.0	11:41	GO TO PYRO CHEM
POB15R2	SPOB-15D	43.22	62.51		0.0	09:52	SOUTH OF CO. RD. 1 INSIDE AND TO THE RIGHT
	SPOB-26	34.00	72.02		0.0	09:29	NEAR THE DOCK
	CAISSON	34.39				09:33	AT THE RIVER
	SPOB-17R	34.94	50.56		0.0	09:41	EAST ON THE PATH TO TREE WITH LARGE BRANCH DOWN
	SPOB-18D	35.11	52.63		0.0	10:24	FOLLOW THE LANE PAST PUMP HOUSE
	SPIS-10	43.52	150		0.0	10:01	AT SP FIRE STATION
	SPIS-23						Pumping Well
	SPIS-24						Pumping Well

APPENDIX B

MACTEC DATA VALIDATION REPORTS AND LABORATORY RESULTS (ON CD-ROM)

DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

1.0 INTRODUCTION

Data validation was completed on water samples collected by MACTEC in April 2010 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) IRN49, IRN50 and IRN51. 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

August 31, 2010

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

Chr Ricardi

August 31, 2010

TABLE 1
SAMPLE SUMMARY
DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

Field Sample ID	Lab Sample ID	Type	SDG	Date Sampled	Comment
SPMW01-S-100413	5953195	REG	IRN49	04/13/2010	
SPMW05-S-100413	5953196	REG	IRN49	04/13/2010	
SPIS23-S-100413	5953197	REG	IRN49	04/13/2010	MS/MSD
SPIS24-S-100413	5953201	REG	IRN49	04/13/2010	
SPIS24-DP-100413	5953202	FD	IRN49	04/13/2010	Field Dup
SPOB-34S-100420	5959003	REG	IRN50	04/20/2010	
SPOB12R2S-100420	5959004	REG	IRN50	04/20/2010	
SPMW-10RS-100420	5959005	REG	IRN50	04/20/2010	
SPMW-06RS-100420	5959006	REG	IRN50	04/20/2010	
SPMW-08-S-100420	5959007	REG	IRN50	04/20/2010	
SPMW-09-S-100420	5959008	REG	IRN50	04/20/2010	
SPMW-02-S-100420	5959009	REG	IRN50	04/20/2010	
SPMW-03-S-100420	5959010	REG	IRN50	04/20/2010	
SPMW-07-S-100420	5959011	REG	IRN50	04/20/2010	
SPMW-07DP-S-100420	5959012	FD	IRN50	04/20/2010	Field Dup
SPMW11R-S-100421	5960433	REG	IRN51	04/21/2010	
SPMW12-S-100421	5960434	REG	IRN51	04/21/2010	
SPMW13-S-100421	5960435	REG	IRN51	04/21/2010	
SPMW04-S-100421	5960436	REG	IRN51	04/21/2010	

TABLE 2
PROJECT PRECISION AND ACCURACY GOALS
DATA VALIDATION SUMMARY REPORT
APRIL 2010 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 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPIS23-S-100413	SPIS24-DP-100413	SPIS24-S-100413	SPMW01-S-100413
		Location	SPIS-23	SPIS-24	SPIS-24	SPMW-01
		Sample Date	4/13/2010	4/13/2010	4/13/2010	4/13/2010
		Sample Delivery Group	IRN49	IRN49	IRN49	IRN49
Units	Analytical Method	Parameter Name				
mg/l	E353.2	Nitrate Nitrogen	2	7.2	6.9	2.6
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	12.9	13.7	0.6 U
mg/l	SW6010	Arsenic	0.02 U	0.02 U	0.02 U	0.02 U
mg/l	SW6010	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Copper	0.01 U	0.01 U	0.01 U	0.01 U
mg/l	SW6010	Manganese	0.248	0.472	0.475	0.0171
mg/l	SW6010	Nickel	0.01 U	0.0018 J	0.0028 J	0.0139

Notes:
U = undetected
J = estimated value

Prepared by: Peeyush Gupta
Reviewed by: Christian Ricardi
Date: 31 August 2010

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW05-S-100413	SPMW-02S-100420	SPMW-03S-100420	SPMW-06RS-100420
		Location	SPMW-05	SPMW-02	SPMW-03	SPMW-06R
		Sample Date	4/13/2010	4/20/2010	4/20/2010	4/20/2010
		Sample Delivery Group	IRN49	IRN50	IRN50	IRN50
Units	Analytical Method	Parameter Name				
mg/l	E353.2	Nitrate Nitrogen	2.7	8.8	3	4
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.04 J	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	0.6 U	0.6 U	17.8
mg/l	SW6010	Arsenic	0.02 U	0.02 U	0.02 U	0.0118 J
mg/l	SW6010	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Copper	0.0804	0.01 U	0.01 U	0.01 U
mg/l	SW6010	Manganese	0.245	0.155	0.0805	1.56
mg/l	SW6010	Nickel	0.0547	0.01 U	0.0026 J	0.031

Notes:
U = undetected
J = estimated value

Prepared by: Peeyush Gupta
Reviewed by: Christian Ricardi
Date: 31 August 2010

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW-07S-100420	SPMW-07S-DP-100420	SPMW-08S-100420	SPMW-09S-100420
		Location	SPMW-07	SPMW-07	SPMW-08	SPMW-09
		Sample Date	4/20/2010	4/20/2010	4/20/2010	4/20/2010
		Sample Delivery Group	IRN50	IRN50	IRN50	IRN50
Units	Analytical Method	Parameter Name				
mg/l	E353.2	Nitrate Nitrogen	5.6	5.8	0.1 U	7.3
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	42.6	40.8	0.42 J	7.9
mg/l	SW6010	Arsenic	0.0107 J	0.0124 J	0.02 U	0.02 U
mg/l	SW6010	Beryllium	0.005 U	0.005 U	0.005 U	0.0061
mg/l	SW6010	Cadmium	0.005 U	0.005 U	0.005 U	0.0072
mg/l	SW6010	Copper	0.01 U	0.0037 J	0.01 U	3.22
mg/l	SW6010	Manganese	0.513	0.669	3.66	8.99
mg/l	SW6010	Nickel	0.0045 J	0.005 J	0.0098 J	0.398

Notes:
U = undetected
J = estimated value

Prepared by: Peeyush Gupta
Reviewed by: Christian Ricardi
Date: 31 August 2010

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW-10RS-100420	SPOB-12R2S-100420	SPOB-34S-100420	SPMW04S-100421
		Location	SPMW-10R	SPOB-12R2	SPOB-34	SPMW-04
		Sample Date	4/20/2010	4/20/2010	4/20/2010	4/21/2010
		Sample Delivery Group	IRN50	IRN50	IRN50	IRN51
Units	Analytical Method	Parameter Name				
mg/l	E353.2	Nitrate Nitrogen	2.7	3.9	0.1 U	2.3
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	11.7	0.6 U	0.6 U
mg/l	SW6010	Arsenic	0.02 U	0.0091 J	0.0169 J	0.02 U
mg/l	SW6010	Beryllium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Cadmium	0.005 U	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Copper	0.01 U	0.01 U	0.01 U	0.01 U
mg/l	SW6010	Manganese	0.264	0.0198	0.452	0.0374
mg/l	SW6010	Nickel	0.0765	0.0026 J	0.01 U	0.0085 J

Notes:
U = undetected
J = estimated value

Prepared by: Peeyush Gupta
Reviewed by: Christian Ricardi
Date: 31 August 2010

TABLE 3
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
APRIL 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW11RS-100421	SPMW12S-100421	SPMW13S-100421
		Location	SPMW-11R	SPMW-12	SPMW-13
		Sample Date	4/21/2010	4/21/2010	4/21/2010
		Sample Delivery Group	IRN51	IRN51	IRN51
Units	Analytical Method	Parameter Name			
mg/l	E353.2	Nitrate Nitrogen	3.8	2	0.6
mg/l	E353.2	Nitrite Nitrogen	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
mg/l	SW6010	Arsenic	0.02 U	0.02 U	0.02 U
mg/l	SW6010	Beryllium	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Cadmium	0.005 U	0.005 U	0.005 U
mg/l	SW6010	Copper	0.01 U	0.01 U	0.01 U
mg/l	SW6010	Manganese	0.0394	0.031	0.197
mg/l	SW6010	Nickel	0.0153	0.0053 J	0.01 U

Notes:
U = undetected
J = estimated value

Prepared by: Peeyush Gupta
Reviewed by: Christian Ricardi
Date: 31 August 2010

DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

1.0 INTRODUCTION:

Data validation was completed on water samples collected by MACTEC in October 2010 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) HSP10, HSP11 and HSP12. 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 summary of data qualification is presented on Table 3. A complete summary of final sample results is provided in Table 4.

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

BLANKS
Berylium was reported at a low concentration (0.0016 mg/L) in the method blank associated with some samples in SDG HSP10. An action level was established at five times the concentration reported in the blank. Berylium was reported at similar concentrations as the blank in a subset of samples and below the action level, and results were qualified non-detect (U) at the reporting limit. A summary of qualified sample results is presented on Table 3 with reason codes BL1.

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

December 1, 2010

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

Chris Ricardi

December 14, 2010

TABLE 1
SAMPLE SUMMARY
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

Field Sample ID	Lab Sample ID	Type	SDG	Date Sampled	Comment
SPIS23-MS-S-101021	6119195	MS	HSP12	10/21/2010	MS
SPIS23-MSD-S-101021	6119196	MSD	HSP12	10/21/2010	MSD
SPIS23-S-101021	6119194	REG	HSP12	10/21/2010	
SPIS23DP-S-101021	6119197	FD	HSP12	10/21/2010	Field Dup
SPIS24-S-101021	6119198	REG	HSP12	10/21/2010	
SPIS24DP-S-101021	6119199	FD	HSP12	10/21/2010	Field Dup
SPMW04-S-101021	6119193	REG	HSP12	10/21/2010	
SPMW11R-S-101021	6119191	REG	HSP12	10/21/2010	
SPMW13-S-101021	6119192	REG	HSP12	10/21/2010	
SPMW03-S-101020	6117815	REG	HSP11	10/20/2010	
SPMW07-S-101020	6117816	REG	HSP11	10/20/2010	
SPMW07DP-S-101020	6117817	FD	HSP11	10/20/2010	Field Dup
SPMW11R-S-101020	6117813	REG	HSP11	10/20/2010	
SPMW12-S-101020	6117814	REG	HSP11	10/20/2010	
SPOB12R2-S-101020	6117812	REG	HSP11	10/20/2010	
SPOB34-S-101020	6117811	REG	HSP11	10/20/2010	
SPMW01-S-101019	6116518	REG	HSP10	10/19/2010	
SPMW02-S-101019	6116524	REG	HSP10	10/19/2010	
SPMW05-S-101019	6116519	REG	HSP10	10/19/2010	
SPMW06R-S-101019	6116521	REG	HSP10	10/19/2010	
SPMW08-S-101019	6116522	REG	HSP10	10/19/2010	
SPMW09-S-101019	6116523	REG	HSP10	10/19/2010	
SPMW10R-S-101019	6116520	REG	HSP10	10/19/2010	

TABLE 2
PROJECT PRECISION AND ACCURACY GOALS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 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
VALIDATION ACTIONS SUMMARY
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

Field Sample ID	Type	SDG	Method	Parameter Name	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
SPMW01-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l
SPMW05-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l
SPMW10R-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l
SPMW06R-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l
SPMW08-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l
SPMW02-S-101019	REG	HSP10	SW6010B	Beryllium	0.005	J	U	BL1	mg/l

BL1	Result qualified due to laboratory blank
J	Estimated
U	Undetected

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPIS23-S-101021	SPIS23DP-S-101021	SPIS24-S-101021	SPIS24DP-S-101021	SPMW04-S-101021	SPMW11R-S-101021
		Location	SPIS-23	SPIS-23	SPIS-24	SPIS-24	SPMW-04	SPMW-11R
		Sample Date	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010	10/21/2010
		Sample Delivery Group	HSP12	HSP12	HSP12	HSP12	HSP12	HSP12
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	0.1 U	0.1 U	9.8	9.6	2.9	2.9
mg/l	E353.2	Nitrite Nitrogen	0.018 J	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.95	1	26.4	27.3	0.6 U	
mg/l	SW6010B	Arsenic	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	
mg/l	SW6010B	Cadmium	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	0.0029 J	
mg/l	SW6010B	Manganese	4.05	3.88	1.54	1.56	0.0389	
mg/l	SW6010B	Nickel	0.0036 J	0.01 U	0.0149	0.0155	0.0042 J	

Notes:
U = undetected
J = estimated value

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW13-S-101021	SPMW03-S-101020	SPMW07-S-101020	SPMW07DP-S-101020	SPMW11R-S-101020	SPMW12-S-101020
		Location	SPMW-13	SPMW-03	SPMW-07	SPMW-07	SPMW-11R	SPMW-12
		Sample Date	10/21/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010	10/20/2010
		Sample Delivery Group	HSP12	HSP11	HSP11	HSP11	HSP11	HSP11
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	0.39	2.1	6.5	6.7		4.1
mg/l	E353.2	Nitrite Nitrogen	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	0.6 U	31.8	32.3	0.6 U	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	0.0032 J	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
mg/l	SW6010B	Manganese	0.259	0.163	0.374	0.4	0.0465	0.0185
mg/l	SW6010B	Nickel	0.01 U	0.0147	0.01 U	0.01 U	0.0091 J	0.01 U

Notes:
U = undetected
J = estimated value

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPOB12R2-S-101020	SPOB34-S-101020	SPMW01-S-101019	SPMW02-S-101019	SPMW05-S-101019	SPMW06R-S-101019
		Location	SPOB-12R2	SPOB-34	SPMW-01	SPMW-02	SPMW-05	SPMW-06R
		Sample Date	10/20/2010	10/20/2010	10/19/2010	10/19/2010	10/19/2010	10/19/2010
		Sample Delivery Group	HSP11	HSP11	HSP10	HSP10	HSP10	HSP10
Units	Method	Parameter Name						
mg/l	E353.2	Nitrate Nitrogen	1.4	0.1 U	2.9	2.8	2	2.4
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	4.2	0.6 U	0.6 U	0.6 U	0.6 U	15.7
mg/l	SW6010B	Arsenic	0.02 U	0.0133 J	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	0.0044 J	0.0047 J	0.0037 J
mg/l	SW6010B	Manganese	0.0156	0.422	0.115	0.161	0.0148	1.09
mg/l	SW6010B	Nickel	0.01 U	0.01 U	0.0111	0.01 U	0.0111	0.014

Notes:
U = undetected
J = estimated value

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
OCTOBER 2010 SEMIANNUALWATER SAMPLING
HONEYWELL SOUTH POINT
SOUTH POINT, OHIO

		Field Sample ID	SPMW08-S-101019	SPMW09-S-101019	SPMW10R-S-101019
		Location	SPMW-08	SPMW-09	SPMW-10R
		Sample Date	10/19/2010	10/19/2010	10/19/2010
		Sample Delivery Group	HSP10	HSP10	HSP10
Units	Method	Parameter Name			
mg/l	E353.2	Nitrate Nitrogen	0.1 U	32.6	1
mg/l	E353.2	Nitrite Nitrogen	0.05 U	0.05 U	0.05 U
mg/l	SM20-4500-NH3C	Ammonia Nitrogen	0.6 U	11	0.6 U
mg/l	SW6010B	Arsenic	0.02 U	0.02 U	0.02 U
mg/l	SW6010B	Beryllium	0.005 U	0.0089	0.005 U
mg/l	SW6010B	Cadmium	0.005 U	0.0114	0.005 U
mg/l	SW6010B	Copper	0.01 U	3.47	0.0033 J
mg/l	SW6010B	Manganese	3.03	15.8	0.432
mg/l	SW6010B	Nickel	0.0079 J	0.68	0.0295

Notes:
U = undetected
J = estimated value

Lancaster Laboratories

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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 10/19/10

SDG# HSP10

GROUP	SAMPLE NUMBERS
1217147	6116518-6116524

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: Luz C Torres

Luz C Torres
Group Leader

Date 11/09/10

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 85

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Sample Reference List for SDG Number HSP10 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6116518	01---	SPMW-01-S-101019 Grab Water Sample
6116519	05---	SPMW-05-S-101019 Grab Water Sample
6116520	10R--	SPMW-10R-S-101019 Grab Water Sample
6116521	06R--	SPMW-06R-S-101019 Grab Water Sample
6116522	08---	SPMW-08-S-101019 Grab Water Sample
6116523	09---	SPMW-09-S-101019 Grab Water Sample
6116524	02---	SPMW-02-S-101019 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1
Group# 1217147
6116518-24
Sample #s ~~6115~~ ③
SF#: QMC 10/20/10
SCR#:

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:
P.O.# 4987848
Sampler: Steve Moore
Quote #: 205651
Name of State where samples were collected: Ohio

Matrix: ☐ Potable ☐ NPDES

Analyses Requested / Preservation Codes: N, S

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	Other	Total # of Containers	Total Metals	NH3, / NO3	NO2	Temperature of samples upon receipt (if requested)
SPMW01-S-101019	10/19/2010	08:45	X			X		4	X	X	X	
SPMW05-S-101019	10/19/2010	09:30	X			X		4	X	X	X	
SPMW10R-S-101019	10/19/2010	10:15	X			X		4	X	X	X	
SPMW06R-S-101019	10/19/2010	11:00	X			X		4	X	X	X	
SPMW08-S-101019	10/19/2010	11:50	X			X		4	X	X	X	
SPMW09-S-101019	10/19/2010	13:00	X			X		4	X	X	X	
SPMW02-S-101019	10/19/2010	13:45	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	10-19-10	14:00			
			[signature]	10/20/10	0900

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: 10/20/10

Time of Receipt: 0900

Source Code: 50-1

Unpacker Emp. No.: 1454

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	040965i	1.1.c	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	10/20/10	1000	Unpacking to Storage
[signature]	10/20/10	1035	Place in Storage or Entry
			Entry
			Entry

Issued by Dept. 6042 Management
2174.05

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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 cadium 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

November 01, 2010

Project: Southpoint

Submittal Date: 10/20/2010
Group Number: 1217147
SDG: HSP10
PO Number: 5191991
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPMW-01-S-101019 Grab Water Sample	6116518
SPMW-05-S-101019 Grab Water Sample	6116519
SPMW-10R-S-101019 Grab Water Sample	6116520
SPMW-06R-S-101019 Grab Water Sample	6116521
SPMW-08-S-101019 Grab Water Sample	6116522
SPMW-09-S-101019 Grab Water Sample	6116523
SPMW-02-S-101019 Grab Water Sample	6116524

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	

HSP10 0005

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PO Box 12425
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

HSP18 8886

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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: SPMW-01-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116518
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 08:45 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

01--- SDG#: HSP10-01

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	**0.0016 J**	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	**0.115**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0111**	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
		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	102941848002	10/31/2010 22:55	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	10/31/2010 22:55	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	10/31/2010 22:55	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	10/31/2010 22:55	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	10/31/2010 22:55	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	10/31/2010 22:55	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 19:32	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:06	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 0088

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

Analysis Report

Lancaster Laboratories

Sample Description: SPMW-05-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116519
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 09:30 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

05--- SDG#: HSP10-02

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	**0.0016 J**	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0047 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.0148**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0111**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.0**	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	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	102941848002	10/31/2010 23:56	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	10/31/2010 23:56	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	10/31/2010 23:56	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	10/31/2010 23:56	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	10/31/2010 23:56	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	10/31/2010 23:56	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 19:33	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:07	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 0089

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: SPMW-10R-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116520
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 10:15 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

10R-- SDG#: HSP10-03

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	**0.0022 J**	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0033 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.432**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0295**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**1.0**	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	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	102941848002	11/01/2010 00:05	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	11/01/2010 00:05	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	11/01/2010 00:05	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	11/01/2010 00:05	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	11/01/2010 00:05	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	11/01/2010 00:05	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 19:37	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:08	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 0010

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: SPMW-06R-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116521
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 11:00 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

06R-- SDG#: HSP10-04

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	**0.0017 J**	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0037 J**	0.0100	1
07058	**Manganese**	7439-96-5	**1.09**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0140**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.4**	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	**15.7**	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	102941848002	11/01/2010 00:08	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	11/01/2010 00:08	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	11/01/2010 00:08	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	11/01/2010 00:08	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	11/01/2010 00:08	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	11/01/2010 00:08	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 19:38	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:10	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 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: SPMW-08-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116522
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 11:50 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

08--- SDG#: HSP10-05

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	**0.0016 J**	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	**3.03**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0079 J**	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	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	102941848002	11/01/2010 00:11	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	11/01/2010 00:11	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	11/01/2010 00:11	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	11/01/2010 00:11	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	11/01/2010 00:11	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	11/01/2010 00:11	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 19:39	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:11	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 8812

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: SPMW-09-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116523
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 13:00 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

09--- SDG#: HSP10-06

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	**0.0089**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0114**	0.0050	1
07053	**Copper**	7440-50-8	**3.47**	0.0100	1
07058	**Manganese**	7439-96-5	**15.8**	0.0250	5
07061	**Nickel**	7440-02-0	**0.680**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**32.6**	1.0	10
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	**11.0**	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	102941848002	11/01/2010 00:15	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	11/01/2010 00:15	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	11/01/2010 00:15	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	11/01/2010 00:15	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	11/01/2010 09:29	Joanne M Gates	5
07061	Nickel	SW-846 6010B	1	102941848002	11/01/2010 00:15	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 20:28	Joseph E McKenzie	10
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:12	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 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: SPMW-02-S-101019 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6116524
LLI Group # 1217147
Account # 10651

Project Name: Southpoint

Collected: 10/19/2010 13:45 by SM

Submitted: 10/20/2010 09:00
Reported: 11/01/2010 16:11

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

02--- SDG#: HSP10-07*

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	**0.0016 J**	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.0050	1
07053	**Copper**	7440-50-8	**0.0044 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.161**	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	**2.8**	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	102941848002	11/01/2010 00:18	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	102941848002	11/01/2010 00:18	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	102941848002	11/01/2010 00:18	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	102941848002	11/01/2010 00:18	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	102941848002	11/01/2010 00:18	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	102941848002	11/01/2010 00:18	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102941848002	10/21/2010 20:30	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106101B	10/28/2010 20:29	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10293105101A	10/20/2010 20:13	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP10 8814

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

HSB1B 8816

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP10

Date Received: 10/20/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

Refer to the Metals Analysis Conformance/Non-Conformance Summary Format for additional information.

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:

for Date 11-05-10

Dana M. Kauffman, Manager
Data Deliverables

HSP10 0017

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: HSP10

Lab Sample ID
6116518
6116519
6116520
6116521
6116522
6116523
6116524

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

HSP18 8818

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Lancaster Laboratories

METAL ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

SDG No.: HSP10W

		Indicate Yes, No, N/A
1.	Method Detection Limits provided	Yes
2.	Initial / Continuing Calibration Summary Meet Criteria	Yes
3.	ICP Interference Check Sample Results Summary Meet Criteria	Yes
4.	Serial Dilution Summary Meet Criteria	Yes
5.	Laboratory Control Summary Submitted / Meet Criteria	Yes
6.	Preparation, Method, and Calibration Blank Contamination - (>LOQ) If Yes, list Compounds as concentrations in each blank:	No
7.	Spike Sample Recovery Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	Yes
8.	Duplicate Summary Submitted / Meet Criteria	Yes
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:	Yes

Additional Comments:

Laboratory Manager: Dana M. Kauffman
Manager, Data Deliverables

Date: 11-05-10

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116518
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	115			P
7440-02-0	Nickel	11.1			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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116519
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	4.7	B		P
7439-96-5	Manganese	14.8			P
7440-02-0	Nickel	11.1			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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116520
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	2.2	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	3.3	B		P
7439-96-5	Manganese	432			P
7440-02-0	Nickel	29.5			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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116521
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.7	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	3.7	B		P
7439-96-5	Manganese	1090			P
7440-02-0	Nickel	14.0			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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116522
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	2.7	U		P
7439-96-5	Manganese	3030			P
7440-02-0	Nickel	7.9	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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116523
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	8.9			P
7440-43-9	Cadmium	11.4			P
7440-50-8	Copper	3470			P
7439-96-5	Manganese	15800			P
7440-02-0	Nickel	680			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.: HSP10
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6116524
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/20/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.8	U		P
7440-41-7	Beryllium	1.6	B		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	4.4	B		P
7439-96-5	Manganese	161			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 Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP10

Method: P
Run Name: 1030407T71
Calibration Date(s): 10/31/2010 - 11/01/2010
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		1.9	B	2.8	B	1.4	U	1.4	U		9.800	U	P29448BB
Beryllium		1.7	B	1.6	B	1.6	B	1.6	B		1.620	B	P29448BB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		2.000	U	P29448BB
Copper		2.0	U	2.0	U	2.0	U	2.0	U		2.700	U	P29448BB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P29448BB
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		3.000	U	P29448BB

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP10

Method: P
Run Name: 1030407T71
Calibration Date(s): 10/31/2010 - 11/01/2010

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				1.4	U								
Beryllium				1.7	B								
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

HSP10 0030

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP10

Method: P
Run Name: 1030503T72
Calibration Date(s): 11/01/2010

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													
Beryllium													
Cadmium													
Copper													
Manganese		1.0	U	1.0	U	1.0	U	1.0	U				
Nickel													

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

HSP10 0031

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP10

Method: P
Run Name: 1030503T72
Calibration Date(s): 11/01/2010

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													
Beryllium													
Cadmium													
Copper													
Manganese				1.0	U	1.0	U	1.0	U				
Nickel													

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

HSP10 0032

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP10
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6116518BKG Matrix Spike Lab Sample ID: 6116518MS Matrix Spike Duplicate Lab Sample ID: 6116518MSD
% Solids for Sample: 0.0
Batch Id(s): P29448B

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	155.7500		157.4900		150.0000	150.0000	UG/L	104		105		1		75 - 125	20	P
Beryllium		1.6200	B	52.4300		53.2000		50.0000	50.0000	UG/L	102		103		1		87 - 114	20	P
Cadmium		2.0000	U	50.7500		51.4400		50.0000	50.0000	UG/L	102		103		1		83 - 116	20	P
Copper		2.7000	U	254.2000		255.8700		250.0000	250.0000	UG/L	102		102		1		86 - 122	20	P
Manganese		115.3700		623.2400		629.9400		500.0000	500.0000	UG/L	102		103		1		75 - 125	20	P
Nickel		11.1200		518.6500		525.5100		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.: HSP10
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6116518BKG
% Solids for Duplicate: 0.0
Batch ID(s): P29448B
Concentration Units: UG/L

Duplicate Lab Sample ID: 6116518DUP
% 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			1.6200	B	1.6400	B	1		P
Cadmium			2.0000	U	2.0000	U			P
Copper			2.7000	U	2.7000	U			P
Manganese			115.3700		114.3600		1		P
Nickel		10.0	11.1200		10.8800		2		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.

HSP10 0034

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.: HSP10
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P29448BQ	UG/L	150.0	155.84		133.5	173.0	104	P	Yes
Beryllium		P29448BQ	UG/L	50.0	51.92		45.0	56.0	104	P	Yes
Cadmium		P29448BQ	UG/L	50.0	51.59		45.0	56.0	103	P	Yes
Copper		P29448BQ	UG/L	250.0	254.96		225.0	280.0	102	P	Yes
Manganese		P29448BQ	UG/L	500.0	517.28		450.0	550.0	103	P	Yes
Nickel		P29448BQ	UG/L	500.0	523.13		450.0	555.0	105	P	Yes

HSP10 0835

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 Logs

HSF18 0030

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP10

Method: P
Batch ID: P29448B

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6116519	10/21/2010	50.00	50
6116520	10/21/2010	50.00	50
6116521	10/21/2010	50.00	50
6116522	10/21/2010	50.00	50
6116523	10/21/2010	50.00	50
6116524	10/21/2010	50.00	50
6116518BKG	10/21/2010	50.00	50
6116518DUP	10/21/2010	50.00	50
6116518MSD	10/21/2010	50.00	50
6116518MS	10/21/2010	50.00	50
P29448BB	10/21/2010	50.00	50
P29448BQ	10/21/2010	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

Instrumental Analysis Data

HSP18 0038

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP10

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
6116518	X		
6116519	X		
6116520	X		
6116521	X		
6116522	X		
6116523	X		
6116524	X		

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
6116523	DF10
LCS	DF10
LCSD	DF10

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#: 10293105101A (Sample number(s): 6116518-6116524, UNSPK: 6116524, BKG: 6116524)
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
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: HSP10

Narrative Reviewed and Approved by:

Ann Kauffman Date 11/08/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP10

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10301106101A	Blank LCS/LCSD
Nitrate Nitrogen	10301106101B	6116518 6116519 6116520 6116521 6116522 6116523 6116524 P116212 U/BKG,R,D
Nitrite Nitrogen	10293105101A	6116518 6116519 6116520 6116521 6116522 6116523 6116524 U/BKG,R,D Blank LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP10
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	10/28/10	AK	10301106101	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	10/20/10	AK	10293105101	N.D.	mg/l	0.015	0.050

HSP18 8844

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: HSP10
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 <=
P116212 R	Nitrate Nitrogen	10/28/10	AK	10301106101B	N.D.	1	NA	1.0	NA	mg/l	100	NA	90 - 110	NA	NA
6116524	Nitrite Nitrogen	10/20/10	AK	10293105101A	N.D.	0.2	NA	0.23	NA	mg/l	115*	NA	90 - 110	NA	NA

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

GOOD FRISH

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: HSP10
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P116212	Nitrate Nitrogen	10/28/10	AK	10301106101B	N.D.	N.D.	mg/l	0(1)	2
6116524	Nitrite Nitrogen	10/20/10	AK	10293105101A	N.D.	N.D.	mg/l	0(1)	20

HSP10 8846

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: HSP10
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10301106101	Nitrate Nitrogen	10/28/10	AK	21	22.3	21.7	mg/l	18.8 - 23.2	2	20
10293105101	Nitrite Nitrogen	10/20/10	AK	0.542	0.54	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: HSP10

Instrument ID: 09037
Calibration Date: 10/20/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.2400	2.7389	1.5620	0.9492	0.6414	0.4830	0.9996

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10293105101A
Run Start Dates: 10/20/2010

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.59669	99
ICB	0	ND	NA
CCV2	0.6	0.58781	98
CCB 1	0	ND	NA
CCV2	0.6	0.60213	100
CCB 2	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP10

Instrument ID: 09106
Calibration Date: 10/28/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.6497	2.9931	1.2129	0.7885	0.4926	0.4121	0.9990

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10301106101A, 10301106101B
Run Start Dates: 10/28/2010

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.44366	98
ICB	0	ND	NA
CCV2	2.5	2.40429	96
CCB 1	0	ND	NA
CCV2	2.5	2.63114	105
CCB 2	0	ND	NA
CCV2	2.5	2.66112	106
CCB 3	0	ND	NA
CCV2	2.5	2.66636	107
CCB 5	0	ND	NA
CCV2	2.5	2.56594	103
CCB 6	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

HSP10 0050

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106
Page: 1

Instrumental Water Quality Report

Analyte: Nitrate-N
Run Start Date/Time: 10/28/2010 6:44:47PM
Instrument Name: 09106

Calibration Information

Curve Information Location:
Book # 109040
Page # 100

Sample Names	Volts	Detected Result	True Result
S1	3.6497	3.90193	4
S2	2.9931	3.12511	3
S3	1.2129	1.01827	1
S4	0.7885	0.51634	0.5
S5	0.4926	0.16668	0.2
S6	0.4121	0.07167	0.1

Number of Calibrants: 6

Correlation Coefficient: 0.99896
Y-Intercept: 0.02047
Slope: 0.84485

QC Information

QC Names	Units	True Values	QC Ranges
ICV	mg/L	2.5	2.24 - 2.76
ICB/CCB	mg/L	0	0 - 0.04
CCV2	mg/L	2.5	2.24 - 2.76
PB Waters	mg/L	0	0 - 0.04
LCS Waters	mg/L	21	18.8 - 23.2

Analyst: JEM8673 Date: 10/28/10

Verifier: [illegible] Date: 10/29/10

HSP10 0851

Report Version 1.0.7

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
SYNC	1			10/28/2010 6:44:47PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.77424		3.5422	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	2			10/28/2010 6:46:02PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00617		0.3483	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
SBLANK0	3			10/28/2010 6:47:17PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3330	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S1	4			10/28/2010 6:48:32PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.90193	3.902	3.6497	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S2	5			10/28/2010 6:49:47PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.12511	3.125	2.9931	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S3	6			10/28/2010 6:51:02PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
1.01827	1.018	1.2129	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S4	7			10/28/2010 6:52:16PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.51634	0.516	0.7885	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S5	8			10/28/2010 6:53:31PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.16668	0.167	0.4926	1.0000	1.0	1	☐

Comments:

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106
Page: 3

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S6	9			10/28/2010 6:54:46PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.07167	0.072	0.4121	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	10			10/28/2010 6:56:01PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02333		0.3315	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
W	11			10/28/2010 6:57:16PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3304	1.0000	1.0	1	☐

Comments: 2.04

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
REDNO2	12			10/28/2010 6:58:31PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.08063		2.1093	1.0000	1.0	1	☐

94% 2S

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	13			10/28/2010 6:59:46PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01592		0.3388	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
REDNO3	14			10/28/2010 7:01:01PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
1.96486		2.0130	1.0000	1.0	1	94	☐

2S

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	15			10/28/2010 7:02:16PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01538		0.3407	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
W	16			10/28/2010 7:03:31PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3339	1.0000	1.0	1	☐

Comments: 2.04

HSP18 0053

Report Version 1.0.7

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
ICV	17			10/28/2010 7:04:46PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.44366		2.4235	1.0000	1.0	1	98	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
ICB	18			10/28/2010 7:06:00PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3429	1.0000	1.0	1	☐

Comments: L. ok

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
LCS	19	Q	10301106101A	10/28/2010 7:07:15PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
2.22620	22.262	2.2447	1.0000	1.0	10	106	21	☑

Comments: ZS

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
LCSD	20	Y	10301106101A	10/28/2010 7:08:30PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.17184	21.718	2.1992	1.0000	1.0	10	108%	☑

Comments: ~~L. ok~~ BKMB73 ZS

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
PB	21	B	10301106101A	10/28/2010 7:09:45PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02387	-0.024	0.3445	1.0000	1.0	1	☑

Comments: L. ok

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112560	22	U	10301106101A	10/28/2010 7:11:00PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01394	-0.014	0.3533	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112561	23	R	10301106101A	10/28/2010 7:12:15PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.97402	0.974	1.1884	1.0000	1.0	1	97	1	☑

Comments: ZS

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112563	24	D	10301106101A	10/28/2010 7:13:30PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
-0.01195	-0.012	0.3559	1.0000	1.0	1	0	☑

Comments:

HSP18 8054

Report Version 1.0.7

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106
Page: 5

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112564	25		10301106101A	10/28/2010 7:14:45PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.06517	0.065	0.4215	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112565	26		10301106101A	10/28/2010 7:16:00PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.06896	0.069	0.4250	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6112566	27		10301106101A	10/28/2010 7:17:14PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.03814	-0.038	0.3350	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6113229	28		10301106101A	10/28/2010 7:18:29PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.03561	-0.036	0.3376	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	29			10/28/2010 7:19:44PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.40429		2.3993	1.0000	1.0	1	96	

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 1	30			10/28/2010 7:20:59PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3480	1.0000	1.0	1	

Comments: L.oc

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6114825	31		10301106101A	10/28/2010 7:22:14PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.93818	2.938	2.8509	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116132	32		10301106101A	10/28/2010 7:23:29PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	

Comments: Analyst Decision STC 8J

HSP18 8855

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106
Page: 6

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116209	33		10301106101A	10/28/2010 7:24:44PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.09985	0.100	0.4533	1.0000	1.0	1	☐

Comments: Analyst Decision SRC Q3

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116210	34		10301106101A	10/28/2010 7:25:59PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01376	-0.014	0.3574	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116211	35		10301106101A	10/28/2010 7:27:14PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02604	-0.026	0.3472	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116212	36	U	10301106101B	10/28/2010 7:28:28PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02947	-0.029	0.3445	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116212	37	D	10301106101B	10/28/2010 7:29:43PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
-0.03091	-0.031	0.3434	1.0000	1.0	1	0	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116212	38	R	10301106101B	10/28/2010 7:30:58PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.99515	0.995	1.2104	1.0000	1.0	1	100	1	✓

25

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116518	39		10301106101B	10/28/2010 7:32:13PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.91849	2.918	2.8355	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116519	40		10301106101B	10/28/2010 7:33:28PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.00947	2.009	2.0677	1.0000	1.0	1	✓

Comments:

HSP18 0056

Report Version 1.0.7

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	41			10/28/2010 7:34:43PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.63114		2.5930	1.0000	1.0	1	105	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 2	42			10/28/2010 7:35:58PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3498	1.0000	1.0	1	☐

Comments: 6.04

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116520	43		10301106101B	10/28/2010 7:37:13PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
1.04048	1.040	1.2501	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116521	44		10301106101B	10/28/2010 7:38:28PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.42686	2.427	2.4221	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116522	45		10301106101B	10/28/2010 7:39:43PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.02977	0.030	0.3979	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116523	46		10301106101B	10/28/2010 7:40:57PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	☐

Comments: Analyst Decision SCC 84

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116524	47		10301106101B	10/28/2010 7:42:12PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.95931	2.959	2.8744	1.0000	1.0	1	☐

Comments: Analyst Decision SCC 85

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117331	48		10301106101B	10/28/2010 7:43:27PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.53946	2.697	0.8309	1.0000	1.0	5	☑

Comments:

HSP10-8657

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106
Page: 8

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117395	49		10301106101B	10/28/2010 7:44:42PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
4.38796	21.940	4.0831	1.0000	1.0	5	☐

Comments: Analyst Decision See 88

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
LCS	50	Q	10301106102A	10/28/2010 7:45:57PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
2.17527	21.753	2.2145	1.0000	1.0	10	104 75	21	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
PB	51	B	10301106102A	10/28/2010 7:47:12PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02622	-0.026	0.3553	1.0000	1.0	1	☑

Comments: L-04

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	52	U	10301106102A	10/28/2010 7:48:27PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	☐

Comments: Analyst Decision See 87

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	53			10/28/2010 7:49:42PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.66112		2.6274	1.0000	1.0	1	106	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 3	54			10/28/2010 7:50:57PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3594	1.0000	1.0	1	☐

Comments: L-04

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	55	D	10301106102A	10/28/2010 7:52:11PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	0	☐

Comments: Analyst Decision See 88

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	56	R	10301106102A	10/28/2010 7:53:26PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	0	1	☐

Comments: Analyst Decision See 91, 105

HSP10 0058

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119191	73		10301106102B	10/28/2010 8:14:40PM	HSP12	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.90206	2.902	2.8296	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119193	74		10301106102B	10/28/2010 8:15:54PM	HSP12	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.89212	2.892	2.8212	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119194	75		10301106102B	10/28/2010 8:17:09PM	HSP12	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01231	-0.012	0.3674	1.0000	1.0	1	☐

Comments: Rpt, QC

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119195	76		10301106102B	10/28/2010 8:18:24PM	HSP12	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02712	-0.027	0.3548	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	77			10/28/2010 8:19:39PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.66636		2.6303	1.0000	1.0	1	107	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 5	78			10/28/2010 8:20:54PM		NT

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3571	1.0000	1.0	1	☐

Comments: Low

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119197	79		10301106102B	10/28/2010 8:22:09PM	HSP12	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.03489	-0.035	0.3483	1.0000	1.0	1	☐

Comments: Rpt, as Dup - QC

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119198	80		10301106102B	10/28/2010 8:23:24PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	☐

Comments: Analyst Decision or failed QC Review See 103

HSP18 0859

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6119199	81		10301106102B	10/28/2010 8:24:39PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00000	0.000	0.0000	1.0000	1.0	1	☐

Comments: Analyst Decision or failed QC Review see 104

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116132	82		10301106101A	10/28/2010 8:25:54PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.40597	34.060	3.2560	1.0000	1.0	10	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116209	83		10301106101A	10/28/2010 8:27:08PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01105	-0.011	0.3693	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116523	84		10301106101B	10/28/2010 8:28:23PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.25985	32.599	3.1331	1.0000	1.0	10	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116524	85		10301106101B	10/28/2010 8:29:38PM	HSP10	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.83090	2.831	2.7708	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117395	86		10301106101B	10/28/2010 8:30:53PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.31145	23.115	2.3321	1.0000	1.0	10	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	87	U	10301106102A	10/28/2010 8:32:08PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.07093	15.355	2.9741	1.0000	1.0	5	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	88	D	10301106102A	10/28/2010 8:33:23PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
2.95823	14.791	2.8790	1.0000	1.0	5	4	☑

Comments:

HSP18 0866

Run Name:
File Name: 10301NO3.C02
Analyst: 2373

Lancaster Laboratories
Instrument: 09106

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	89			10/28/2010 8:34:38PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
2.56594		2.5479	1.0000	1.0	1	103	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 6	90			10/28/2010 8:35:53PM		TNO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.02423	-0.024	0.3597	1.0000	1.0	1	☐

Comments: 2.04

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	91	R	10301106101A	10/28/2010 8:37:08PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
3.92559	3.926	3.6963	1.0000	1.0	1	393	1	☐

Comments: Analyst Decision Sce 105

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117397	92		10301106102A	10/28/2010 8:38:22PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.70826	13.541	2.6674	1.0000	1.0	5	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117398	93		10301106102A	10/28/2010 8:39:38PM		NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.98550	14.928	2.9013	1.0000	1.0	5	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117811	94		10301106102A	10/28/2010 8:40:52PM	HSP11	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01087	-0.011	0.3693	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117814	95		10301106102A	10/28/2010 8:42:07PM	HSP11	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
2.06383	4.128	2.1218	1.0000	1.0	2	☑

Comments:

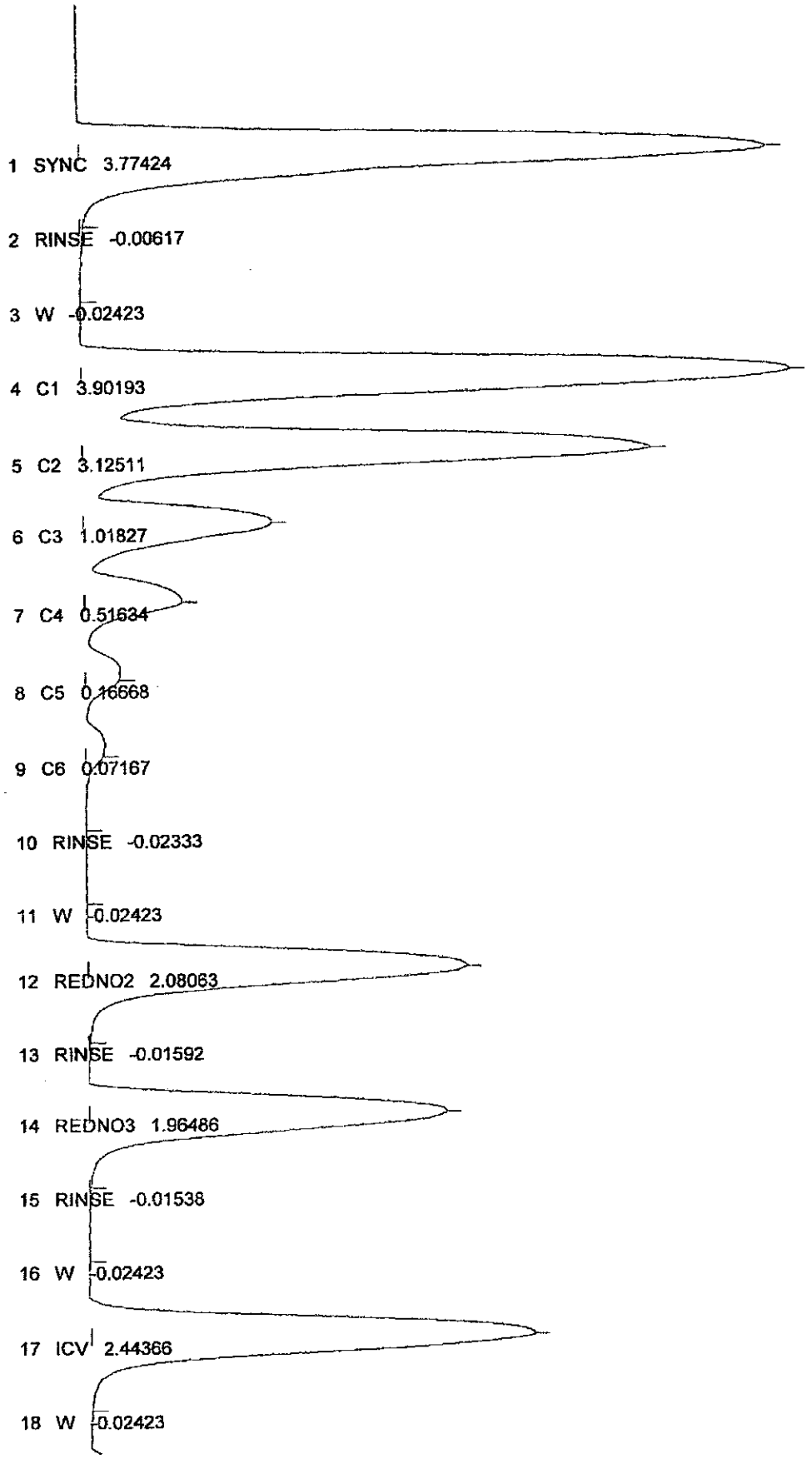
Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117816	96		10301106102A	10/28/2010 8:43:22PM	HSP11	NO3

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
3.25606	6.512	3.1286	1.0000	1.0	2	☑

Comments:

HSP10 8861

C:\FASPAC\10301NO3.ACF System 1 Channel 1 [NITRATE]



HSP18 0062

19 LCSW 22.26204

20 LCSDW 21.71839

21 PBW -0.02387

22 6112560-U -0.01394

23 6112561-R 0.97402

24 6112563-D -0.01195

25 6112564 0.06517

26 6112565 0.06896

27 6112566 -0.03814

28 6113229 -0.03561

29 CCV2 2.40429

30 W -0.02423

31 6114825 2.93818

32 6116132 ???

33 6116209 0.09985

34 6116210 -0.01376

35 6116211 -0.02604

36 6116212-U -0.02947

37 6116212-D -0.03091

38 6116212-R 0.99515

39 6116518 2.91849

40 6116519 2.00047

HSP18 0863

41 CCV2 2.63114

42 W -0.02423

43 6116520 1.04048

44 6116521 2.42686

45 6116522 0.02977

46 6116523 ???

47 6116524 2.95931

48 6117331 2.69730

49 6117395 21.93979

50 LCSW 21.75271

51 PBW -0.02622

52 6117396-U ???

53 CCV2 2.66112

54 W -0.02423

55 6117396-D ???

56 6117396-R ???

57 6117397 13.61716

58 6117398 ???

59 6117811 0.02941

60 6117812 1.40008

61 6117814 3.90807

HSP10 8864

62 6117815 2.13192

63 6117816 ???

64 6117817 ???

65 CCV2 2.51500

66 W -0.02423

67 6117821 4.56315

68 6119192-U 0.38540

69 6119192-D 0.39298

70 6119192-R 1.37245

71 6117824 ???

72 6117827 0.24073

73 6119191 2.90206

74 6119193 2.89212

75 6119194 -0.01231

76 6119195 -0.02712

77 CCV2 2.66636

78 W -0.02423

79 6119197 -0.03489

80 6119198 ???

81 6119199 ???

82 6116132 34.05967

83 6116209 -0.01105

HSP18: E865

84 6116523 32.59851

85 6116524 2.83090

86 6117395 23.11453

87 6117396-U 15.35465

88 6117396-D 14.79114

89 CCV2 2.56594

90 W -0.02423

91 6117396-R 19.62795

92 6117397 13.54130

93 6117398 14.92750

94 6117811 -0.01087

95 6117814 4.12767

96 6117816 6.51212

97 6117817 6.71621

98 6117821 4.64350

99 6117824 36.98560

100 6117827 0.14193

101 CCV2 2.59953

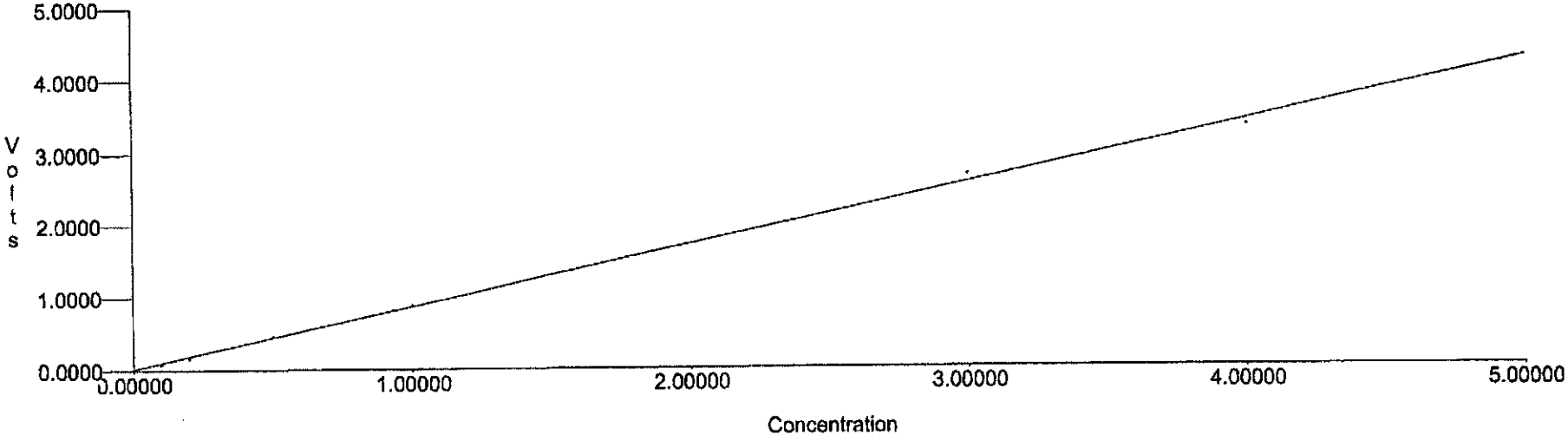
102 W -0.02423

103 6119198 9.84777

104 6119199 9.62019

HSP10: 0866

Calibration for NITRATE, file 10301NO3



1st Order Y=BX+A
B=0.84485A=0.02047
Correlation=0.998964

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037
Page: 1

Instrumental Water Quality Report

Analyte: Nitrite-N
Run Start Date/Time: 10/20/2010 7:47:39PM
Instrument Name: 09037

Calibration Information

Curve Information Location:
Book # 110847
Page # 66

Sample Names	Volts	Detected Result	True Result
S1	3.2400	0.98505	1
S2	2.7389	0.81377	0.8
S3	1.5620	0.41098	0.4
S4	0.9492	0.20144	0.2
S5	0.6414	0.09633	0.1
S6	0.4830	0.04244	0.05

Number of Calibrants: 6

Correlation Coefficient: 0.99961
Y-Intercept: 0.02367
Slope: 2.91934

QC Information

QC Names	Units	True Values	QC Ranges
ICV	mg/L	0.6	0.54 - 0.66
ICB/CCB	mg/L	0	0 - 0.02
CCV2	mg/L	0.6	0.54 - 0.66
PB Waters	mg/L	0	0 - 0.02
LCS Waters	mg/L	0.54	0.49 - 0.6

Analyst: LM 0658 Date: 10.20.10

Verifier: [illegible] Date: 10/22/10

HSP18 0068

Report Version 1.0.7

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
SYNC	1			10/20/2010 7:47:39PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.90325		3.0023	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	2			10/20/2010 7:48:53PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00220		0.3590	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
SBLANK0	3			10/20/2010 7:50:08PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00811	-0.008	0.3417	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S1	4			10/20/2010 7:51:23PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.98505	0.985	3.2400	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S2	5			10/20/2010 7:52:38PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.81377	0.814	2.7389	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S3	6			10/20/2010 7:53:53PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.41098	0.411	1.5620	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S4	7			10/20/2010 7:55:08PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.20144	0.201	0.9492	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S5	8			10/20/2010 7:56:23PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.09633	0.096	0.6414	1.0000	1.0	1	☐

Comments:

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
S6	9			10/20/2010 7:57:38PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.04244	0.042	0.4830	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
RINSE	10			10/20/2010 7:58:53PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00753		0.3361	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
W	11			10/20/2010 8:00:08PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00811	-0.008	0.3333	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
ICV	12			10/20/2010 8:01:22PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
0.59669		2.1035	1.0000	1.0	1	99	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
ICB	13			10/20/2010 8:02:37PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00811	-0.008	0.3425	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
LCS	14	Q	10293105101A	10/20/2010 8:03:52PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.53936	0.539	1.9412	1.0000	1.0	1	100	0.54	☑

Comments: TV = 0.542 MG/L Rec = 100% (B)

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
PB	15	B	10293105101A	10/20/2010 8:05:07PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00779	-0.008	0.3442	1.0000	1.0	1	☑

Comments: < .015 (B)

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116518	16		10293105101A	10/20/2010 8:06:22PM	HSP10-	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00941	-0.009	0.3399	1.0000	1.0	1	☑

Comments:

HSP10 8078

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037
Page: 4

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116519	17		10293105101A	10/20/2010 8:07:37PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00994	-0.010	0.3388	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116520	18		10293105101A	10/20/2010 8:08:52PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00387	-0.004	0.3568	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116521	19		10293105101A	10/20/2010 8:10:06PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.01107	0.011	0.4009	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116522	20		10293105101A	10/20/2010 8:11:22PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01020	-0.010	0.3393	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116523	21		10293105101A	10/20/2010 8:12:36PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01098	-0.011	0.3373	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116524	22	U	10293105101A	10/20/2010 8:13:51PM	HSP10	NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01056	-0.011	0.3390	1.0000	1.0	1	✓

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116524	23	D	10293105101A	10/20/2010 8:15:06PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
-0.01083	-0.011	0.3387	1.0000	1.0	1	0	✓

Comments: R=0 Program Deleted

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	24			10/20/2010 8:16:21PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
0.58781		2.0866	1.0000	1.0	1	98	☐

Comments: 98% (B)

HSP10 0071

Report Version 1.0.7

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037
Page: 5

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 1	25			10/20/2010 8:17:36PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00811	-0.008	0.3474	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6116524	26	R	10293105101A	10/20/2010 8:18:51PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.23029	0.230	1.0433	1.0000	1.0	1	115	0.2	☑

Comments: +0.2mg/L Rec= 115 Y-B

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117395	27		10293105101A	10/20/2010 8:20:06PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
0.00057	0.006	0.3729	1.0000	1.0	10	☑

Comments: ⑦ 10.20.10 ~~Analyst Decision or failed QC Review~~ CH#2494

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117396	28		10293105101A	10/20/2010 8:21:21PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00069	-0.001	0.3692	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117397	29		10293105101A	10/20/2010 8:22:36PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00476	-0.005	0.3573	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117331	30	U	10293105101B	10/20/2010 8:23:50PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00936	-0.009	0.3439	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117331	31	D	10293105101B	10/20/2010 8:25:05PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	RPD	Verified
-0.01009	-0.010	0.3419	1.0000	1.0	1	0	☐

Comments: R=0 Program Deleted

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117331	32	R	10293105101B	10/20/2010 8:26:20PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	SPK	Verified
0.19637	0.196	0.9446	1.0000	1.0	1	98	0.2	☑

Comments: +0.2mg/L Rec= 98 Y-B

HSP18 8872

Run Name:
File Name: 10293NI.C01
Analyst: 0658

Lancaster Laboratories
Instrument: 09037
Page: 6

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
6117398	33		10293105101B	10/20/2010 8:27:35PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00434	-0.004	0.3587	1.0000	1.0	1	☑

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCV2	34			10/20/2010 8:28:50PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	%Rec	Verified
0.60213		2.1293	1.0000	1.0	1	100	☐

Comments: 100% (K)

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
CCB 2	35			10/20/2010 8:30:05PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.00811	-0.008	0.3478	1.0000	1.0	1	☐

Comments:

Sample	Cup	QC?	Batch Number	Analysis Date/Time	SDG	Analyte
PAUSE	36			10/20/2010 8:31:20PM		NO2

Raw Result	Calc Result	Volts	Init Vol	Fin Vol	DF	Verified
-0.01072		0.3402	1.0000	1.0	1	☐

Comments:

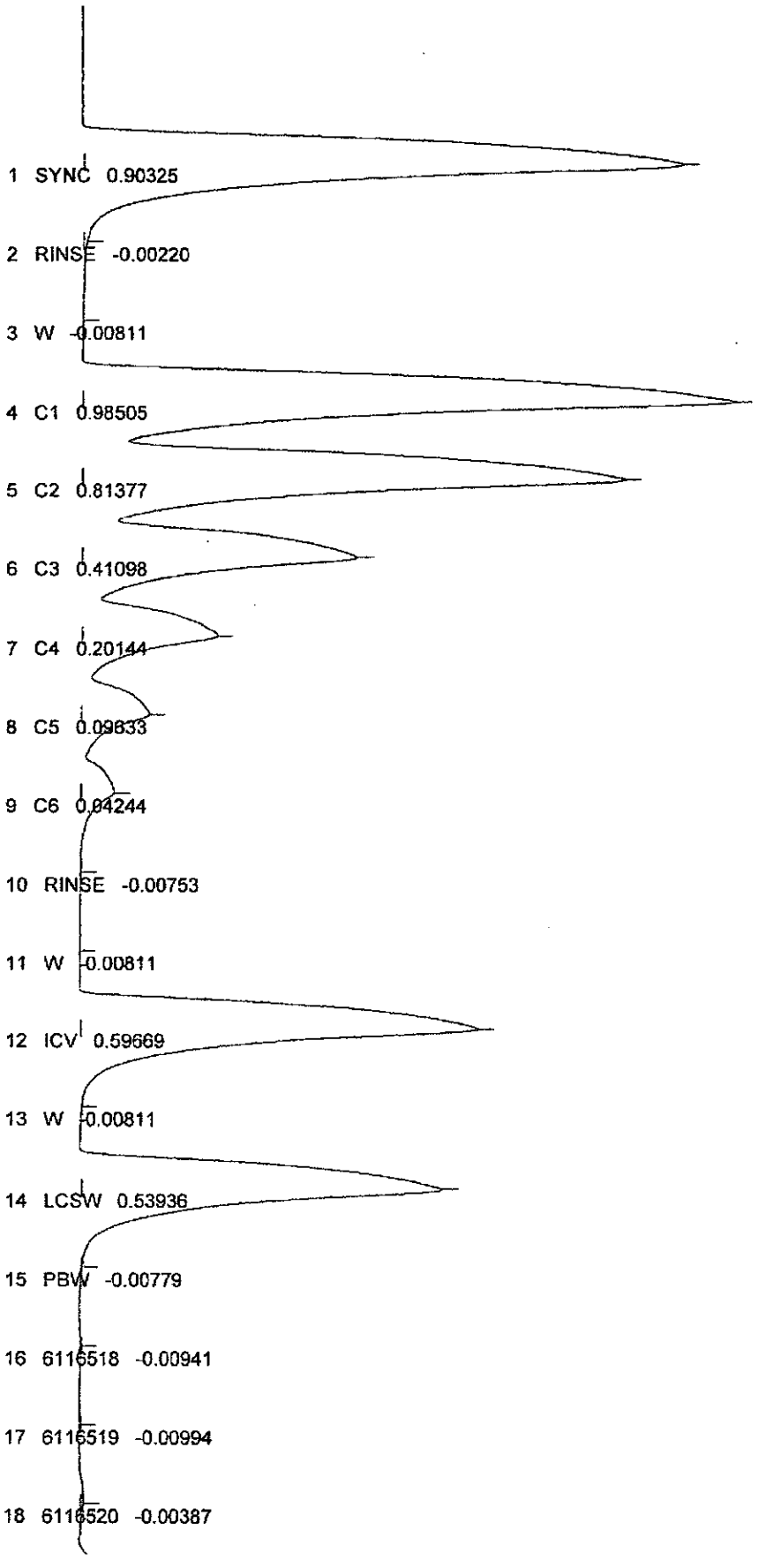
Analyst: [illegible] Date: 10.20.10

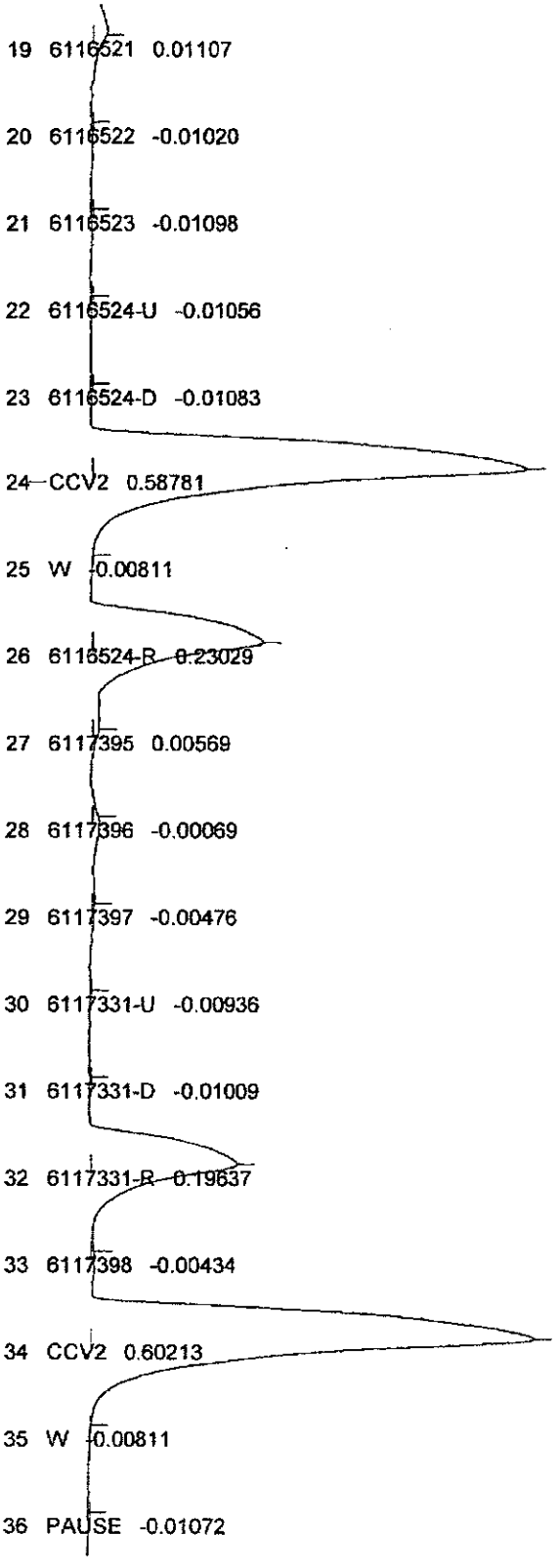
Verifier: [illegible] Date: 10/22/10

HSP18 0073

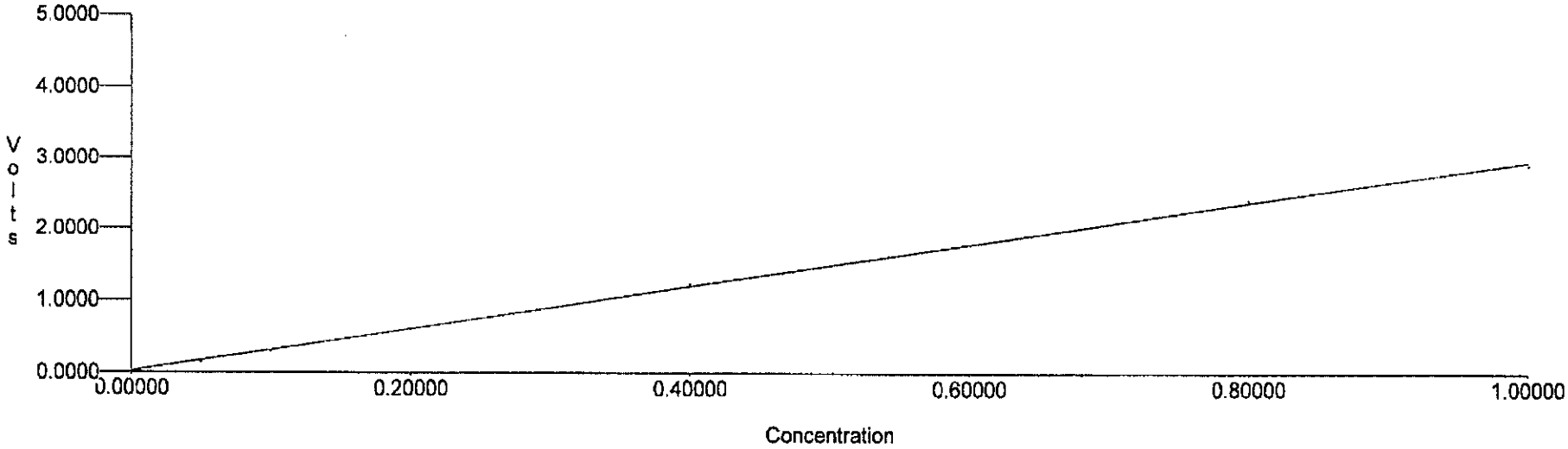
Report Version 1.0.7

C:\FASPAC\10293N.ACF System 1 Channel 1 [NITRITE]




19 6116521 0.01107
20 6116522 -0.01020
21 6116523 -0.01098
22 6116524-U -0.01056
23 6116524-D -0.01083
24 CCV2 0.58781
25 W -0.00811
26 6116524-R 0.23029
27 6117395 0.00569
28 6117396 -0.00069
29 6117397 -0.00476
30 6117331-U -0.00936
31 6117331-D -0.01009
32 6117331-R 0.19637
33 6117398 -0.00434
34 CCV2 0.60213
35 W -0.00811
36 PAUSE -0.01072

Calibration for NITRITE, file 10293NI



1st Order Y=BX+A
B=2.91934 A=0.02367
Correlation=0.999606

Miscellaneous Analysis Data

HSP18 0077

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP10

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
6116518	X		
6116519	X		
6116520	X		
6116521	X		
6116522	X		
6116523	X		
6116524	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

Narrative Reviewed and Approved by:

Catherine Cammarata for Date 11/3/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

HSP10 0000

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP10

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10305022101A	6116518
		6116519
		6116520
		6116521
		6116522
		6116523
		6116524
		P117395 U,D
		Blank
		LCS/LCSD

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP10
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	11/01/10	TI	10305022101	N.D.	mg/l	0.20	0.60

HSP10 0002

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: HSP10
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P117395	Ammonia Nitrogen	11/01/10	TI	10305022101A	N.D.	0.40 J	mg/l	200(1)*	2

HSP10 0003

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: HSP10
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10305022101	Ammonia Nitrogen	11/01/10	TI	10	9.7	9.5	mg/l	8.5 - 10.5	3	5

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

HSP1B 8665

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 10/20/10

SDG# HSP11

GROUP	SAMPLE NUMBERS
1217355	6117811-6117817

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: Luz C Torres

Luz C Torres
Group Leader

Date 11/08/10

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

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

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Sample Reference List for SDG Number HSP11 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6117811	34S--	SPOB-34-S-101020 Grab Water Sample
6117812	12R2-	SPOB-12R2-S-101020 Grab Water Sample
6117813	11R--	SPMW-11R-S-101020 Grab Water Sample
6117814	-12S-	SPMW-12-S-101020 Grab Water Sample
6117815	-03S-	SPMW-03-S-101020 Grab Water Sample
6117816	07S--	SPMW-07-S-101020 Grab Water Sample
6117817	07DP-	SPMW-07DP-S-101020 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 OF 1
Group# 1217355
10651
Sample #s 6117811-17

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

Client: Honeywell / OmI
Acct: 10651
Project Name: South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Ron Cade / Charles D Miller
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-101020	10/20/2010	10:15	X			X		4	X	X	X		
SPOB12R2-S-101020	10/20/2010	11:05	X			X		4	X	X	X		
SPMW11R-S-101020	10/20/2010	12:30	X			X		4	X	X	X		← rec'd nitrite vial broken
SPMW12-S-101020	10/20/2010	13:05	X			X		4	X	X	X		
SPMW03-S-101020	10/20/2010	8:45	X			X		4	X	X	X		
SPMW07-S-101020	10/20/2010	9:30	X			X		4	X	X	X		rec'd last per P. Holmes WAL 10/22/10
SPMW07DP-S-101020	10/20/2010	9:30	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
Charles D Miller	10-20-10	14:00			

Relinquished by:	Date	Time	Received by:	Date	Time
			Gary Mark	10/21/10	850

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 10/21/10

Time of Receipt: 850

Source Code: 50-1

Unpacker Emp. No.: 2316

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	9473	4.3°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody 0

Paperwork Discrepancy/Unpacking Problems:

SPMW-11R (#80 vial) received broken

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[illegible]	10/21/10	1005	Unpacking to Storage
[illegible]	10/21/10	1022	Place in Storage or Entry
			Entry
			Entry

HSP11 6083

Issued by Dept. 6042 Management
2174.05

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 cadium 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

November 02, 2010

Project: Southpoint

Submittal Date: 10/21/2010
Group Number: 1217355
SDG: HSP11
PO Number: 5191991
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPOB-34-S-101020 Grab Water Sample	6117811
SPOB-12R2-S-101020 Grab Water Sample	6117812
SPMW-11R-S-101020 Grab Water Sample	6117813
SPMW-12-S-101020 Grab Water Sample	6117814
SPMW-03-S-101020 Grab Water Sample	6117815
SPMW-07-S-101020 Grab Water Sample	6117816
SPMW-07DP-S-101020 Grab Water Sample	6117817

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	

HSP11 0005

Lancaster Laboratories, Inc.
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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

HSP11 0006

Lancaster Laboratories, Inc.
2425 New Holland Pike
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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: SPOB-34-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117811
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 10:15 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

34S-- SDG#: HSP11-01

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	**0.0133 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	**0.422**	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	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	102951848003	11/01/2010 08:37	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 08:37	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 08:37	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 08:37	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 08:37	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 08:37	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010 20:40	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010 15:58	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP11 0888

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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPOB-12R2-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117812
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 11:05 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

12R2- SDG#: HSP11-02

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	**0.0156**	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	**1.4**	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	**4.2**	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	102951848003	11/01/2010 08:41	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 08:41	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 08:41	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 08:41	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 08:41	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 08:41	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010 19:58	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010 16:00	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022101A	11/01/2010 07:45	Michele L Graham	1

HSP11 8889

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PO Box 12425
Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

Sample Description: SPMW-11R-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117813
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 12:30 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

11R-- SDG#: HSP11-03

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	**0.0465**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0091 J**	0.0100	1
Wet Chemistry		**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	102951848003	11/01/2010 08:44	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 08:44	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 08:44	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 08:44	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 08:44	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 08:44	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP11 0818

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: SPMW-12-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117814
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 13:05 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

-12S- SDG#: HSP11-04

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	**0.0185**	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	**4.1**	0.20	2
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	102951848003	11/01/2010 08:47	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 08:47	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 08:47	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 08:47	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 08:47	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 08:47	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010 20:42	Joseph E McKenzie	2
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010 16:01	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP11 0011

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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: SPMW-03-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117815
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 08:45 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

-03S- SDG#: HSP11-05

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	**0.163**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0147**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.1**	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	102951848003	11/01/2010	08:50	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010	08:50	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010	08:50	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010	08:50	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010	08:50	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010	08:50	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010	09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010	20:00	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010	16:02	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010	18:00	Luz M Groff	1

HSP11 0012

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: SPMW-07-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117816
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 09:30 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

07S-- SDG#: HSP11-06

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	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.374**	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	**6.5**	0.20	2
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	**31.8**	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	102951848003	11/01/2010 08:54	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 08:54	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 08:54	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 08:54	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 08:54	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 08:54	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010 20:43	Joseph E McKenzie	2
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010 16:03	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP11 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: SPMW-07DP-S-101020 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6117817
LLI Group # 1217355
Account # 10651

Project Name: Southpoint

Collected: 10/20/2010 09:30 by RC

Submitted: 10/21/2010 08:50
Reported: 11/02/2010 13:29

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

07DP- SDG#: HSP11-07FD*

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	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.400**	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	**6.7**	0.20	2
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	**32.3**	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	102951848003	11/01/2010 09:05	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	102951848003	11/01/2010 09:05	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	102951848003	11/01/2010 09:05	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	102951848003	11/01/2010 09:05	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	102951848003	11/01/2010 09:05	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	102951848003	11/01/2010 09:05	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102951848003	10/25/2010 09:50	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102A	10/28/2010 20:44	Joseph E McKenzie	2
00219	Nitrite Nitrogen	EPA 353.2	1	10294105101A	10/21/2010 16:05	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP11 0014

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

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP11

Date Received: 10/21/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

Refer to the Metals Analysis Conformance/Non-Conformance Summary Format for additional information.

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:

for Date 11-04-10

Dana M. Kauffman, Manager
Data Deliverables

HSP11 0017

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: HSP11

Lab Sample ID
6117811
6117812
6117813
6117814
6117815
6117816
6117817

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Lancaster Laboratories

METAL ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

SDG No.: HSP11W

		Indicate Yes, No, N/A
1.	Method Detection Limits provided	Yes
2.	Initial / Continuing Calibration Summary Meet Criteria	Yes
3.	ICP Interference Check Sample Results Summary Meet Criteria	Yes
4.	Serial Dilution Summary Meet Criteria	Yes
5.	Laboratory Control Summary Submitted / Meet Criteria	Yes
6.	Preparation, Method, and Calibration Blank Contamination - (>LOQ) If Yes, list Compounds as concentrations in each blank:	No
7.	Spike Sample Recovery Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	Yes
8.	Duplicate Summary Submitted / Meet Criteria	Yes
9.	Analysis Holding Time Met If not met, list number of days exceeded for each sample:	Yes

Additional Comments:

Laboratory Manager: Jeff M For
Dana M. Kauffman
Manager, Data Deliverables

Date: 11-04-10

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117811
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	13.3	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	422			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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117812
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	15.6			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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117813
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	46.5			P
7440-02-0	Nickel	9.1	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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117814
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	18.5			P
7440-02-0	Nickel	3.0	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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117815
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	163			P
7440-02-0	Nickel	14.7			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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117816
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	374			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.: HSP11
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6117817
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/21/2010

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	400			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

Quality Control Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP11

Method: P
Run Name: 1030503T72
Calibration Date(s): 11/01/2010
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		3.0	B	3.5	B	2.6	U	3.5	B		9.800	U	P29548CB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P29548CB
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		2.000	U	P29548CB
Copper		2.0	U	-2.0	B	2.0	U	2.0	U		2.700	U	P29548CB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P29548CB
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		3.000	U	P29548CB

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

HSP11 8829

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP11

Method: P
Run Name: 1030503T72
Calibration Date(s): 11/01/2010

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	B	2.6	U	3.5	B				
Beryllium				0.67	U	0.67	U	0.67	U				
Cadmium				0.33	U	0.33	U	0.33	U				
Copper				2.0	U	2.0	U	-2.0	B				
Manganese				1.0	U	1.0	U	1.0	U				
Nickel				1.0	U	1.0	U	1.0	U				

HSP11 8830

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP11
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *18504BKG Matrix Spike Lab Sample ID: *18504MS Matrix Spike Duplicate Lab Sample ID: *18504MSD
% Solids for Sample: 0.0
Batch Id(s): P29548C

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	161.8400		153.6200		150.0000	150.0000	UG/L	108		102		5		75 - 125	20	P
Beryllium		1.4000	U	50.7200		50.4700		50.0000	50.0000	UG/L	101		101		0		87 - 114	20	P
Cadmium		2.0000	U	51.3300		49.3200		50.0000	50.0000	UG/L	103		99		4		83 - 116	20	P
Copper		2.7000	U	253.6300		252.1100		250.0000	250.0000	UG/L	101		101		1		86 - 122	20	P
Manganese		2.7200	B	514.7600		513.9900		500.0000	500.0000	UG/L	102		102		0		75 - 125	20	P
Nickel		3.0000	U	514.8000		495.0900		500.0000	500.0000	UG/L	103		99		4		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.: HSP11
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *18504BKG
% Solids for Duplicate: 0.0
Batch ID(s): P29548C
Concentration Units: UG/L

Duplicate Lab Sample ID: *18504DUP
% 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			2.7200	B	2.6800	B	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.

HSP11 0032

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.: HSP11
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P29548CQ	UG/L	150.0	152.68		133.5	173.0	102	P	Yes
Beryllium		P29548CQ	UG/L	50.0	48.73		45.0	56.0	97	P	Yes
Cadmium		P29548CQ	UG/L	50.0	49.86		45.0	56.0	100	P	Yes
Copper		P29548CQ	UG/L	250.0	253.53		225.0	280.0	101	P	Yes
Manganese		P29548CQ	UG/L	500.0	512.81		450.0	550.0	103	P	Yes
Nickel		P29548CQ	UG/L	500.0	506.22		450.0	555.0	101	P	Yes

HSP11 0833

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 Logs

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP11

Method: P
Batch ID: P29548C

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6117811	10/25/2010	50.00	50
6117812	10/25/2010	50.00	50
6117813	10/25/2010	50.00	50
6117814	10/25/2010	50.00	50
6117815	10/25/2010	50.00	50
6117816	10/25/2010	50.00	50
6117817	10/25/2010	50.00	50
*18504BKG	10/25/2010	50.00	50
*18504DUP	10/25/2010	50.00	50
*18504MSD	10/25/2010	50.00	50
*18504MS	10/25/2010	50.00	50
P29548CB	10/25/2010	50.00	50
P29548CQ	10/25/2010	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

Instrumental Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP11

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
6117811	X		
6117812	X		
6117814	X		
6117815	X		
6117816	X		
6117817	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
6117814	DF2
6117816	DF2
6117817	DF2
LCS	DF10
P117396	BKG,D/ DF5,R/ DF10

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#: 10301106102A (Sample number(s): 6117811-6117812, 6117814-6117817, UNSPK: P117396, BKG: P117396)
The duplicate RPD 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

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP11

* = 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:

Catherine Cammarata for Date 11/7/10
Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP11

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10301106102A	6117811
		6117812
		6117814
		6117815
		6117816
		6117817
		P117396 U/BKG,R,D
		Blank
		LCS
Nitrite Nitrogen	10294105101A	6117811
		6117812
		6117814
		6117815
		6117816
		6117817
		P117827 U/BKG,R,D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP11
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	10/28/10	AK	10301106102	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	10/21/10	AK	10294105101	N.D.	mg/l	0.015	0.050

HSP11 0842

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: HSP11
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 </=
P117396 R	Nitrate Nitrogen	10/28/10	AK	10301106102A	15.4	5	NA	20.4	NA	mg/l	101	NA	90 - 110	NA	NA
P117827 R	Nitrite Nitrogen	10/21/10	AK	10294105101A	N.D.	0.2	NA	0.19	NA	mg/l	94	NA	90 - 110	NA	NA

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

HSP11 [illegible]

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: HSP11
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P117396	Nitrate Nitrogen	10/28/10	AK	10301106102A	15.4	14.8	mg/l	4*	2
P117827	Nitrite Nitrogen	10/21/10	AK	10294105101A	N.D.	N.D.	mg/l	0(1)	20

HSP11 8044

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: HSP11
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10301106102	Nitrate Nitrogen	10/28/10	AK	21	21.8	NA	mg/l	18.8 - 23.2	NA	NA
10294105101	Nitrite Nitrogen	10/21/10	AK	0.542	0.53	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP11

Instrument ID: 09106
Calibration Date: 10/28/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.6497	2.9931	1.2129	0.7885	0.4926	0.4121	0.9990

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10301106102A
Run Start Dates: 10/28/2010

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.44366	98
ICB	0	ND	NA
CCV2	2.5	2.63114	105
CCB 2	0	ND	NA
CCV2	2.5	2.66112	106
CCB 3	0	ND	NA
CCV2	2.5	2.51500	101
CCB 4	0	ND	NA
CCV2	2.5	2.66636	107
CCB 5	0	ND	NA
CCV2	2.5	2.56594	103
CCB 6	0	ND	NA
CCV2	2.5	2.59953	104
CCB 7	0	ND	NA
CCV2	2.5	2.62211	105
CCB 8	0	ND	NA

HSP11 0249

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: HSP11

Instrument ID: 09037
Calibration Date: 10/21/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.2550	2.7716	1.6329	0.9849	0.6681	0.5045	0.9991

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10294105101A
Run Start Dates: 10/21/2010

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.59834	100
ICB	0	ND	NA
CCV2	0.6	0.57591	96
CCB 1	0	ND	NA
CCV2	0.6	0.57351	96
CCB 2	0	ND	NA

HSP11 0044

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

HSP11 8848

Miscellaneous Analysis Data

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP11

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
6117811	X		
6117812	X		
6117813	X		
6117814	X		
6117815	X		
6117816	X		
6117817	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:

Catherine Cammarata for Date 11/4/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP11

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10305022101A	6117811
		6117812
		P117395 U,D
		Blank
		LCS/LCSD
Ammonia Nitrogen	10305022102A	6117813
		6117814
		6117815
		6117816
		6117817
		P119194 U/BKG
		P119195 R
		P119196 M
		P119197 D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP11
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	11/01/10	TI	10305022101	N.D.	mg/l	0.20	0.60
	11/01/10	TI	10305022102	N.D.	mg/l	0.20	0.60

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: HSP11
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 </=
P119195 R P119196 M	Ammonia Nitrogen	11/01/10	TI	10305022102A	0.95	10	10	10.2	10.1	mg/l	93	92	80 - 112	1	8

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

HSP11 #655

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: HSP11
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P117395	Ammonia Nitrogen	11/01/10	TI	10305022101A	N.D.	0.40 J	mg/l	200(1)*	2
P119197	Ammonia Nitrogen	11/01/10	TI	10305022102A	0.95	1.0	mg/l	6(1)*	2

HSP11 8856

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: HSP11
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10305022101	Ammonia Nitrogen	11/01/10	TI	10	9.7	9.5	mg/l	8.5 - 10.5	3	5
10305022102	Ammonia Nitrogen	11/01/10	TI	10	9.7	NA	mg/l	8.5 - 10.5	NA	NA

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

HSP11 8858

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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 10/21/10

SDG# HSP12

GROUP	SAMPLE NUMBERS
1217523	6119191-6119199

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: Luz C Torres

Luz C Torres
Group Leader

Date 11/10/10

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 103

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Sample Reference List for SDG Number HSP12 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
6119191	MW11R	SPMW11R-S-101021 Grab Water Sample
6119192	SMW13	SPMW13-S-101021 Grab Water Sample
6119193	SMW04	SPMW04-S-101021 Grab Water Sample
6119194	SMW23	SPIS23-S-101021 Unspiked Grab Water Sample
6119195	SMW23	SPIS23-MS-S-101021 Matrix Spike Grab Water
6119196	SMW23	SPIS23-MSD-S-101021 Matrix Spike Dup Grab Water
6119197	SMW23	SPIS23DP-S-101021 Duplicate Grab Water Sample
6119198	SMW24	SPIS24-S-101021 Grab Water Sample
6119199	S24DP	SPIS24DP-S-101021 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1

A10651 Group# 1217523

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

Sample #s 6119191-99

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Charles D Miller
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)
SPMW11R-S-101021	10/21/2010	13:00	X			X		1			X	
SPMW13-S-101021	10/21/2010	10:00	X			X		4	X	X	X	
SPMW04-S-101021	10/21/2010	10:40	X			X		4	X	X	X	
SPIS23-S-101021	10/21/2010	12:10	X			X		4	X	X	X	
SPIS23DP-S-101021	10/21/2010	12:10	X			X		4	X	X	X	
SPIS23-MS-S-101021 (Matrix Spike)	10/21/2010	12:10	X			X		4	X	X	X	
SPIS23-MSD-S-101021 (Matrix Spike Duplicate)	10/21/2010	12:10	X			X		2	X	X	X	
SPIS24-S-101021	10/21/2010	11:20	X			X		4	X	X	X	
SPIS24DP-S-101021	10/21/2010	11:20	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
Charles D Miller	10-21-10	14:30			
			Gary [illegible]	10/22/10	830

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 10/22/10

Time of Receipt: 850

Source Code: 50-1

Unpacker Emp. No.: 2316

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	94FB	4.6°C	TB	WI	Y	B	
2	↓	1.4°C	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
MJM	10/22/10	1040	Unpacking
DA Neslund	10/22/10	1045	Place in Storage or (Entry)
			Entry
			Entry

Issued by Dept. 6042 Management
2174.05

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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 cadium 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

November 04, 2010

Project: Southpoint

Submittal Date: 10/22/2010
Group Number: 1217523
SDG: HSP12
PO Number: 5191991
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPMW11R-S-101021 Grab Water Sample	6119191
SPMW13-S-101021 Grab Water Sample	6119192
SPMW04-S-101021 Grab Water Sample	6119193
SPIS23-S-101021 Unspiked Grab Water Sample	6119194
SPIS23-MS-S-101021 Matrix Spike Grab Water	6119195
SPIS23-MSD-S-101021 Matrix Spike Dup Grab Water	6119196
SPIS23DP-S-101021 Duplicate Grab Water Sample	6119197
SPIS24-S-101021 Grab Water Sample	6119198
SPIS24DP-S-101021 Grab Water Sample	6119199

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	

HSP12 F085

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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

HSP12 0886

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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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Analysis Report

Lancaster Laboratories

Sample Description: SPMW11R-S-101021 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119191
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 13:00 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

MW11R SDG#: HSP12-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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

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
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102B	10/28/2010 20:14	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:30	Venia B McFadden	1

HSP12 8888

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Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

Sample Description: SPMW13-S-101021 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119192
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 10:00 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW13 SDG#: HSP12-02

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	**0.0032 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.259**	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	**0.39**	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	102981848007	11/01/2010 21:03	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 21:03	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 21:03	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 21:03	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 21:03	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 21:03	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102B	10/28/2010 20:08	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:31	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 0089

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: SPMW04-S-101021 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119193
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 10:40 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW04 SDG#: HSP12-03

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	**0.0029 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.0389**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0042 J**	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
	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	102981848007	11/01/2010 21:06	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 21:06	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 21:06	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 21:06	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 21:06	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 21:06	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102B	10/28/2010 20:15	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:32	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 8818

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-101021 Unspiked Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119194
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 12:10 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW23 SDG#: HSP12-04BKG

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	**4.05**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0036 J**	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	**0.018 J**	0.050	1
	SM20 4500NH3 B/C modified		**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**0.95**	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	102981848007	11/01/2010 20:19	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 20:19	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 20:19	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 20:19	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 20:19	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 20:19	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	2	10304106103A	10/31/2010 11:23	Susan A Engle	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:33	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 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-MS-S-101021 Matrix Spike Grab Water
Ironton Southpoint

LLI Sample # WW 6119195
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 12:10 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW23 SDG#: HSP12-04MS

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	**0.162**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0502**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0515**	0.0050	1
07053	**Copper**	7440-50-8	**0.260**	0.0100	1
07058	**Manganese**	7439-96-5	**4.43**	0.0050	1
07061	**Nickel**	7440-02-0	**0.512**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**0.79**	0.10	1
00219	**Nitrite Nitrogen**	14797-65-0	**0.22**	0.050	1
		SM20 4500NH3 B/C modified	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**10.2**	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	102981848007	11/01/2010 20:30	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 20:30	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 20:30	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 20:30	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 20:30	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 20:30	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	2	10304106103A	10/31/2010 11:25	Susan A Engle	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:36	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 8812

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-MSD-S-101021 Matrix Spike Dup Grab Water
Ironton Southpoint

LLI Sample # WW 6119196
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 12:10 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW23 SDG#: HSP12-04MSD

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	**0.168**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0496**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0516**	0.0050	1
07053	**Copper**	7440-50-8	**0.258**	0.0100	1
07058	**Manganese**	7439-96-5	**4.37**	0.0050	1
07061	**Nickel**	7440-02-0	**0.511**	0.0100	1
Wet Chemistry		**SM20 4500NH3 B/C modified**	**mg/l**	**mg/l**	
00221	**Ammonia Nitrogen**	7664-41-7	**10.1**	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	102981848007	11/01/2010	20:33	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010	20:33	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010	20:33	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010	20:33	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010	20:33	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010	20:33	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010	10:30	Denise K Conners	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010	18:00	Luz M Groff	1

HSP12 5813

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: SPIS23DP-S-101021 Duplicate Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119197
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 12:10 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW23 SDG#: HSP12-04DUP

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	**3.88**	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	**1.0**	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	102981848007	11/01/2010 20:26	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 20:26	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 20:26	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 20:26	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 20:26	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 20:26	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	2	10304106103A	10/31/2010 11:26	Susan A Engle	1
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:35	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 0814

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-101021 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119198
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 11:20 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

SMW24 SDG#: HSP12-05

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	**1.54**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0149**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**9.8**	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	**26.4**	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	102981848007	11/01/2010 21:10	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 21:10	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 21:10	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 21:10	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 21:10	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 21:10	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102B	10/28/2010 20:52	Joseph E McKenzie	5
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:37	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 0815

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-101021 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 6119199
LLI Group # 1217523
Account # 10651

Project Name: Southpoint

Collected: 10/21/2010 11:20 by CDM

Submitted: 10/22/2010 08:50
Reported: 11/04/2010 13:12

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

S24DP SDG#: HSP12-06FD*

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	**1.56**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0155**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**9.6**	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	**27.3**	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	102981848007	11/01/2010 21:14	John W Yanzuk II	1
07047	Beryllium	SW-846 6010B	1	102981848007	11/01/2010 21:14	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	102981848007	11/01/2010 21:14	John W Yanzuk II	1
07053	Copper	SW-846 6010B	1	102981848007	11/01/2010 21:14	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	102981848007	11/01/2010 21:14	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	102981848007	11/01/2010 21:14	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102981848007	10/26/2010 10:30	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10301106102B	10/28/2010 20:53	Joseph E McKenzie	5
00219	Nitrite Nitrogen	EPA 353.2	1	10295105101A	10/22/2010 20:38	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10305022102A	11/01/2010 18:00	Luz M Groff	1

HSP12 0016

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

Metals Data

HSB12 8017

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: HSP12

Date Received: 10/22/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

The recovery percentages of the matrix spike and matrix spike duplicate for manganese are not used to validate the data because the sample result is greater than four times the amounts of spike added.

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 11/05/10

Dana M. Kauffman, Manager
Data Deliverables

HSP12 0019

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: HSP12

Lab Sample ID
6119192
6119193
6119194BKG
6119195MS
6119196MSD
6119197DUP
6119198
6119199FD

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

HSP12 0828

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119192
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	3.2	B		P
7439-96-5	Manganese	259			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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119193
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	2.9	B		P
7439-96-5	Manganese	38.9			P
7440-02-0	Nickel	4.2	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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119194BKG
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	4050			P
7440-02-0	Nickel	3.6	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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119195MS
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	162			P
7440-41-7	Beryllium	50.2			P
7440-43-9	Cadmium	51.5			P
7440-50-8	Copper	260			P
7439-96-5	Manganese	4430			P
7440-02-0	Nickel	512			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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119196MSD
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	168			P
7440-41-7	Beryllium	49.6			P
7440-43-9	Cadmium	51.6			P
7440-50-8	Copper	258			P
7439-96-5	Manganese	4370			P
7440-02-0	Nickel	511			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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119197DUP
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	3880			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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119198
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	1540			P
7440-02-0	Nickel	14.9			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.: HSP12
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 6119199
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/22/2010

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	1560			P
7440-02-0	Nickel	15.5			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

Quality Control Data

HSP12 6838

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP12

Method: P
Run Name: 1030507T70
Calibration Date(s): 11/01/2010
Preparation Blank Matrix: WATER

		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		5.3	U	5.3	U	5.3	U	5.3	U		9.800	U	P29848GB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P29848GB
Cadmium		0.90	B	0.99	B	0.69	B	0.71	B		2.000	U	P29848GB
Copper		2.0	U	2.0	U	2.0	U	2.0	U		2.700	U	P29848GB
Manganese		1.0	U	1.0	U	1.1	B	1.0	U		0.840	U	P29848GB
Nickel		1.4	U	1.4	U	1.4	U	1.4	U		3.000	U	P29848GB

HSP12 0031

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: HSP12

Method: P
Run Name: 1030507T70
Calibration Date(s): 11/01/2010

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				5.3	U								
Beryllium				0.67	U								
Cadmium				0.90	B								
Copper				2.0	U								
Manganese				1.0	U								
Nickel				1.4	U								

HSP12 0032

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: HSP12
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6119194BKG Matrix Spike Lab Sample ID: 6119195MS Matrix Spike Duplicate Lab Sample ID: 6119196MSD
% Solids for Sample: 0.0
Batch Id(s): P29848G

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	162.0200		167.8500		150.0000	150.0000	UG/L	108		112		4		75 - 125	20	P
Beryllium		1.4000	U	50.1500		49.5800		50.0000	50.0000	UG/L	100		99		1		87 - 114	20	P
Cadmium		2.0000	U	51.5400		51.5700		50.0000	50.0000	UG/L	103		103		0		83 - 116	20	P
Copper		2.7000	U	259.8300		258.1700		250.0000	250.0000	UG/L	104		103		1		86 - 122	20	P
Manganese		4053.0700		4425.3100		4369.2000		500.0000	500.0000	UG/L	74		63		1			20	P
Nickel		3.5900	B	511.8100		511.4300		500.0000	500.0000	UG/L	102		102		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.: HSP12
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 6119194BKG
% Solids for Duplicate: 0.0
Batch ID(s): P29848G
Concentration Units: UG/L

Duplicate Lab Sample ID: 6119197DUP
% 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			4053.0700		3881.9200		4		P
Nickel			3.5900	B	3.0000	U	200		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.

HSP12 0034

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.: HSP12
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P29848GQ	UG/L	150.0	157.81		133.5	173.0	105	P	Yes
Beryllium		P29848GQ	UG/L	50.0	50.30		45.0	56.0	101	P	Yes
Cadmium		P29848GQ	UG/L	50.0	52.48		45.0	56.0	105	P	Yes
Copper		P29848GQ	UG/L	250.0	257.03		225.0	280.0	103	P	Yes
Manganese		P29848GQ	UG/L	500.0	514.51		450.0	550.0	103	P	Yes
Nickel		P29848GQ	UG/L	500.0	528.89		450.0	555.0	106	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

Preparation and Run Logs

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: HSP12

Method: P
Batch ID: P29848G

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
6119192	10/26/2010	50.00	50
6119193	10/26/2010	50.00	50
6119198	10/26/2010	50.00	50
6119199	10/26/2010	50.00	50
6119194BKG	10/26/2010	50.00	50
6119197DUP	10/26/2010	50.00	50
6119196MSD	10/26/2010	50.00	50
6119195MS	10/26/2010	50.00	50
P29848GB	10/26/2010	50.00	50
P29848GQ	10/26/2010	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.: HSP12

Method: P
Instrument ID: 11016
Run Name: 1030507T70

Run Start Date: 11/01/2010
Run End Date: 11/01/2010

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
S0	1.00	19:32	X	X	X	X	X	X
S	1.00	19:35						
S	1.00	19:39	X	X	X	X	X	X
S	1.00	19:43						
ICV	1.00	19:46	X	X	X	X	X	X
ICB	1.00	19:49	X	X	X	X	X	X
LLC	1.00	19:53	X	X	X	X	X	X
ICSA	1.00	19:57	X	X	X	X	X	X
ICSAB	1.00	20:01	X	X	X	X	X	X
CCV	1.00	20:05	X	X	X	X	X	X
CCB	1.00	20:08	X	X	X	X	X	X
P29848GB	1.00	20:12	X	X	X	X	X	X
P29848GQ	1.00	20:15	X	X	X	X	X	X
6119194BKG	1.00	20:19	X	X	X	X	X	X
6119194A	1.00	20:23						
6119197DUP	1.00	20:26	X	X	X	X	X	X
6119195MS	1.00	20:30	X	X	X	X	X	X
6119196MSD	1.00	20:33	X	X	X	X	X	X
6119194L	5.00	20:37	X	X	X	X	X	X
ZZZZZZ	1.00	20:41						
ZZZZZZ	1.00	20:44						
CCV	1.00	20:48	X	X	X	X	X	X
CCB	1.00	20:51	X	X	X	X	X	X
ZZZZZZ	1.00	20:55						
ZZZZZZ	1.00	20:59						
6119192	1.00	21:03	X	X	X	X	X	X
6119193	1.00	21:06	X	X	X	X	X	X
6119198	1.00	21:10	X	X	X	X	X	X
6119199	1.00	21:14	X	X	X	X	X	X
ZZZZZZ	1.00	21:17						
ZZZZZZ	1.00	21:21						
ZZZZZZ	1.00	21:24						
ZZZZZZ	1.00	21:28						
CCV	1.00	21:32	X	X	X	X	X	X
CCB	1.00	21:35	X	X	X	X	X	X
ZZZZZZ	1.00	21:39						
ZZZZZZ	1.00	21:42						
ZZZZZZ	1.00	21:46						

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: HSP12

Method: P
Instrument ID: 11016
Run Name: 1030507T70

Run Start Date: 11/01/2010
Run End Date: 11/01/2010

Lab Sample ID	D/F	Time	Analytes					
			AS	BE	CD	CU	MN	NI
ZZZZZZ	1.00	21:50						
ZZZZZZ	1.00	21:53						
ZZZZZZ	1.00	21:57						
LLC	1.00	22:00	X	X	X	X	X	X
ICSA	1.00	22:04	X	X	X	X	X	X
ICSAB	1.00	22:08	X	X	X	X	X	X
CCV	1.00	22:12	X	X	X	X	X	X
CCB	1.00	22:15	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

Instrumental Analysis Data

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP12

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
6119191	X		
6119192	X		
6119193	X		
6119194	X		Background/Unspiked
6119195	X		Matrix Spike
6119197	X		Duplicate
6119198	X		
6119199	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
6119198	DF5
6119199	DF5
LCS	DF10

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: HSP12

Narrative Reviewed and Approved by:

Catherine Connaughy for Date 11/10/10
Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: HSP12

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10301106102A	Blank
		LCS
Nitrate Nitrogen	10301106102B	6119191
		6119192 U/BKG,R,D
		6119193
		6119198
		6119199
Nitrate Nitrogen	10304106103A	6119194 U/BKG
		6119195 R
		6119197 D
		Blank
		LCS
Nitrite Nitrogen	10295105101A	6119191
		6119192
		6119193
		6119194 U/BKG
		6119195 R
		6119197 D
		6119198
		6119199
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: HSP12
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	10/28/10	AK	10301106102	N.D.	mg/l	0.040	0.10
	10/31/10	AK	10304106103	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	10/22/10	AK	10295105101	N.D.	mg/l	0.015	0.050

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: HSP12
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 <=
6119192	Nitrate Nitrogen	10/28/10	AK	10301106102B	0.39	1	NA	1.4	NA	mg/l	99	NA	90 - 110	NA	NA
6119195 R	Nitrate Nitrogen	10/31/10	AK	10304106103A	N.D.	1	NA	1.0	NA	mg/l	101	NA	90 - 110	NA	NA
6119195 R	Nitrite Nitrogen	10/22/10	AK	10295105101A	0.018 J	0.2	NA	0.22	NA	mg/l	102	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: HSP12
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
6119192	Nitrate Nitrogen	10/28/10	AK	10301106102B	0.39	0.39	mg/l	2(1)	2
6119197	Nitrate Nitrogen	10/31/10	AK	10304106103A	N.D.	N.D.	mg/l	0(1)	2
6119197	Nitrite Nitrogen	10/22/10	AK	10295105101A	0.018 J	N.D.	mg/l	200(1)*	20

HSP12 P040

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: HSP12
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10301106102	Nitrate Nitrogen	10/28/10	AK	21	21.8	NA	mg/l	18.8 - 23.2	NA	NA
10304106103	Nitrate Nitrogen	10/31/10	AK	21	21.5	NA	mg/l	18.8 - 23.2	NA	NA
10295105101	Nitrite Nitrogen	10/22/10	AK	0.542	0.53	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP12

Instrument ID: 09106
Calibration Date: 10/28/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.6497	2.9931	1.2129	0.7885	0.4926	0.4121	0.9990

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10301106102A, 10301106102B
Run Start Dates: 10/28/2010

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.44366	98
ICB	0	ND	NA
CCV2	2.5	2.63114	105
CCB 2	0	ND	NA
CCV2	2.5	2.66112	106
CCB 3	0	ND	NA
CCV2	2.5	2.51500	101
CCB 4	0	ND	NA
CCV2	2.5	2.66636	107
CCB 5	0	ND	NA
CCV2	2.5	2.59953	104
CCB 7	0	ND	NA
CCV2	2.5	2.62211	105
CCB 8	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: HSP12

Instrument ID: 09037
Calibration Date: 10/31/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.9743	3.1236	1.3035	0.8180	0.5232	0.4238	0.9998

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10304106103A
Run Start Dates: 10/31/2010

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.51016	100
ICB	0	ND	NA
CCV2	2.5	2.44022	98
CCB 8	0	ND	NA
CCV2	2.5	2.38149	95
CCB 9	0	ND	NA

HSP12 0051

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: HSP12

Instrument ID: 09037
Calibration Date: 10/22/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.4099	2.8511	1.5989	0.9300	0.6576	0.4997	0.9998

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10295105101A
Run Start Dates: 10/22/2010

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.59674	99
ICB	0	ND	NA
CCV2	0.6	0.59255	99
CCB 1	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

HSR12 0053

Miscellaneous Analysis Data

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: HSP12

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
6119192	X		
6119193	X		
6119194	X		Background/Unspiked
6119195	X		Matrix Spike
6119196	X		Matrix Spike Duplicate
6119197	X		Duplicate
6119198	X		
6119199	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:

Audrey McClure for Date 11-8-10

Dana Kauffman
Manager of Data Deliverables

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: HSP12

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10305022102A	6119192
		6119193
		6119194 U/BKG
		6119195 R
		6119196 M
		6119197 D
		6119198
		6119199
		Blank
		LCS

QC Summary

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: HSP12
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	11/01/10	TI	10305022102	N.D.	mg/l	0.20	0.60

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: HSP12
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 <=
6119195 R 6119196 M	Ammonia Nitrogen	11/01/10	TI	10305022102A	0.95	10	10	10.2	10.1	mg/l	93	92	80 - 112	1	8

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

HSP12*0060

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: HSP12
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
6119197	Ammonia Nitrogen	11/01/10	TI	10305022102A	0.95	1.0	mg/l	6(1)*	2

HSP12 0061

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: HSP12
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10305022102	Ammonia Nitrogen	11/01/10	TI	10	9.7	NA	mg/l	8.5 - 10.5	NA	NA

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

HSP12 8863

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Modified Type III Data Package

Prepared for:

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

Project: Southpoint
Water Samples
Collected on 04/13/10

SDG# IRN49

GROUP	SAMPLE NUMBERS
1190222	5953195-5953202

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: Lily C. Jones **Date** 4/29/10

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 64

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Sample Reference List for SDG Number IRN49 with a Data Package Type of III MOD.

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
5953195	SP-01	SPMW01-S-100413 Grab Water Sample
5953196	SP-05	SPMW05-S-100413 Grab Water Sample
5953197	SP-23	SPIS23-S-100413 Unspiked Grab Water Sample
5953198	SP-23	SPIS23-S-MS-100413 Matrix Spike Grab Water Sample
5953199	SP-23	SPIS23-S-MSD-100413 Matrix Spike Dup Grab Water
5953200	SP-23	SPIS23-S-100413 Duplicate Grab Water Sample
5953201	SP-24	SPIS24-S-100413 Grab Water Sample
5953202	SP24D	SPIS24-DP-100413 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1
Group# 1190222
A10651
Sample #s 5953195-202

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: R Cade C Miller
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-100413	4/13/2010	8:55	X			X		4	X	X	X		
SPMW05-S-100413	4/13/2010	9:30	X			X		4	X	X	X		
SPIS23-S-100413	4/13/2010	7:35	X			X		6	X	X	X		
SPIS23-S-MS-100413	4/13/2010	7:35	x			X		4	X	X	X		
SPIS23S-MSD-100413	4/13/2010	7:35	X			X		4	X	X	X		
SPIS24-S-100413	4/13/2010	8:00	X			X		4	X	X	X		
SPIS24S-DP-100413	4/13/2010	8:00	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
Charles D Miller	4-13-10	15:00			
			Kristi Zeigler	4-14-10	0915

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 4-14-10

Time of Receipt: 0915

Source Code: 50-1

Unpacker Emp. No.: 2123

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	1.2°	TB	WI	Y	B	
2	↓	1.0°	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody 0

Paperwork Discrepancy/Unpacking Problems:

received (1)08 & (1)11 for SP1S235 Duplicate collected at 0735

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
Kristi Zeigler	4-14-10	1105	Unpacking
Don Nestland	4/14/10	1110	Place in Storage or Entry
			Entry
			Entry

Issued by Dept. 6042 Management
2174.05

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4-14-10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5953075																		PK				Neg	Neg			Original				VN
pH B/A	/	/	/	/	/	/		/	/	/	/	/	/		/	/	/	79	/	/	/	Pos	Pos	/		Created				2338
5953079																		PK				Neg	Neg			Original				VN
pH B/A	/	/	/	/	/	/		/	/	/	/	/	/		/	/	/	79	/	/	/	Pos	Pos	/		Created				2338
5953208										PK												Neg	Neg			Original			A,b	
pH B/A	/	/	/	/	/	/		/	/	<2	/	/	/		/	/	/	/	/	/	/	Pos	Pos	/		Created				
5953209										PK												Neg	Neg			Original			A,b	
pH B/A	/	/	/	/	/	/		/	/	<2	/	/	/		/	/	/	/	/	/	/	Pos	Pos	/		Created				
5953210										PK												Neg	Neg			Original			A,b	
pH B/A	/	/	/	/	/	/		/	/	<2	/	/	/		/	/	/	/	/	/	/	Pos	Pos	/		Created				
+ 5953195			PK										PK									Neg	~~Neg~~			Original				
pH B/A	/	/	<2	/	/	/		/	/	/	/	/	<2		/	/	/	/	/	/	/	Pos	Pos	/		Created				
+ 5953196			PK										PK									Neg	Neg			Original				
pH B/A	/	/	<2	/	/	/		/	/	/	/	/	<2		/	/	/	/	/	/	/	Pos	Pos	/		Created				
+ 5953197			PK										PK									Neg	Neg			Original				VN
pH B/A	/	/	<2	/	/	/		/	/	/	/	/	<2		/	/	/	/	/	/	/	Pos	Pos	/		Created				2338

Reviewed by: _____ 1123.15 Date: _____

114175 50

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4.14.10

	Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
+	5953198			PK										PK									Neg	Neg			Original				VN 2338
	pH B/A			<2										<2									Pos	Pos			Created				
+	5953199			PK										PK									Neg	Neg			Original				
	pH B/A			<2										<2									Pos	Pos			Created				
+	5953200			PK										PK									Neg	Neg			Original				
	pH B/A			<2										<2									Pos	Pos			Created				
+	5953201			PK										PK									Neg	Neg			Original				
	pH B/A			<2										<2									Pos	Pos			Created				
+	5953202			PK										PK									Neg	Neg			Original				
	pH B/A			<2										<2									Pos	Pos			Created				
	5953257		PK											PK									Neg	Neg			Original				
	pH B/A		<2											<2									Pos	Pos			Created				
	5953172										PK												Neg	Neg			Original			A,b	
	pH B/A										<2												Pos	Pos			Created				
	5953174										PK												Neg	Neg			Original			A,b	VN 2338
	pH B/A										<2												Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/16/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5953091						PK																Neg	X Neg			Original				BR 189
pH B/A						<2																Pos	Pos			Created				
5953092						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5953192						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5953195						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5953196						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5953197						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5953198						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5953200						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115084 16

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/16/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5953201						PK																Neg	X Neg			Original				BL 189
+ pH B/A						<2																Pos	Pos			Created				
5953202						PK																Neg	X Neg			Original				
+ pH B/A						<2																Pos	Pos			Created				
5954440		PK							PK								PK					Neg	Neg			Original				
pH B/A		<2							<2								>9					Pos	Pos			Created				
5954441													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5954454		PK							PK								PK					Neg	Neg			Original				
pH B/A		<2							<2								>9					Pos	Pos			Created				
5954455													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5954775		PK							PK								PK					Neg	Neg			Original				
pH B/A		<2							<2								>9					Pos	Pos			Created				
5954776													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				

Reviewed by: _____

1123.15

Date: _____

115084 17

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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 cadium 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
Golden Valley MN 55422

April 22, 2010

Project: Southpoint

Submittal Date: 04/14/2010
Group Number: 1190222
PO Number: 4987848
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPMW01-S-100413 Grab Water Sample	5953195
SPMW05-S-100413 Grab Water Sample	5953196
SPIS23-S-100413 Unspiked Grab Water Sample	5953197
SPIS23-S-MS-100413 Matrix Spike Grab Water Sample	5953198
SPIS23-S-MSD-100413 Matrix Spike Dup Grab Water	5953199
SPIS23-S-100413 Duplicate Grab Water Sample	5953200
SPIS24-S-100413 Grab Water Sample	5953201
SPIS24-DP-100413 Grab Water Sample	5953202

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
1 COPY TO	Data Package Group	

IRN49: 8889

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,

Max E. Snavely
Senior Specialist

IRN49 8018

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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit
N.D.	none detected
TNTC	Too Numerous To Count
IU	International Units
umhos/cm	micromhos/cm
C	degrees Celsius
meq	milliequivalents
g	gram(s)
ug	microgram(s)
ml	milliliter(s)
m3	cubic meter(s)
BMQL	Below Minimum Quantitation Level
MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units
NTU	nephelometric turbidity units
ng	nanogram(s)
F	degrees Fahrenheit
lb.	pound(s)
kg	kilogram(s)
mg	milligram(s)
l	liter(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 for methods listed on the laboratories' accreditation scope 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-100413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953195
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 08:55 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-01 SDG#: IRN49-01

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	**0.0171**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0139**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.6**	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	101051848005	04/20/2010	07:36	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010	07:36	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010	07:36	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010	07:36	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010	07:36	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010	07:36	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010	09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010	14:24	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010	18:25	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010	16:30	Luz M Groff	1

IRN49 8812

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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: SPMW05-S-100413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953196
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 09:30 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-05 SDG#: IRN49-02

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	**0.0804**	0.0100	1
07058	**Manganese**		7439-96-5	**0.245**	0.0050	1
07061	**Nickel**		7440-02-0	**0.0547**	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	101051848005	04/20/2010 07:40	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010 07:40	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010 07:40	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010 07:40	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010 07:40	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010 07:40	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010 09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010 14:25	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10104105102A	04/14/2010 18:43	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010 16:30	Luz M Groff	1

IRN49 0213

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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Sample Description: SPIS23-S-100413 Unspiked Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953197
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 07:35 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-23 SDG#: IRN49-03BKG

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	**0.248**	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	**2.0**	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	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	101051848005	04/20/2010 07:12	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010 07:12	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010 07:12	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010 07:12	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010 07:12	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010 07:12	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010 09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010 14:27	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010 18:11	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010 16:30	Luz M Groff	1

IRN49 3814

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Analysis Report

Lancaster Laboratories

Sample Description: SPIS23-S-MS-100413 Matrix Spike Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953198
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 07:35 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-23 SDG#: IRN49-03MS

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	**0.147**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0514**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0495**	0.0050	1
07053	**Copper**	7440-50-8	**0.255**	0.0100	1
07058	**Manganese**	7439-96-5	**0.753**	0.0050	1
07061	**Nickel**	7440-02-0	**0.501**	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	**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	101051848005	04/20/2010	07:24	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010	07:24	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010	07:24	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010	07:24	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010	07:24	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010	07:24	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010	09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010	14:28	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010	18:13	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010	16:30	Luz M Groff	1

IRN49 3815

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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: SPIS23-S-MSD-100413 Matrix Spike Dup Grab Water
Ironton Southpoint

LLI Sample # WW 5953199
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 07:35 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-23 SDG#: IRN49-03MSD

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	**0.154**	0.0200	1
07047	**Beryllium**	7440-41-7	**0.0532**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0513**	0.0050	1
07053	**Copper**	7440-50-8	**0.262**	0.0100	1
07058	**Manganese**	7439-96-5	**0.772**	0.0050	1
07061	**Nickel**	7440-02-0	**0.520**	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	101051848005	04/20/2010 07:28	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010 07:28	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010 07:28	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010 07:28	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010 07:28	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010 07:28	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010 09:44	Denise K Conners	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010 16:30	Luz M Groff	1

IRN49 0815

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-100413 Duplicate Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953200
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 07:35 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-23 SDG#: IRN49-03DUP

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	**0.250**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0019 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.0**	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	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	101051848005	04/20/2010	07:20	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010	07:20	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010	07:20	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010	07:20	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010	07:20	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010	07:20	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010	09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010	14:29	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010	18:14	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010	16:30	Luz M Groff	1

IRN49 8017

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-100413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953201
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 08:00 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP-24 SDG#: IRN49-04

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	**0.475**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0028 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**6.9**	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	**13.7**	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	101051848005	04/20/2010 07:52	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010 07:52	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010 07:52	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010 07:52	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010 07:52	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010 07:52	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010 09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010 14:59	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010 18:21	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010 16:30	Luz M Groff	1

IRN49 8818

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-DP-100413 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5953202
LLI Group # 1190222
Account # 10651

Project Name: Southpoint

Collected: 04/13/2010 08:00 by RC

Submitted: 04/14/2010 09:15
Reported: 04/22/2010 14:24
Discard: 05/07/2010

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

SP24D SDG#: IRN49-05FD*

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	**0.472**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0018 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**7.2**	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	**12.9**	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	101051848005	04/20/2010 07:56	Joanne M Gates	1
07047	Beryllium	SW-846 6010B	1	101051848005	04/20/2010 07:56	Joanne M Gates	1
07049	Cadmium	SW-846 6010B	1	101051848005	04/20/2010 07:56	Joanne M Gates	1
07053	Copper	SW-846 6010B	1	101051848005	04/20/2010 07:56	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	101051848005	04/20/2010 07:56	Joanne M Gates	1
07061	Nickel	SW-846 6010B	1	101051848005	04/20/2010 07:56	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101051848005	04/16/2010 09:44	Denise K Conners	1
00220	Nitrate Nitrogen	EPA 353.2	1	10110106104A	04/20/2010 15:00	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10104105101B	04/14/2010 18:16	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10104022101A	04/14/2010 16:30	Luz M Groff	1

IRN49 8819

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

Metals Data

TRM49 0828

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: IRN49

Date Received: 04/14/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

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:

For Date 04-28-10

Dana M. Kauffman, Manager
Data Deliverables

IRN49 0022

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: IRN49

Lab Sample ID
5953195
5953196
5953197BKG
5953198MS
5953199MSD
5953200DUP
5953201
5953202

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

IRN49 0823

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Data

IBN49 0024

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953195
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	13.9			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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953196
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	U		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	80.4			P
7439-96-5	Manganese	245			P
7440-02-0	Nickel	54.7			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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953197BKG
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	248			P
7440-02-0	Nickel	1.8	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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953198MS
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	147			P
7440-41-7	Beryllium	51.4			P
7440-43-9	Cadmium	49.5			P
7440-50-8	Copper	255			P
7439-96-5	Manganese	753			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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953199MSD
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	154			P
7440-41-7	Beryllium	53.2			P
7440-43-9	Cadmium	51.3			P
7440-50-8	Copper	262			P
7439-96-5	Manganese	772			P
7440-02-0	Nickel	520			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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953200DUP
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	250			P
7440-02-0	Nickel	1.9	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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953201
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	475			P
7440-02-0	Nickel	2.8	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.: IRN49
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5953202
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/14/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	472			P
7440-02-0	Nickel	1.8	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	

Quality Control Data

IRN49 8033

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN49

Method: P
Run Name: 1011003T61
Calibration Date(s): 04/20/2010
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		-9.6	B	-9.8	B	-8.2	B	-6.0	B		-8.270	B	P10548EB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P10548EB
Cadmium		1.2	U	1.2	U	1.2	U	1.2	U		2.000	U	P10548EB
Copper		2.1	U	2.1	U	2.1	U	2.1	U		2.700	U	P10548EB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P10548EB
Nickel		2.7	U	2.7	U	2.7	U	2.7	U		1.800	U	P10548EB

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: IRN49
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 5953197BKG Matrix Spike Lab Sample ID: 5953198MS Matrix Spike Duplicate Lab Sample ID: 5953199MSD
% Solids for Sample: 0.0
Batch Id(s): P10548E

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		7.2000	U	147.2100		153.8900		150.0000	150.0000	UG/L	98		103		4		75 - 125	20	P
Beryllium		1.4000	U	51.3900		53.2000		50.0000	50.0000	UG/L	103		106		3		87 - 114	20	P
Cadmium		2.0000	U	49.5300		51.2500		50.0000	50.0000	UG/L	99		103		3		83 - 116	20	P
Copper		2.7000	U	255.0300		262.1600		250.0000	250.0000	UG/L	102		105		3		86 - 122	20	P
Manganese		247.7100		753.1900		772.3500		500.0000	500.0000	UG/L	101		105		3		75 - 125	20	P
Nickel		1.8000	U	500.7500		519.7600		500.0000	500.0000	UG/L	100		104		4		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.: IRN49
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 5953197BKG
% Solids for Duplicate: 0.0
Batch ID(s): P10548E
Concentration Units: UG/L

Duplicate Lab Sample ID: 5953200DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			7.2000	U	7.2000	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			247.7100		249.6600		1		P
Nickel			1.8000	U	1.8900	B	200		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.: IRN49
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P10548EQ	UG/L	150.0	139.54		133.5	173.0	93	P	Yes
Beryllium		P10548EQ	UG/L	50.0	50.39		45.0	56.0	101	P	Yes
Cadmium		P10548EQ	UG/L	50.0	49.10		45.0	56.0	98	P	Yes
Copper		P10548EQ	UG/L	250.0	252.45		225.0	280.0	101	P	Yes
Manganese		P10548EQ	UG/L	500.0	496.66		450.0	550.0	99	P	Yes
Nickel		P10548EQ	UG/L	500.0	498.44		450.0	555.0	100	P	Yes

IRN49 8837

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

IRN49 0838

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: IRN49

Method: P
Batch ID: P10548E

Lab Sample ID	Date	Weight (gram)	Volume (ml)
5953195	04/16/2010		50
5953196	04/16/2010		50
5953201	04/16/2010		50
5953202	04/16/2010		50
5953197BKG	04/16/2010		50
5953200DUP	04/16/2010		50
5953199MSD	04/16/2010		50
5953198MS	04/16/2010		50
P10548EB	04/16/2010		50
P10548EQ	04/16/2010		50

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

IRN49 8939

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN49

Method: P
Instrument ID: 05478
Run Name: 1011003T61

Run Start Date: 04/20/2010
Run End Date: 04/20/2010

Lab Sample ID	D/F	Time	% R	Analytes					
				AS	BE	CD	CU	MN	NI
S0	1.00	06:22		X	X	X	X	X	X
S	1.00	06:25							
S	1.00	06:29		X	X	X	X	X	X
S	1.00	06:33							
ICV	1.00	06:37		X	X	X	X	X	X
ICB	1.00	06:41		X	X	X	X	X	X
LLC	1.00	06:45		X	X	X	X	X	X
ICSA	1.00	06:49		X	X	X	X	X	X
ICSAB	1.00	06:53		X	X	X	X	X	X
CCV	1.00	06:57		X	X	X	X	X	X
CCB	1.00	07:01		X	X	X	X	X	X
P10548EB	1.00	07:05		X	X	X	X	X	X
P10548EQ	1.00	07:09		X	X	X	X	X	X
5953197BKG	1.00	07:12		X	X	X	X	X	X
5953197A	1.00	07:16							
5953200DUP	1.00	07:20		X	X	X	X	X	X
5953198MS	1.00	07:24		X	X	X	X	X	X
5953199MSD	1.00	07:28		X	X	X	X	X	X
5953197L	5.00	07:32		X	X	X	X	X	X
5953195	1.00	07:36		X	X	X	X	X	X
5953196	1.00	07:40		X	X	X	X	X	X
CCV	1.00	07:44		X	X	X	X	X	X
CCB	1.00	07:48		X	X	X	X	X	X
5953201	1.00	07:52		X	X	X	X	X	X
5953202	1.00	07:56		X	X	X	X	X	X
LLC	1.00	08:00		X	X	X	X	X	X
ICSA	1.00	08:04		X	X	X	X	X	X
ICSAB	1.00	08:08		X	X	X	X	X	X
CCV	1.00	08:12		X	X	X	X	X	X
CCB	1.00	08:16		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

IRN49 5048

Instrumental Analysis Data

IBN49 8841

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN49

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
5953195	X		
5953196	X		
5953197	X		Background/Unspiked
5953198	X		Matrix Spike
5953200	X		Duplicate
5953201	X		
5953202	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
5953201	DF5
5953202	DF5
LCS	DF10

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: IRN49

Narrative Reviewed and Approved by:

Date 4/20/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: IRN49

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10110106104A	5953195
		5953196
		5953197 U/BKG
		5953198 R
		5953200 D
		5953201
		5953202
		Blank
		LCS
Nitrite Nitrogen	10104105101A	Blank
		LCS
Nitrite Nitrogen	10104105101B	5953195
		5953197 U/BKG
		5953198 R
		5953200 D
		5953201
		5953202
Nitrite Nitrogen	10104105102A	5953196
		P953239 U/BKG
		P953240 R
		P953242 D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: IRN49
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/20/10	AK	10110106104	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/14/10	AK	10104105101	N.D.	mg/l	0.015	0.050
	04/14/10	AK	10104105102	N.D.	mg/l	0.015	0.050

IRN49 0047

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: IRN49
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 <=
5953198 R	Nitrate Nitrogen	04/20/10	AK	10110106104A	2.0	1	NA	2.9	NA	mg/l	91	NA	90 - 110	NA	NA
5953198 R	Nitrite Nitrogen	04/14/10	AK	10104105101B	N.D.	0.2	NA	0.19	NA	mg/l	95	NA	90 - 110	NA	NA
P953240 R	Nitrite Nitrogen	04/14/10	AK	10104105102A	N.D.	0.2	NA	0.20	NA	mg/l	98	NA	90 - 110	NA	NA

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

IRN49 8048

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: IRN49
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
5953200	Nitrate Nitrogen	04/20/10	AK	10110106104A	2.0	2.0	mg/l	0	2
5953200	Nitrite Nitrogen	04/14/10	AK	10104105101B	N.D.	N.D.	mg/l	0(1)	20
P953242	Nitrite Nitrogen	04/14/10	AK	10104105102A	N.D.	N.D.	mg/l	0(1)	20

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: IRN49
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10110106104	Nitrate Nitrogen	04/20/10	AK	21	20.5	NA	mg/l	18.8 - 23.2	NA	NA
10104105101	Nitrite Nitrogen	04/14/10	AK	0.542	0.57	NA	mg/l	0.4851 - 0.5989	NA	NA
10104105102	Nitrite Nitrogen	04/14/10	AK	0.542	0.56	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: IRN49

Instrument ID: 09037
Calibration Date: 04/14/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.5527	3.0624	1.7160	1.0200	0.6841	0.5137	0.9991

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10104105101A, 10104105101B, 10104105102A
Analysis Dates: 04/14/2010
Run Names: 1010402C01

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.61912	103
ICB	0	ND	NA
CCV2	0.6	0.60984	102
CCB 1	0	ND	NA
CCV2	0.6	0.61382	102
CCB 2	0	ND	NA
CCV2	0.6	0.61832	103
CCB 3	0	ND	NA
CCV2	0.6	0.61978	103
CCB 4	0	ND	NA

IRN49 0055

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: IRN49

Instrument ID: 09037
Calibration Date: 04/20/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.7828	2.9753	1.2795	0.8122	0.5306	0.4301	0.9998

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10110106104A
Analysis Dates: 04/20/2010
Run Names: 1011001C01

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.53647	101
ICB	0	ND	NA
CCV2	2.5	2.47091	99
CCB 17	0	ND	NA
CCV2	2.5	2.47659	99
CCB 18	0	ND	NA
CCV2	2.5	2.45065	98
CCB 19	0	ND	NA
CCV2	2.5	2.47766	99
CCB 20	0	ND	NA

IRN49 0052

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

IRN49 9853

Miscellaneous Analysis Data

IRN49 8054

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN49

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
5953195	X		
5953196	X		
5953197	X		Background/Unspiked
5953198	X		Matrix Spike
5953199	X		Matrix Spike Duplicate
5953200	X		Duplicate
5953201	X		
5953202	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

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN49

Narrative Reviewed and Approved by:

Date 4/20/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

IRN49 0858

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: IRN49

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10104022101A	5953195
		5953196
		5953197 U/BKG
		5953198 R
		5953199 M
		5953200 D
		5953201
		5953202
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: IRN49
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/14/10	TI	10104022101	N.D.	mg/l	0.20	0.60

IRN49 8#60

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: IRN49
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 <=
5953198 R 5953199 M	Ammonia Nitrogen	04/14/10	TI	10104022101A	N.D.	10	10	9.6	9.6	mg/l	96	96	64 - 128	0	8

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

IRN49 0061

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: IRN49
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
5953200	Ammonia Nitrogen	04/14/10	TI	10104022101A	N.D.	N.D.	mg/l	0(1)	2

IRN49 0062

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: IRN49
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10104022101	Ammonia Nitrogen	04/14/10	TI	10	9.5	NA	mg/l	8.5 - 10.5	NA	NA

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

IRN49 8854

Lancaster Laboratories

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

Type III Data Package

Prepared for:

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

Project: Southpoint
Water Samples
Collected on 04/20/10

SDG# IRN50

GROUP	SAMPLE NUMBERS
1191151	5959003-5959012

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: **Date** 5/13/10

Lietta M Milton

Lietta Milton
Group Leader

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 72

Lancaster Laboratories
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Sample Reference List for SDG Number IRN50 with a Data Package Type of III

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
5959003	SPB34	SPOB-34S-100420 Grab Water Sample
5959004	SP12R	SPOB-12R2S-100420 Grab Water Sample
5959005	SP10R	SPMW-10RS-100420 Grab Water Sample
5959006	SPMW6	SPMW-06RS-100420 Grab Water Sample
5959007	SPMW8	SPMW-08S-100420 Grab Water Sample
5959008	SPMW9	SPMW-09S-100420 Grab Water Sample
5959009	SPMW2	SPMW-02S-100420 Grab Water Sample
5959010	SPMW3	SPMW-03S-100420 Grab Water Sample
5959011	SPMW7	SPMW-07S-100420 Grab Water Sample
5959012	SPM7D	SPMW-07S-DP-100420 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 of 1
Group# 1191151

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

Acct # 10651
Sample #s 5959003-12

Client: Honeywell
Acct: 10651
Project Name: South Point
PWSID #:
Project Manager: Patrick Holmes
P.O.# 4987848
Sampler: Ron Cade – Charles D Miller
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
SPOB34S-100420	4/20/2010	14:50	X			X		4	X	X	X		
SPOB12R2S-100420	4/20/2010	15:30	X			X		4	X	X	X		
SPMW10RS-100420	4/20/2010	8:30	X			X		4	X	X	X		
SPMW06RS-100420	4/20/2010	9:05	X			X		4	X	X	X		
SPMW08S-100420	4/20/2010	9:50	X			X		4	X	X	X		
SPMW09S-100420	4/20/2010	10:30	X			X		4	X	X	X		
SPMW02S-100420	4/20/2010	12:50	X			X		4	X	X	X		
SPMW03S-100420	4/20/2010	13:25	X			X		4	X	X	X		
SPMW07S-100420	4/20/2010	14:05	X			X		4	X	X	X		
SPMW07S-DP-100420	4/20/2010	14:05	X			X		4	X	X	X		

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
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
Charles D Miller	4-20-10	17:00			

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: 4/21/10

Time of Receipt: 0900

Source Code: 50-1

Unpacker Emp. No.: 1454

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	042995i	1.9°C	TB	WI	Y	B	
2	↓	2.0°C	↓	↓	↓	↓	
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	4/21/10	1025	Unpacking 1 to storage
Kristin Eagle	4-21-10	1052	Place in Storage or Entry
			Entry
			Entry

LRN58 0003

Issued by Dept. 6042 Management
2174.05

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/21/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959244																				PC		Neg	Neg			Original				LC
pH B/A																				6		Pos	Pos			Created				943
5959245																				PC		Neg	Neg			Original				
pH B/A																				6		Pos	Pos			Created				
5959057													PK									Neg	Neg			Original				
pH B/A													12									Pos	Pos			Created				
5959058													PK									Neg	Neg			Original				
pH B/A													12									Pos	Pos			Created				
5958966			PK																			Neg	Neg ✓			Original				
pH B/A			12																			Pos	Pos			Created				
+ 5959003			PK																			Neg	Neg ✓			Original				
pH B/A			12																			Pos	Pos			Created				
+ 5959004			PK																			Neg	Neg ✓			Original				
pH B/A			12																			Pos	Pos			Created				
+ 5959005			PK																			Neg	Neg ✓			Original				LC
pH B/A			12																			Pos	Pos			Created				943

Reviewed by: _____ 1123.15 Date: _____

TRN5085

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/21/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959006			PK																			Neg	Neg			Original				LC 943
pH B/A			12																			Pos	Pos			Created				
5959007			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959008			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959009			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959010			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959011			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959012			PK																			Neg	Neg			Original				
pH B/A			12																			Pos	Pos			Created				
5959422			PK																			Neg	Neg			Original				LC 943
pH B/A			12																			Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 10

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/22/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959265						PK																Neg	X Neg			Original				BL 189
pH B/A						<2																Pos	Pos			Created				
5959266						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959104						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959589						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959855						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5959003						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5959004						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
+ 5959005						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 20

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/22/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959006						PK																Neg	X Neg			Original				BQ 189
pH B/A						<2																Pos	Pos			Created				
5959007						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959008						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959009						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959010						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959011						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959012						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5959015						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

RN56 8887

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/22/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959016													PK									Neg	Neg			Original				BQ 189
pH B/A													<2									Pos	Pos			Created				
5959017		PK											PK									Neg	Neg			Original				
pH B/A		<2											<2									Pos	Pos			Created				
5959018													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959019		PK											PK									Neg	Neg			Original				
pH B/A		<2											<2									Pos	Pos			Created				
5959020													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959024		PK											PK									Neg	Neg			Original				
pH B/A		<2											<2									Pos	Pos			Created				
5959025													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959003													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 23

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/22/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959004													PK									Neg	Neg			Original				BR 189
pH B/A													<2									Pos	Pos			Created				
5959005													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959006													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959007													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959008													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959009													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959010													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959011													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 24

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/22/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5959012													PK									Neg	Neg			Original				BS 189
pH B/A													<2									Pos	Pos			Created				
5959034													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959089													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959177													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5959180													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5960300													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5960301													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5960302													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 25

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 cadium 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
Golden Valley MN 55422

April 28, 2010

Project: Southpoint

Submittal Date: 04/21/2010
Group Number: 1191151
PO Number: 4987848
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPOB-34S-100420 Grab Water Sample	5959003
SPOB-12R2S-100420 Grab Water Sample	5959004
SPMW-10RS-100420 Grab Water Sample	5959005
SPMW-06RS-100420 Grab Water Sample	5959006
SPMW-08S-100420 Grab Water Sample	5959007
SPMW-09S-100420 Grab Water Sample	5959008
SPMW-02S-100420 Grab Water Sample	5959009
SPMW-03S-100420 Grab Water Sample	5959010
SPMW-07S-100420 Grab Water Sample	5959011
SPMW-07S-DP-100420 Grab Water Sample	5959012

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
1 COPY TO	Data Package Group	

LRN58 0012

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,

Max E. Snavely
Senior Specialist

1RN50 0813

Lancaster Laboratories, Inc.
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Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit
N.D.	none detected
TNTC	Too Numerous To Count
IU	International Units
umhos/cm	micromhos/cm
C	degrees Celsius
meq	milliequivalents
g	gram(s)
ug	microgram(s)
ml	milliliter(s)
m3	cubic meter(s)
BMQL	Below Minimum Quantitation Level
MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units
NTU	nephelometric turbidity units
ng	nanogram(s)
F	degrees Fahrenheit
lb.	pound(s)
kg	kilogram(s)
mg	milligram(s)
l	liter(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 for methods listed on the laboratories' accreditation scope 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: SPOB-34S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959003
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 14:50 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPB34 SDG#: IRN50-01

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	**0.0169 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	**0.452**	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	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	101121848001	04/23/2010	09:46	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010	09:46	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010	09:46	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010	09:46	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010	09:46	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010	09:46	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010	19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010	13:05	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010	19:50	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010	19:30	Luz M Groff	1

IRN50 0215

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: SPOB-12R2S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959004
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 15:30 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SP12R SDG#: IRN50-02

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	**0.0091 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	**0.0198**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0026 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**3.9**	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	**11.7**	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	101121848001	04/23/2010 09:50	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 09:50	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 09:50	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 09:50	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 09:50	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 09:50	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:06	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 19:58	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0016

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: SPMW-10RS-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959005
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 08:30 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SP10R SDG#: IRN50-03

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	**0.264**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0765**	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	101121848001	04/23/2010 09:55	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 09:55	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 09:55	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 09:55	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 09:55	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 09:55	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:08	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 19:57	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0017

Lancaster Laboratories, Inc.
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Analysis Report

Lancaster Laboratories

Sample Description: SPMW-06RS-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959006
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 09:05 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW6 SDG#: IRN50-04

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	**0.0118 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	**1.56**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0310**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**4.0**	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	**17.8**	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	101121848001	04/23/2010 09:59	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 09:59	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 09:59	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 09:59	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 09:59	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 09:59	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:41	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 19:47	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0018

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: SPMW-08S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959007
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 09:50 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW8 SDG#: IRN50-05

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	**3.66**	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	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	**0.42 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	101121848001	04/23/2010 10:04	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 10:04	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 10:04	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 10:04	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 10:04	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 10:04	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:13	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 19:52	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0019

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: SPMW-09S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959008
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 10:30 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW9 SDG#: IRN50-06

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	**0.0061**	0.0050	1
07049	**Cadmium**	7440-43-9	**0.0072**	0.0050	1
07053	**Copper**	7440-50-8	**3.22**	0.0100	1
07058	**Manganese**	7439-96-5	**8.99**	0.0050	1
07061	**Nickel**	7440-02-0	**0.398**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**7.3**	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	**7.9**	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	101121848001	04/23/2010	10:09	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010	10:09	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010	10:09	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010	10:09	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010	10:09	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010	10:09	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010	19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010	13:42	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010	20:02	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010	19:30	Luz M Groff	1

IRN50 0020

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: SPMW-02S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959009
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 12:50 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW2 SDG#: IRN50-07

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	N.D.	0.0100	1
07058	**Manganese**	7439-96-5	**0.155**	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	**8.8**	1.0	10
00219	**Nitrite Nitrogen**	14797-65-0	**0.040 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	101121848001	04/23/2010 10:23	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 10:23	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 10:23	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 10:23	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 10:23	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 10:23	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:44	William L Hamaker Jr	10
00219	Nitrite Nitrogen	EPA 353.2	1	10111105102A	04/21/2010 20:14	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 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: SPMW-03S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959010
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 13:25 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW3 SDG#: IRN50-08

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	**0.0805**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0026 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	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	101121848001	04/23/2010 10:27	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 10:27	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 10:27	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 10:27	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 10:27	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 10:27	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:16	William L Hamaker Jr	1
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 20:00	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 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: SPMW-07S-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959011
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 14:05 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPMW7 SDG#: IRN50-09

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	**0.0107 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	**0.513**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0045 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**5.6**	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	**42.6**	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	101121848001	04/23/2010 10:32	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 10:32	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 10:32	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 10:32	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 10:32	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 10:32	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102A	04/27/2010 13:45	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 19:53	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0023

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: SPMW-07S-DP-100420 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5959012
LLI Group # 1191151
Account # 10651

Project Name: Southpoint

Collected: 04/20/2010 14:05 by RC

Submitted: 04/21/2010 09:00
Reported: 04/28/2010 12:37
Discard: 05/13/2010

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

SPM7D SDG#: IRN50-10FD*

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	**0.0124 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	**0.0037 J**	0.0100	1
07058	**Manganese**	7439-96-5	**0.669**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0050 J**	0.0100	1
Wet Chemistry		**EPA 353.2**	**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**5.8**	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	**40.8**	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	101121848001	04/23/2010 10:37	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101121848001	04/23/2010 10:37	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	101121848001	04/23/2010 10:37	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101121848001	04/23/2010 10:37	Tara L Snyder	1
07058	Manganese	SW-846 6010B	1	101121848001	04/23/2010 10:37	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	101121848001	04/23/2010 10:37	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101121848001	04/22/2010 19:00	Mirit S Shenouda	1
00220	Nitrate Nitrogen	EPA 353.2	1	10117106102B	04/27/2010 13:46	William L Hamaker Jr	5
00219	Nitrite Nitrogen	EPA 353.2	1	10111105101B	04/21/2010 20:03	Joseph E McKenzie	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10111022101A	04/21/2010 19:30	Luz M Groff	1

IRN50 0024

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
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: IRN50

Date Received: 04/21/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

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 5/07/10

Dana M. Kauffman, Manager
Data Deliverables

IRN50 0027

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: IRN50

Lab Sample ID
5959003
5959004
5959005
5959006
5959007
5959008
5959009
5959010
5959011
5959012

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

IRN50 0028

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959003
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.9	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	452			P
7440-02-0	Nickel	1.8	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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959004
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	9.1	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	19.8			P
7440-02-0	Nickel	2.6	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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959005
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	264			P
7440-02-0	Nickel	76.5			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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959006
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.8	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	1560			P
7440-02-0	Nickel	31.0			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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959007
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	3660			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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959008
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	U		P
7440-41-7	Beryllium	6.1			P
7440-43-9	Cadmium	7.2			P
7440-50-8	Copper	3220			P
7439-96-5	Manganese	8990			P
7440-02-0	Nickel	398			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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959009
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	155			P
7440-02-0	Nickel	1.8	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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959010
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	80.5			P
7440-02-0	Nickel	2.6	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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959011
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	10.7	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	513			P
7440-02-0	Nickel	4.5	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.: IRN50
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5959012
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/21/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	12.4	B		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	2.0	U		P
7440-50-8	Copper	3.7	B		P
7439-96-5	Manganese	669			P
7440-02-0	Nickel	5.0	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	

Quality Control Data

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN50

Method: P
Run Name: 1011302T63
Calibration Date(s): 04/23/2010
Preparation Blank Matrix: WATER

		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		7.7	U	7.7	U	7.7	U	7.7	U		7.200	U	P11248AB
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U		1.400	U	P11248AB
Cadmium		0.55	B	0.59	B	0.51	U	0.58	B		2.000	U	P11248AB
Copper		2.5	U	2.5	U	2.5	U	2.5	U		2.700	U	P11248AB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P11248AB
Nickel		2.0	U	2.0	U	2.0	U	2.0	U		1.800	U	P11248AB

METHODS:	CONCENTRATION QUALIFIERS: IRN50 0041
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN50

Method: P
Run Name: 1011302T63
Calibration Date(s): 04/23/2010

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				7.7	U								
Beryllium				0.67	U								
Cadmium				0.57	B								
Copper				2.5	U								
Manganese				1.0	U								
Nickel				-2.3	B								

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: IRN50
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *59712BKG Matrix Spike Lab Sample ID: *59712MS Matrix Spike Duplicate Lab Sample ID: *59712MSD
% Solids for Sample: 0.0
Batch Id(s): P11248A

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		8.7800	B	159.3500		163.1700		150.0000	150.0000	UG/L	100		103		2		75 - 125	20	P
Beryllium		1.4000	U	45.8500		45.5500		50.0000	50.0000	UG/L	92		91		1		87 - 114	20	P
Cadmium		2.0000	U	50.8300		50.7000		50.0000	50.0000	UG/L	102		101		0		83 - 116	20	P
Copper		48.5300		301.7700		298.9700		250.0000	250.0000	UG/L	101		100		1		86 - 122	20	P
Manganese		33.0600		536.5600		533.5800		500.0000	500.0000	UG/L	101		100		1		75 - 125	20	P
Nickel		12.0600		518.9400		517.8000		500.0000	500.0000	UG/L	101		101		0		86 - 115	20	P

IRN50 B413

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.: IRN50
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *59712BKG
% Solids for Duplicate: 0.0
Batch ID(s): P11248A
Concentration Units: UG/L

Duplicate Lab Sample ID: *59712DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			8.7800	B	7.2000	U	200		P
Beryllium			1.4000	U	1.4000	U			P
Cadmium			2.0000	U	2.0000	U			P
Copper		10.0	48.5300		46.8900		3		P
Manganese			33.0600		32.2600		2		P
Nickel		10.0	12.0600		11.4800		5		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.

IRN50 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.: IRN50
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P11248AQ	UG/L	150.0	144.93		133.5	173.0	97	P	Yes
Beryllium		P11248AQ	UG/L	50.0	45.36		45.0	56.0	91	P	Yes
Cadmium		P11248AQ	UG/L	50.0	49.57		45.0	56.0	99	P	Yes
Copper		P11248AQ	UG/L	250.0	250.35		225.0	280.0	100	P	Yes
Manganese		P11248AQ	UG/L	500.0	493.27		450.0	550.0	99	P	Yes
Nickel		P11248AQ	UG/L	500.0	497.42		450.0	555.0	99	P	Yes

IRN50 0045

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

IRN50 0046

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: IRN50

Method: P
Batch ID: P11248A

Lab Sample ID	Date	Weight (gram)	Volume (ml)
5959003	04/22/2010		50
5959004	04/22/2010		50
5959005	04/22/2010		50
5959006	04/22/2010		50
5959007	04/22/2010		50
5959008	04/22/2010		50
5959009	04/22/2010		50
5959010	04/22/2010		50
5959011	04/22/2010		50
5959012	04/22/2010		50
*59712BKG	04/22/2010		50
*59712DUP	04/22/2010		50
*59712MSD	04/22/2010		50
*59712MS	04/22/2010		50
P11248AB	04/22/2010		50
P11248AQ	04/22/2010		50

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.: IRN50

Method: P
Instrument ID: 06383
Run Name: 1011302T63

Run Start Date: 04/23/2010
Run End Date: 04/23/2010

Lab Sample ID	D/F	Time	% R	Analytes					
				AS	BE	CD	CU	MN	NI
S0	1.00	07:40		X	X	X	X	X	X
S	1.00	07:44							
S	1.00	07:49		X	X	X	X	X	X
S	1.00	07:53							
ICV	1.00	07:59		X	X	X	X	X	X
ICB	1.00	08:04		X	X	X	X	X	X
LLC	1.00	08:08		X	X	X	X	X	X
ICSA	1.00	08:13		X	X	X	X	X	X
ICSAB	1.00	08:17		X	X	X	X	X	X
CCV	1.00	08:22		X	X	X	X	X	X
CCB	1.00	08:27		X	X	X	X	X	X
P11248AB	1.00	08:31		X	X	X	X	X	X
P11248AQ	1.00	08:36		X	X	X	X	X	X
*59712BKG	1.00	08:41		X	X	X	X	X	X
*59712A	1.00	08:45							
*59712DUP	1.00	08:50		X	X	X	X	X	X
*59712MS	1.00	08:55		X	X	X	X	X	X
*59712MSD	1.00	08:59		X	X	X	X	X	X
*59712L	5.00	09:04		X	X	X	X	X	X
ZZZZZZ	1.00	09:08							
ZZZZZZ	1.00	09:13							
CCV	1.00	09:18		X	X	X	X	X	X
CCB	1.00	09:22		X	X	X	X	X	X
ZZZZZZ	1.00	09:27							
ZZZZZZ	1.00	09:32							
ZZZZZZ	1.00	09:36							
ZZZZZZ	1.00	09:41							
5959003	1.00	09:46		X	X	X	X	X	X
5959004	1.00	09:50		X	X	X	X	X	X
5959005	1.00	09:55		X	X	X	X	X	X
5959006	1.00	09:59		X	X	X	X	X	X
5959007	1.00	10:04		X	X	X	X	X	X
5959008	1.00	10:09		X	X	X	X	X	X
CCV	1.00	10:13		X	X	X	X	X	X
CCB	1.00	10:18		X	X	X	X	X	X
5959009	1.00	10:23		X	X	X	X	X	X
5959010	1.00	10:27		X	X	X	X	X	X
5959011	1.00	10:32		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

IRN50 0048

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN50

Method: P
Instrument ID: 06383
Run Name: 1011302T63

Run Start Date: 04/23/2010
Run End Date: 04/23/2010

Lab Sample ID	D/F	Time	% R	Analytes																													
				AS	BE	CD	CU	MN	NI																								
5959012	1.00	10:37		X	X	X	X	X	X																								
ZZZZZZ	1.00	10:41																															
ZZZZZZ	1.00	10:46																															
ZZZZZZ	1.00	10:51																															
LLC	1.00	10:55		X	X	X	X	X	X																								
ICSA	1.00	11:00		X	X	X	X	X	X																								
ICSAB	1.00	11:05		X	X	X	X	X	X																								
CCV	1.00	11:09		X	X	X	X	X	X																								
CCB	1.00	11:14		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

Instrumental Analysis Data

IRN50 0050

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN50

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
5959003	X		
5959004	X		
5959005	X		
5959006	X		
5959007	X		
5959008	X		
5959009	X		
5959010	X		
5959011	X		
5959012	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
5959006	DF5
5959008	DF5
5959009	DF10
5959011	DF5
5959012	DF5
LCS	DF10

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

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN50

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:

Jeff Klink For Date 05-06-10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: IRN50

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10117106102A	5959003
		5959004
		5959005
		5959006
		5959007
		5959008
		5959009
		5959010
		5959011
		P958802 U/BKG,R,D
		Blank
		LCS
Nitrate Nitrogen	10117106102B	5959012
		P959105 U/BKG,R,D
Nitrite Nitrogen	10111105101A	Blank
		LCS
Nitrite Nitrogen	10111105101B	5959003
		5959004
		5959005
		5959006 U/BKG,R,D
		5959007
		5959008
		5959010
		5959011
		5959012
Nitrite Nitrogen	10111105102A	5959009
		P959096 U/BKG,R,D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: IRN50
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/27/10	AK	10117106102	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/21/10	AK	10111105101	N.D.	mg/l	0.015	0.050
	04/21/10	AK	10111105102	N.D.	mg/l	0.015	0.050

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: IRN50
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 <=
P958802 R	Nitrate Nitrogen	04/27/10	AK	10117106102A	N.D.	1	NA	0.95	NA	mg/l	95	NA	90 - 110	NA	NA
P959105 R	Nitrate Nitrogen	04/27/10	AK	10117106102B	N.D.	1	NA	0.91	NA	mg/l	91	NA	90 - 110	NA	NA
5959006	Nitrite Nitrogen	04/21/10	AK	10111105101B	N.D.	0.2	NA	0.21	NA	mg/l	104	NA	90 - 110	NA	NA
P959096 R	Nitrite Nitrogen	04/21/10	AK	10111105102A	N.D.	0.2	NA	0.20	NA	mg/l	100	NA	90 - 110	NA	NA

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

IRN50 0857

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: IRN50
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P958802	Nitrate Nitrogen	04/27/10	AK	10117106102A	N.D.	N.D.	mg/l	0(1)	2
P959105	Nitrate Nitrogen	04/27/10	AK	10117106102B	N.D.	N.D.	mg/l	0(1)	2
5959006	Nitrite Nitrogen	04/21/10	AK	10111105101B	N.D.	N.D.	mg/l	0(1)	20
P959096	Nitrite Nitrogen	04/21/10	AK	10111105102A	N.D.	N.D.	mg/l	0(1)	20

IRN50 2050

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: IRN50
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10117106102	Nitrate Nitrogen	04/27/10	AK	21	20.5	NA	mg/l	18.8 - 23.2	NA	NA
10111105101	Nitrite Nitrogen	04/21/10	AK	0.542	0.56	NA	mg/l	0.4851 - 0.5989	NA	NA
10111105102	Nitrite Nitrogen	04/21/10	AK	0.542	0.58	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: IRN50

Instrument ID: 09106
Calibration Date: 04/21/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.8565	3.2667	1.8286	1.0481	0.7201	0.5201	0.9995

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10111105101A, 10111105101B, 10111105102A
Analysis Dates: 04/21/2010
Run Names: 1011102C02

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.64710	108
ICB	0	ND	NA
CCV2	0.6	0.63510	106
CCB 1	0	ND	NA
CCV2	0.6	0.61703	103
CCB 2	0	ND	NA
CCV2	0.6	0.64607	108
CCB 3	0	ND	NA
CCV2	0.6	0.62671	104
CCB 4	0	ND	NA

IRN50 0060

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: IRN50

Instrument ID: 09106
Calibration Date: 04/27/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.5306	2.9077	1.2609	0.7951	0.5285	0.4238	0.9986

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10117106102A, 10117106102B
Analysis Dates: 04/27/2010
Run Names: 1011701C02

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.55499	102
ICB	0	ND	NA
CCV2	2.5	2.44498	98
CCB 14	0	ND	NA
CCV2	2.5	2.59627	104
CCB 15	0	ND	NA
CCV2	2.5	2.51636	101
CCB 16	0	ND	NA
CCV2	2.5	2.53322	101
CCB 17	0	ND	NA
CCV2	2.5	2.39859	96
CCB 18	0	ND	NA

LRN50 0060

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

IRN58 0062

Miscellaneous Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN50

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
5959003	X		
5959004	X		
5959005	X		
5959006	X		
5959007	X		
5959008	X		
5959009	X		
5959010	X		
5959011	X		
5959012	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

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN50

Narrative Reviewed and Approved by:

For Date 05-11-10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: IRN50

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10111022101A	5959003
		5959004
		5959005
		5959006
		5959007
		5959008
		5959009
		5959010
		5959011
		5959012
		P958801 U,D
		Blank
		LCS/LCSD

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: IRN50
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/21/10	TI	10111022101	N.D.	mg/l	0.20	0.60

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: IRN50
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P958801	Ammonia Nitrogen	04/21/10	TI	10111022101A	33.0	32.6	mg/l	1	2

IRN50 8878

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: IRN50
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10111022101	Ammonia Nitrogen	04/21/10	TI	10	9.3	9.2	mg/l	8.5 - 10.5	1	5

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

IBN50 0872

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Type III Data Package

Prepared for:

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

Project: Southpoint
Water Samples
Collected on 04/21/10

SDG# IRN51

GROUP	SAMPLE NUMBERS
1191393	5960433-5960436

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: Luz C Torres

Luz C Torres
Group Leader

Date 5/13/10

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 62

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Sample Reference List for SDG Number IRN51 with a Data Package Type of III

10651 - Honeywell

Project: Southpoint

Lab Sample Number	Lab Sample Code	Client Sample Description
5960433	IS11R	SPMW11RS-100421 Grab Water Sample
5960434	IS12S	SPMW12S-100421 Grab Water Sample
5960435	IS13S	SPMW13S-100421 Grab Water Sample
5960436	IS04S	SPMW04S-100421 Grab Water Sample

Lancaster Laboratories

Analysis Request / Environmental Services Chain of Custody

COC#: 1 OF 1

Group# 1191393

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

Sample #s 5960433-36

Client: Honeywell | Acct: 10651
Project Name: South Point | PWSID #: _____
Project Manager: PATRICK HOLMES | P.O.# 4987848
Sampler: RON CADE + CHARLIE MILLER | 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)
SPMW11RS-100421	4/21/2010	08:50	X			X		4	X	X	X									
SPMW12S-100421	4/21/2010	09:25	X			X		4	X	X	X									
SPMW13S-100421	4/21/2010	10:00	X			X		4	X	X	X									
SPMW04S-100421	4/21/2010	10:35	X			X		4	X	X	X									

→ From bottle labels walk 4/29/10.

Remarks:

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
R. Cade	4-21-10	12:00			
			Deborah Vessel	4/22/10	0900

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Honeywell

Date of Receipt: 4/22/10

Time of Receipt: 0900

Source Code: 501

Unpacker Emp. No.: 208

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	3.0	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:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[illegible]	4/22/10	0935	Unpacking / to storage
Kristin [illegible]	4-22-10	1004	Place in Storage or Entry
			Entry
			Entry

Issued by Dept. 6042 Management
2174.05

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/23/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5960433			PK										PK									Neg	Neg			Original				BQ 189
pH B/A			<2										<2									Pos	Pos			Created				
5960434			PK										PK									Neg	Neg			Original				
pH B/A			<2										<2									Pos	Pos			Created				
5960435			PK										PK									Neg	Neg			Original				
pH B/A			<2										<2									Pos	Pos			Created				
5960436			PK										PK									Neg	Neg			Original				
pH B/A			<2										<2									Pos	Pos			Created				
5960402			PK																			Neg	X Neg			Original				
pH B/A			<2																			Pos	Pos			Created				
5960406									PK													Neg	Neg			Original				
pH B/A									<2													Pos	Pos			Created				
5960407									PK													Neg	Neg			Original				
pH B/A									<2													Pos	Pos			Created				
5961075									PK													Neg	Neg			Original				
pH B/A									<2													Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 75

Lancaster Laboratories

Sample Preservation Data - Waters

Date: 4/23/10

Number	H_2SO_4 1	3	11	46	47	56	143	146	H_3PO_4 91	HCl 29	79	HNO_3 7	8	9	138	NaOH 2	28	81	MCA 72	None 15	16	Sulfide Check	Res. Cl. Check	0178 6030 Adjust w/ H_2SO_4 or NaOH	6368 6369 (res. Cl check only)	Subsamples Created	F-2138	3312	Comment # Lab Notes # other notes	Init./ Emp. #
5960784													PK									Neg	Neg			Original				BQ
pH B/A													<2									Pos	Pos			Created				189
5960198																PK						X Neg	X Neg			Original				
pH B/A																>12						Pos	Pos			Created				
5960199							PK															Neg	Neg			Original				
pH B/A							<2															Pos	Pos			Created				
5960200													PK									Neg	Neg			Original				
pH B/A													<2									Pos	Pos			Created				
5960433						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5960434						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5960435						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				
5960436						PK																Neg	X Neg			Original				
pH B/A						<2																Pos	Pos			Created				

Reviewed by: _____ 1123.15 Date: _____

115085 81

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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 cadium 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

Analysis Report

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

May 04, 2010

Project: Southpoint

Submittal Date: 04/22/2010
Group Number: 1191393
PO Number: 4987848
State of Sample Origin: OH

Client Sample Description	Lancaster Labs (LLI) #
SPMW11RS-100421 Grab Water Sample	5960433
SPMW12S-100421 Grab Water Sample	5960434
SPMW13S-100421 Grab Water Sample	5960435
SPMW04S-100421 Grab Water Sample	5960436

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
1 COPY TO	Data Package Group	

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

Respectfully Submitted,

Robert Strocko, Jr.
Manager

FRN51 0007

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: SPMW11RS-100421 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5960433
LLI Group # 1191393
Account # 10651

Project Name: Southpoint

Collected: 04/21/2010 08:50 by RC

Submitted: 04/22/2010 09:00
Reported: 05/04/2010 16:52
Discard: 05/19/2010

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

IS11R SDG#: IRN51-01

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	**0.0394**	0.0050	1
07061	**Nickel**		7440-02-0	**0.0153**	0.0100	1
Wet Chemistry		**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**		14797-55-8	**3.8**	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	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	2	101131848001	04/28/2010	04:27	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	2	101131848001	04/28/2010	23:22	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	2	101131848001	04/28/2010	04:27	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101131848001	04/28/2010	23:22	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	101131848001	04/28/2010	23:22	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	2	101131848001	04/28/2010	04:27	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101131848001	04/25/2010	20:20	Annamaria Stipkovits	1
00220	Nitrate Nitrogen	EPA 353.2	1	10118106101B	04/28/2010	10:42	K Robert Caulfeild-James	5
00219	Nitrite Nitrogen	EPA 353.2	1	10112105101A	04/22/2010	20:51	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10116022101A	04/26/2010	18:00	Luz M Groff	1

IRN51 0000

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: SPMW12S-100421 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5960434
LLI Group # 1191393
Account # 10651

Project Name: Southpoint

Collected: 04/21/2010 09:25 by RC

Submitted: 04/22/2010 09:00
Reported: 05/04/2010 16:52
Discard: 05/19/2010

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

IS12S SDG#: IRN51-02

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	**0.0310**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0053 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.0**	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	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	2	101131848001	04/28/2010 05:22	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101131848001	04/29/2010 00:16	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	2	101131848001	04/28/2010 05:22	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101131848001	04/29/2010 00:16	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	101131848001	04/29/2010 00:16	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	2	101131848001	04/28/2010 05:22	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101131848001	04/25/2010 20:20	Annamaria Stipkovits	1
00220	Nitrate Nitrogen	EPA 353.2	1	10118106101B	04/28/2010 09:54	K Robert Caulfeild-James	1
00219	Nitrite Nitrogen	EPA 353.2	1	10112105101A	04/22/2010 20:52	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10116022101A	04/26/2010 18:00	Luz M Groff	1

IRN51 0009

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: SPMW13S-100421 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5960435
LLI Group # 1191393
Account # 10651

Project Name: Southpoint

Collected: 04/21/2010 10:00 by RC

Submitted: 04/22/2010 09:00
Reported: 05/04/2010 16:52
Discard: 05/19/2010

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

IS13S SDG#: IRN51-03

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	**0.197**	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	**0.60**	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	2	101131848001	04/28/2010	05:24	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101131848001	04/29/2010	00:19	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	2	101131848001	04/28/2010	05:24	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101131848001	04/29/2010	00:19	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	101131848001	04/29/2010	00:19	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	2	101131848001	04/28/2010	05:24	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101131848001	04/25/2010	20:20	Annamaria Stipkovits	1
00220	Nitrate Nitrogen	EPA 353.2	1	10118106101B	04/28/2010	09:56	K Robert Caulfeild-James	1
00219	Nitrite Nitrogen	EPA 353.2	1	10112105101A	04/22/2010	20:53	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10116022101A	04/26/2010	18:00	Luz M Groff	1

IRN51 0818

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: SPMW04S-100421 Grab Water Sample
Ironton Southpoint

LLI Sample # WW 5960436
LLI Group # 1191393
Account # 10651

Project Name: Southpoint

Collected: 04/21/2010 10:35 by RC

Submitted: 04/22/2010 09:00
Reported: 05/04/2010 16:52
Discard: 05/19/2010

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

IS04S SDG#: IRN51-04*

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	**0.0374**	0.0050	1
07061	**Nickel**	7440-02-0	**0.0085 J**	0.0100	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	**Nitrate Nitrogen**	14797-55-8	**2.3**	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	2	101131848001	04/28/2010	05:33	Tara L Snyder	1
07047	Beryllium	SW-846 6010B	1	101131848001	04/29/2010	00:28	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	2	101131848001	04/28/2010	05:33	Tara L Snyder	1
07053	Copper	SW-846 6010B	1	101131848001	04/29/2010	00:28	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	101131848001	04/29/2010	00:28	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	2	101131848001	04/28/2010	05:33	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	101131848001	04/25/2010	20:20	Annamaria Stipkovits	1
00220	Nitrate Nitrogen	EPA 353.2	1	10118106101B	04/28/2010	09:57	K Robert Caulfeild-James	1
00219	Nitrite Nitrogen	EPA 353.2	1	10112105101A	04/22/2010	20:55	Venia B McFadden	1
00221	Ammonia Nitrogen	SM20 4500NH3 B/C modified	1	10116022101A	04/26/2010	18:00	Luz M Groff	1

IRN51 0011

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

Lancaster Laboratories

Where quality is a science.

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: IRN51

Date Received: 04/22/2010

Dilutions:

Refer to the analysis run logs for samples requiring dilutions.

Quality Assurance/Quality Control:

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, an LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

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 [signature] for Date 05-10-10

Dana M. Kauffman, Manager
Data Deliverables

IRN51 0014

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
COVER PAGE
INORGANIC ANALYSES DATA PACKAGE
SDG No.: IRN51

Lab Sample ID
5960433
5960434
5960435
5960436

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	Yes	NA
Were ICP-AES and ICP-MS background corrections Applied?	(Yes/No)	Yes	NA
If yes, were raw data generated before application of background corrections?	(Yes/No)	No	_____

IRN51 0015

LEGEND
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Data

IRN51 8816

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: IRN51
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5960433
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	39.4			P
7440-02-0	Nickel	15.3			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.: IRN51
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5960434
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	31.0			P
7440-02-0	Nickel	5.3	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.: IRN51
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5960435
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	197			P
7440-02-0	Nickel	1.8	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.: IRN51
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 5960436
Concentration Units: UG/L

% Solids: 0.0
Date Received: 04/22/2010

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.2	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	37.4			P
7440-02-0	Nickel	8.5	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	

Quality Control Data

IRM51 8821

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1011803T71
Calibration Date(s): 04/28/2010
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		4.0	B	4.2	B	3.3	B	3.3	U		7.200	U	P11348AB
Beryllium													
Cadmium		0.33	U	0.33	U	0.33	U	0.33	U		2.000	U	P11348AB
Copper													
Manganese													
Nickel		1.0	U	1.0	U	1.0	U	1.0	U		1.800	U	P11348AB

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1011803T71
Calibration Date(s): 04/28/2010

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				3.9	B	3.3	U						
Beryllium													
Cadmium				0.33	U	0.33	U						
Copper													
Manganese													
Nickel				1.0	U	1.0	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

IRN51 0023

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1011806T71
Calibration Date(s): 04/28/2010 - 04/29/2010
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													
Beryllium		1.1	B	1.0	B	1.0	B	1.1	B		1.400	U	P11348AB
Cadmium													
Copper		2.5	U	2.5	U	2.5	U	2.5	U		2.700	U	P11348AB
Manganese		1.0	U	1.0	U	1.0	U	1.0	U		0.840	U	P11348AB
Nickel													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

IRN51 0024

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1011806T71
Calibration Date(s): 04/28/2010 - 04/29/2010

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													
Beryllium				1.1	B	1.0	B						
Cadmium													
Copper				2.5	U	2.5	U						
Manganese				1.0	U	1.0	U						
Nickel													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1012305T63
Calibration Date(s): 05/03/2010

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													
Beryllium		0.67	U	0.67	U	0.67	U	0.67	U				
Cadmium													
Copper		2.5	U	2.5	U	2.5	U	2.5	U				
Manganese													
Nickel													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

IRN51 0026

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1012305T63
Calibration Date(s): 05/03/2010

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													
Beryllium				0.67	U								
Cadmium													
Copper				2.5	U								
Manganese													
Nickel													

IRN51-0027

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: IRN51

Method: P
Run Name: 1012402T61
Calibration Date(s): 05/04/2010

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													
Beryllium													
Cadmium													
Copper													
Manganese		1.0	U	1.0	U	1.0	U						
Nickel													

IRN51 0320

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: IRN51
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 5960433BKG Matrix Spike Lab Sample ID: 5960433MS Matrix Spike Duplicate Lab Sample ID: 5960433MSD
% Solids for Sample: 0.0
Batch Id(s): P11348A

		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		7.2000	U	156.6800		153.3500		150.0000	150.0000	UG/L	104		102		2		75 - 125	20	P
Beryllium		1.4000	U	50.0300		50.0600		50.0000	50.0000	UG/L	100		100		0		87 - 114	20	P
Cadmium		2.0000	U	51.3800		50.7800		50.0000	50.0000	UG/L	103		102		1		83 - 116	20	P
Copper		2.7000	U	240.3900		239.5200		250.0000	250.0000	UG/L	96		96		0		86 - 122	20	P
Manganese		39.4000		506.0000		507.2600		500.0000	500.0000	UG/L	93		94		0		75 - 125	20	P
Nickel		15.3200		525.5500		517.9100		500.0000	500.0000	UG/L	102		101		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.: IRN51
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 5960433BKG
% Solids for Duplicate: 0.0
Batch ID(s): P11348A
Concentration Units: UG/L

Duplicate Lab Sample ID: 5960433DUP
% Solids for Sample: 0.0

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic			7.2000	U	7.2000	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			39.4000		41.5000		5		P
Nickel		10.0	15.3200		14.8700		3		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.

IRN51 0038

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.: IRN51
Matrix: WATER

Analyte	Mass	Lab Sample ID	Units	True	Found	C	Limit		%R	M	In Spec
Arsenic		P11348AQ	UG/L	150.0	150.47		133.5	173.0	100	P	Yes
Beryllium		P11348AQ	UG/L	50.0	49.21		45.0	56.0	98	P	Yes
Cadmium		P11348AQ	UG/L	50.0	51.40		45.0	56.0	103	P	Yes
Copper		P11348AQ	UG/L	250.0	238.40		225.0	280.0	95	P	Yes
Manganese		P11348AQ	UG/L	500.0	474.56		450.0	550.0	95	P	Yes
Nickel		P11348AQ	UG/L	500.0	518.10		450.0	555.0	104	P	Yes

IRN51 0031

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

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: IRN51

Method: P
Batch ID: P11348A

Lab Sample ID	Date	Weight (gram)	Volume (ml)
5960434	04/25/2010		50
5960435	04/25/2010		50
5960436	04/25/2010		50
5960433BKG	04/25/2010		50
5960433DUP	04/25/2010		50
5960433MSD	04/25/2010		50
5960433MS	04/25/2010		50
P11348AB	04/25/2010		50
P11348AQ	04/25/2010		50

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

IRN51 0803

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 16315
Run Name: 1011803T71

Run Start Date: 04/28/2010
Run End Date: 04/28/2010

Lab Sample ID	D/F	Time	% R	Analytes					
				AS	BE	CD	CU	MN	NI
S0	1.00	03:49		X		X			X
S	1.00	03:52							
S	1.00	03:55		X		X			X
S	1.00	03:58							
ICV	1.00	04:01		X		X			X
ICB	1.00	04:04		X		X			X
LLC	1.00	04:06		X		X			X
ICSA	1.00	04:09		X		X			X
ICSAB	1.00	04:12		X		X			X
CCV	1.00	04:16		X		X			X
CCB	1.00	04:19		X		X			X
P11348AB	1.00	04:22		X		X			X
P11348AQ	1.00	04:24		X		X			X
5960433BKG	1.00	04:27		X		X			X
5960433DUP	1.00	04:30		X		X			X
5960433DA	1.00	04:33							
5960433MS	1.00	04:36		X		X			X
5960433MSD	1.00	04:39		X		X			X
5960433DL	5.00	04:41		X		X			X
ZZZZZZ	1.00	04:44							
ZZZZZZ	1.00	04:47							
CCV	1.00	04:51		X		X			X
CCB	1.00	04:53		X		X			X
ZZZZZZ	5.00	04:56							
ZZZZZZ	1.00	04:59							
ZZZZZZ	5.00	05:03							
ZZZZZZ	1.00	05:06							
ZZZZZZ	5.00	05:09							
ZZZZZZ	10.00	05:12							
ZZZZZZ	1.00	05:15							
ZZZZZZ	5.00	05:19							
5960434	1.00	05:22		X		X			X
5960435	1.00	05:24		X		X			X
CCV	1.00	05:27		X		X			X
CCB	1.00	05:30		X		X			X
5960436	1.00	05:33		X		X			X
ZZZZZZ	1.00	05:36							
ZZZZZZ	1.00	05:39							

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

IRN51 0834

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 16315
Run Name: 1011803T71

Run Start Date: 04/28/2010
Run End Date: 04/28/2010

Lab Sample ID	D/F	Time	% R	Analytes					
				AS	BE	CD	CU	MN	NI
ZZZZZZ	1.00	05:42							
ZZZZZZ	1.00	05:45							
ZZZZZZ	1.00	05:47							
ZZZZZZ	1.00	05:50							
ZZZZZZ	1.00	05:53							
ZZZZZZ	1.00	05:56							
ZZZZZZ	1.00	05:59							
CCV	1.00	06:02		X		X			X
CCB	1.00	06:05		X		X			X
ZZZZZZ	1.00	06:08							
ZZZZZZ	1.00	06:11							
LLC	1.00	06:14		X		X			X
ICSA	1.00	06:17		X		X			X
ICSAB	1.00	06:20		X		X			X
CCV	1.00	06:24		X		X			X
CCB	1.00	06:27		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

IRN51 0835

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 16315
Run Name: 1011806T71

Run Start Date: 04/28/2010
Run End Date: 04/29/2010

Lab Sample ID	D/F	Time	% R	Analytes																													
				AS	BE	CD	CU	MN	NI																								
S0	1.00	22:44			X		X	X																									
S	1.00	22:46																															
S	1.00	22:49			X		X	X																									
S	1.00	22:52																															
ICV	1.00	22:55			X		X	X																									
ICB	1.00	22:58			X		X	X																									
LLC	1.00	23:01			X		X	X																									
ICSA	1.00	23:04			X		X	X																									
ICSAB	1.00	23:07			X		X	X																									
CCV	1.00	23:10			X		X	X																									
CCB	1.00	23:13			X		X	X																									
P11348AB	1.00	23:16			X		X	X																									
P11348AQ	1.00	23:19			X		X	X																									
5960433BKG	1.00	23:22			X		X	X																									
5960433DA	1.00	23:25																															
ZZZZZZ	1.00	23:28																															
5960433MS	1.00	23:30			X		X	X																									
5960433MSD	1.00	23:33			X		X	X																									
5960433DL	5.00	23:36			X		X	X																									
ZZZZZZ	1.00	23:39																															
ZZZZZZ	1.00	23:42																															
CCV	1.00	23:45			X		X	X																									
CCB	1.00	23:48			X		X	X																									
ZZZZZZ	5.00	23:51																															
ZZZZZZ	1.00	23:54																															
ZZZZZZ	5.00	23:58																															
ZZZZZZ	1.00	00:00																															
ZZZZZZ	5.00	00:04																															
ZZZZZZ	10.00	00:07																															
ZZZZZZ	1.00	00:10																															
ZZZZZZ	5.00	00:13																															
5960434	1.00	00:16			X		X	X																									
5960435	1.00	00:19			X		X	X																									
CCV	1.00	00:22			X		X	X																									
CCB	1.00	00:25			X		X	X																									
5960436	1.00	00:28			X		X	X																									
ZZZZZZ	1.00	00:31																															
ZZZZZZ	1.00	00:34																															

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

IRN51 0838

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 16315
Run Name: 1011806T71

Run Start Date: 04/28/2010
Run End Date: 04/29/2010

Lab Sample ID	D/F	Time	% R	Analytes																													
				AS	BE	CD	CU	MN	NI																								
ZZZZZZ	1.00	00:37																															
ZZZZZZ	1.00	00:40																															
ZZZZZZ	1.00	00:42																															
ZZZZZZ	1.00	00:45																															
ZZZZZZ	1.00	00:48																															
ZZZZZZ	1.00	00:51																															
ZZZZZZ	1.00	00:54																															
CCV	1.00	00:57			X		X	X																									
CCB	1.00	01:00			X		X	X																									
ZZZZZZ	1.00	01:03																															
ZZZZZZ	1.00	01:06																															
LLC	1.00	01:09			X		X	X																									
ICSA	1.00	01:12			X		X	X																									
ICSAB	1.00	01:15			X		X	X																									
CCV	1.00	01:19			X		X	X																									
CCB	1.00	01:22			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

IRN51 8837

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 06383
Run Name: 1012305T63

Run Start Date: 05/03/2010
Run End Date: 05/03/2010

Lab Sample ID	D/F	Time	% R	Analytes																															
				AS	BE	CD	CU	MN	NI																										
S0	1.00	10:24			X		X																												
S	1.00	10:29																																	
S	1.00	10:34			X		X																												
S	1.00	10:38																																	
ICV	1.00	10:44			X		X																												
ICB	1.00	10:48			X		X																												
LLC	1.00	10:53			X		X																												
ICSA	1.00	10:57			X		X																												
ICSAB	1.00	11:02			X		X																												
CCV	1.00	11:07			X		X																												
CCB	1.00	11:12			X		X																												
ZZZZZZ	10.00	11:16																																	
ZZZZZZ	10.00	11:21																																	
ZZZZZZ	10.00	11:26																																	
ZZZZZZ	10.00	11:30																																	
ZZZZZZ	10.00	11:35																																	
ZZZZZZ	50.00	11:39																																	
ZZZZZZ	10.00	11:44																																	
ZZZZZZ	10.00	11:49																																	
ZZZZZZ	5.00	11:53																																	
ZZZZZZ	50.00	11:58																																	
CCV	1.00	12:02			X		X																												
CCB	1.00	12:07			X		X																												
ZZZZZZ	100.00	12:12																																	
ZZZZZZ	50.00	12:16																																	
ZZZZZZ	100.00	12:21																																	
ZZZZZZ	50.00	12:26																																	
ZZZZZZ	100.00	12:30																																	
ZZZZZZ	50.00	12:35																																	
ZZZZZZ	100.00	12:39																																	
5960433DUP	1.00	12:44			X		X																												
ZZZZZZ	5.00	12:49																																	
ZZZZZZ	5.00	12:53																																	
CCV	1.00	12:58			X		X																												
CCB	1.00	13:03			X		X																												
LLC	1.00	13:07			X		X																												
ICSA	1.00	13:12			X		X																												
ICSAB	1.00	13:16			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

IRN51 0838

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 06383
Run Name: 1012305T63

Run Start Date: 05/03/2010
Run End Date: 05/03/2010

Lab Sample ID	D/F	Time	% R	Analytes																													
				AS	BE	CD	CU	MN	NI																								
CCV	1.00	13:21			X		X																										
CCB	1.00	13:26			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

IRN51 0039

Lancaster Laboratories

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: IRN51

Method: P
Instrument ID: 05478
Run Name: 1012402T61

Run Start Date: 05/04/2010
Run End Date: 05/04/2010

Lab Sample ID	D/F	Time	% R	Analytes																													
				AS	BE	CD	CU	MN	NI																								
S0	1.00	14:27						X																									
S	1.00	14:30																															
S	1.00	14:34						X																									
S	1.00	14:37																															
ICV	1.00	14:41						X																									
ICB	1.00	14:44						X																									
LLC	1.00	14:48						X																									
ICSA	1.00	14:51						X																									
ICSAB	1.00	14:55						X																									
CCV	1.00	14:58						X																									
CCB	1.00	15:01						X																									
P11348AB	1.00	15:05																															
5960433DUP	1.00	15:08						X																									
ZZZZZZ	5.00	15:12																															
ZZZZZZ	5.00	15:15																															
LLC	1.00	15:19						X																									
ICSA	1.00	15:22						X																									
ICSAB	1.00	15:25						X																									
CCV	1.00	15:29						X																									
CCB	1.00	15:32						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

IRN51 0040

Miscellaneous Analysis Data

PRNG1 8841

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN51

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
5960433	X		
5960434	X		
5960435	X		
5960436	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

Narrative Reviewed and Approved by:

For Date 05-11-10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: Honeywell
SDG: IRN51

Analyte	Batch Number	Sample Number
Ammonia Nitrogen	10116022101A	5960433
		5960434
		5960435
		5960436
		P961813 U,D
		Blank
		LCS/LCSD

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: IRN51
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Ammonia Nitrogen	04/26/10	TI	10116022101	N.D.	mg/l	0.20	0.60

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: IRN51
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P961813	Ammonia Nitrogen	04/26/10	TI	10116022101A	11.4	11.3	mg/l	1	2

IRN51 0047

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: IRN51
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10116022101	Ammonia Nitrogen	04/26/10	TI	10	9.0	9.2	mg/l	8.5 - 10.5	2	5

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00221: Ammonia Nitrogen			
Ammonia Nitrogen	0.20	0.60	mg/l

LRN51 8849

Instrumental Analysis Data

PRN51 8858

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: Honeywell
SDG: IRN51

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
5960433	X		
5960434	X		
5960435	X		
5960436	X		

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen
5960433	DF5
LCS	DF10

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#: 10112105101A (Sample number(s): 5960433-5960436, UNSPK: P960291, BKG: P960291)
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
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: IRN51

Narrative Reviewed and Approved by:

For Date 05-13-10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: Honeywell
SDG: IRN51

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10118106101A	Blank
		LCS
Nitrate Nitrogen	10118106101B	5960433
		5960434
		5960435
		5960436
		P960291 U/BKG,R,D
Nitrite Nitrogen	10112105101A	5960433
		5960434
		5960435
		5960436
		P960291 U/BKG,R,D
		Blank
		LCS

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: IRN51
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	04/28/10	AK	10118106101	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	04/22/10	AK	10112105101	N.D.	mg/l	0.015	0.050

IRN51 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: IRN51
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 <=
P960291 R	Nitrate Nitrogen	04/28/10	AK	10118106101B	N.D.	1	NA	1.0	NA	mg/l	102	NA	90 - 110	NA	NA
P960291 R	Nitrite Nitrogen	04/22/10	AK	10112105101A	N.D.	0.2	NA	0.18	NA	mg/l	88*	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: IRN51
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P960291	Nitrate Nitrogen	04/28/10	AK	10118106101B	N.D.	N.D.	mg/l	0(1)	2
P960291	Nitrite Nitrogen	04/22/10	AK	10112105101A	N.D.	N.D.	mg/l	0(1)	20

IRN51 0050

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: IRN51
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10118106101	Nitrate Nitrogen	04/28/10	AK	21	20.2	NA	mg/l	18.8 - 23.2	NA	NA
10112105101	Nitrite Nitrogen	04/22/10	AK	0.542	0.55	NA	mg/l	0.4851 - 0.5989	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: IRN51

Instrument ID: 09037
Calibration Date: 04/22/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.7558	3.0635	1.7247	1.0412	0.6979	0.5189	1.0000

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10112105101A
Analysis Dates: 04/22/2010

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.63057	105
ICB	0	ND	NA
CCV2	0.6	0.62454	104
CCB 1	0	ND	NA
CCV2	0.6	0.62292	104
CCB 2	0	ND	NA

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: IRN51

Instrument ID: 09037
Calibration Date: 04/28/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.4733	2.7554	1.2028	0.7623	0.4887	0.4186	0.9996

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10118106101A, 10118106101B
Analysis Dates: 04/28/2010

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.37935	95
ICB	0	ND	NA
CCV2	2.5	2.44514	98
CCB 1	0	ND	NA
CCV2	2.5	2.43407	97
CCB 2	0	ND	NA
CCV2	2.5	2.46454	99
CCB 3	0	ND	NA
CCV2	2.5	2.41680	97
CCB 4	0	ND	NA
CCV2	2.5	2.44106	98
CCB 5	0	ND	NA

IRN51 0086

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number
Dept 27

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l

IRNS1 8862