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SOUTH POINT SITE
2007 ANNUAL GROUNDWATER MONITORING REPORT

South Point, Ohio

Prepared for:

Honeywell

1985 DOUGLAS DRIVE NORTH
GOLDEN VALLEY, MINNESOTA

Prepared by:

MACTEC Engineering and Consulting, Inc.

Edina, Minnesota

May 30, 2008

SOUTH POINT PLANT SUPERFUND SITE

SOUTH POINT, OHIO

Prepared for:

HONEYWELL INTERNATIONAL, INC.

Golden Valley, MN

May 30, 2008

MACTEC

June 2, 2008

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

Re: South Point – 2007 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 *2007 Annual Groundwater Monitoring Report, South Point Superfund Site, South Point, Ohio*. This submittal is the seventh annual report and presents the groundwater quality and groundwater flow evaluations for two semi-annual sampling events in 2007.

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.

Steve Conn

Steve G. Conn
Senior Project Manager

Bruce Baker

Bruce Baker
Senior Principal

W/Permission SGC

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

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2007 ANNUAL GROUNDWATER MONITORING REPORT
SOUTH POINT SUPERFUND SITE

SOUTH POINT, OHIO

Prepared for:

HONEYWELL INTERNATIONAL, INC.
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May 30, 2008

Project 3293-07-1300

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1.0 INTRODUCTION

This document represents the annual report for the groundwater monitoring program conducted at the South Point Superfund Site (Plant) in South Point, Ohio during the year 2007. 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 2008. In addition, the groundwater quality data was provided to United States Environmental Protection Agency (USEPA) in an electronic form consistent with Region V'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 (OEPA). On April 19, 2006, USEPA and OEPA 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 Plan shall be prepared within six months of the date of the Five Year Review Report is signed to address the following IC issues:

- Revise deeds to show the exact locations of the Eastern Disposal Area and Northern Fly Ash Pond;
- Revise groundwater IC's at the time the Records of Decision performance standards are met; allowing the parcel owner to petition USEPA to remove groundwater use restriction;
- Incorporate an annual certification step to the O&M Plan and provide copies of the reports to the current landowners;

- Honeywell shall work with the current owners of parcels 2, 3, and 4 and the Village of South Point to place the appropriate groundwater usage restrictions on these parcels. USEPA will assist Honeywell as appropriate and necessary;
- The plan shall include IC maps (paper and GIS formats) to identify the Site and all areas subject to restrictions;
- Explore feasibility of implementing covenants under the Ohio version of the Uniform Environmental Covenants Act for as many parcels as possible.; and
- Examine the extent to which the Lawrence Economic Development Corporation (LEDC) and Honeywell International Inc. (Honeywell) are required to notify USEPA prior to the transfer of Site parcels, and contact them about placing appropriate restrictions when transfers of land occur.

- USEPA will work with 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 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 OEPA, which addressed the IC issues presented in the 5-Year Review Report.

On October 2, 2006, MACTEC Engineering and Consulting, Inc. (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. Based on GEOS' recommendations and conclusions, the response letter provided the following proposed activities:

- **Target Capture Zones** – Explore existing data and other site information to attempt to refine the sites target capture zone. If additional data are needed, extra monitoring locations and procedures for obtaining this data will be proposed.
- **Hydraulic Gradient/Hydraulic Containment Areas** - Conduct sensitivity analysis in conjunction with groundwater modeling with a new, revised model with more realistic

boundary conditions.

- **Required Rates of Groundwater Pumping** - Investigate, through sensitivity analysis groundwater modeling and data evaluation, the effectiveness of the pumping system, and validate existing target flow rates or propose other flow rates sufficient to protect off-site water supply sources.
- **Well Efficiency Evaluation** - Evaluate pumping well efficiency and perform any necessary maintenance to restore pumping capacity. Two piezometers will be installed, one at each pumping well, to provide data indicating present condition and any trends in loss of efficiency.
- **Monitoring Well Network** - Based on the results of the Target Capture Zone and Capture Zone analysis, propose additional wells necessary to optimize the existing monitoring well network.

As of this date, neither Honeywell nor MACTEC has received a response and/or approval from USEPA on either the draft IC Plan or proposed activities presented in the response letter to the GEOS report.

2.0 SITE SETTING

The Plant 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 Plant 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 aquifer 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 Plant 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).

During the RI, groundwater was determined to be 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 Plant and centered on the Plant's Central Well Field and Disposal Area D. Results of a borehole conductivity survey conducted during the RI indicate 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 Plant by future human receptors,
- restore quality of the local groundwater under the Plant,
- 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, 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 milligrams per kilogram.

3.0 FIELD METHODS

The field activities of the semi-annual groundwater monitoring program were conducted in April and October 2007. 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:

- Thirteen 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;
- Six 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.

3.2 WATER-LEVEL MEASUREMENTS

Groundwater levels were measured in April and October 2007 to determine the direction of groundwater flow. Static groundwater-level measurements were collected from the monitor 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 2007.

3.3 GROUNDWATER SAMPLING

Prior to initiation of purging and sampling activities, static water levels were measured in all monitor wells as described above. Monitor wells were purged and sampled using an electrically-

operated submersible pump. Production wells were purged and sampled while operating. Water sampling logs are provided in Appendix A.

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

4.0 RESULTS

This section discusses the results of the field activities and laboratory analyses obtained for the 2007 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 2007 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. Figures 4-1 and 4-2 show that Plant 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 0.002317 and 0.002293 feet/feet in April and October 2007, respectively. Based on a hydraulic conductivity of 386 ft/day and an effective porosity of 0.2 (Geraghty & Miller, 1994), groundwater flow velocity was calculated to range from 4.8 to 5.8 ft/day.

4.2 GROUNDWATER QUALITY

Analytical results for the two semi-annual sampling events are provided in Table 4-1. Analytical data sheets are provided in Appendix B. Concentrations of ammonia, nitrate/nitrite, manganese, beryllium, cadmium, and copper were reported above their respective Site Remediation Goals (SRG) in groundwater collected during both sampling events. Arsenic and nickel concentrations were below the SRG. 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 SRG of 30 milligrams per liter at two locations during 2007 (Table 4-1). These locations are:

- SPMW-06R 31.6 mg/l (milligram per liter) in April
- SPMW-07 78 mg/l in April; 85.3 mg/l in October (from duplicate sample)

Figures 4-3 and 4-4 depict the aerial distribution of ammonia in Plant groundwater. Identified on these figures are the inferred extents of the ammonia plumes that exceed the SRG 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 2007 monitoring results for ammonia show a general decline in concentration in most of the wells with the exception of monitoring well SPMW-07.

4.2.2 Nitrate/Nitrite

Although nitrate/nitrite is present in most of the groundwater samples analyzed, it was detected at or above the site-specific SRG of 10 mg/l at three locations during 2007 (Table 4-1). These locations are:

- SPMW-07 24.8 mg/l in October (from duplicate sample)
- SPMW-09 12.8 mg/l in April; 38.4 mg/l in October
- SPMW-06R 13.8 mg/l in April

Figures 4-3 and 4-4 depict the aerial distribution of nitrate/nitrite in groundwater at the Plant. Identified on these figures is the inferred extent of the nitrate/nitrite plume that exceeds the 10 mg/l SRG. The Mid-Plant Area plumes are confined upgradient of the two containment wells (SPIS-23 and SPIS-24). The most downgradient exceedance was at SPMW-7, which is in the vicinity of SPIS-23. Nitrate/nitrite was detected at SPMW-07 at 24.8 mg/l in October. Nitrate/nitrite concentrations exceeded the 10 mg/l standard in the April and October sampling events at SPMW-09, downgradient of Disposal Area D; however, the downgradient extent of this plume is expected to be limited.

Figure 4-6 presents a comparison of nitrate/nitrite concentration trends for selected wells since the monitoring program began in 2000. The 2007 data shows that, in general, nitrate/nitrite concentrations increased in two of the monitoring wells and for the other wells there was a decrease or little change in nitrate/nitrite concentrations during the 2007 monitoring period.

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 SRG of 1,400 ug/l at three locations (Table 4-1). These locations are:

- SPMW-06R 2.45 mg/l in April; 1.88 mg/l in October
- SPMW-08 2.28 mg/l in April; 1.54 mg/l in October

- SPMW-09 19.3 mg/l in April; 14 mg/l in October

Figures 4-3 and 4-4 depict the aerial distribution of manganese in Plant 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 levels exceeded SRG levels at SPMW-08 at 2.28 mg/l and 1.54 mg/l, in April 2007 and October 2007 respectively. SPMW-08 is located downgradient of the Northern Fly Ash ponds. There have been no other historic analytical data confirming the presence of manganese at SPMW-08 above SRG levels. Manganese concentrations appear to be stable or on a general decline except for SPMW-09 which has slightly increased. Manganese concentrations in SPMW-09 fluctuated considerably during 2002, 2003, and 2004 following excavation activities at Disposal Area D. The current declining trend indicates that the affects of the excavation on the groundwater system may be waning, as seen in the ammonia data (Figure 4-5).

4.2.4 Beryllium

Beryllium was detected above the site-specific SRG of 0.004 mg/l only once in 2007. The detection of 0.0099 mg/l occurred in April in SPMW-09 (Table 4-1). The pH of the water in SPMW-09 has historically been low. In April the pH was 3.64, and in October the pH was 3.73. The pH for the site generally ranges from 6.5 to 7.2. The contaminants in groundwater at SPMW-09 likely represent a small and separate plume which is pH dependent. Accordingly, as the plume migrates the pH is restored to neutral and it is believed that the concentrations of dissolved metals naturally decline.

4.2.5 Cadmium

Cadmium was detected above the site-specific SRG of 0.005 mg/l once in 2007. The detection of 0.0177 mg/l occurred in April and 0.0094 mg/l in October in SPMW-09 (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 SRG a short distance from SPMW-09 as the pH adjusts.

4.2.6 Copper

Copper was detected above the site-specific SRG of 3.8 mg/l once in 2007. The detection of 7.63 mg/l occurred in April in SPMW-09 (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 SRG a short distance from SPMW-09 as the pH adjusts.

4.3 EXTRACTED GROUNDWATER AND CONTAMINANT MASS

In-line cumulative flow meter readings show that a combined total of approximately 289 million gallons of groundwater were extracted by the containment wells SPIS-23 and SPIS-24 during the year 2007. Individual totals for SPIS-23 and SPIS-24 were approximately 71 million gallons and 218 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 Plant can be calculated. The summarized calculations are provided in Table 4-3. The extracted mass of those contaminants of concern detected above SRGs during the year 2007 are as follows:

- Ammonia – 16,822 kg;
- Nitrate/Nitrite - 403 kg; and
- Manganese – 6,885 kg.

4.4 HYDRAULIC CONTAINMENT

The feasibility study for the Plant (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 gpm for each extraction well. During 2007, SPIS-23 and SPIS-24 pumped at average rates of 134 GPM and 438 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 NPDES, which details effluent limitations and monitoring requirements.

The site's NPDES permit is maintained and monitored by the Lawrence Economic Development Corporation. A new NPDES 5-year permit (Number 0IN00088*HD) was issued on December 26, 2007. 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 data for ammonia and nitrate/nitrite from January 1997 through December 2007 are provided in Table 5-1 and presented graphically on Figure 5-1. The data shows an average discharge concentration of ammonia at 10 mg/l and an average nitrate concentration at 8 mg/l for 2007.

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 SRGs in a total of three monitoring wells. Beryllium, cadmium, copper, and manganese were detected in an isolated occurrence above their respective SRGs in monitor well SPMW-09 and only manganese in SPMW-06 and SPMW-08. 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 2008.

Two water-level sampling points (SPIS-25 and SPIS-27) continue to not respond to changes in water levels as do other wells in the immediate area, yielding spurious water levels. The lack of change can be due to iron fouling or an accumulation of sediment in the borehole and or screen. Because of this, it is recommended that these sample points be removed from the list of monitoring points used for the collection of water levels. The loss of this data would not adversely affect the monitoring program.

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

TABLES

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

Constituents of Concern	Preliminary Remedial Goals MG/L
Arsenic	0.05
Beryllium	0.004
Cadmium	0.005
Copper	3.8
Manganese	1.4
Nickel	2.0
Ammonia (as Nitrogen)	30
Nitrate/Nitrite	10

MG/L = milligram per liter

Prepared by: MJT 3/17/08
Reviewed by: SGC 4/10/08

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-25	Inactive Production	Yes**	
SPIS-26	Inactive Production	Yes	
SPIS-27	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	Monitor	Yes	Yes
SPMW-07	Monitor	Yes	Yes
SPMW-08	Monitor	Yes	Yes
SPMW-09	Monitor	Yes	Yes
SPMW-10R	Monitor	Yes	Yes
SPMW-11R	Monitor	Yes	Yes
SPMW-12	Monitor	Yes	Yes
SPMW-13	Monitor	Yes	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.
** Water Levels from these wells are anomalous.

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

Name	Depth-To-Water (1)		Water Level Elevation (2)	
	4/9/2007	10/23/2007	4/9/2007	10/23/2007
Caisson	33.50	31.90	517.99	516.39
SPIS-01	41.31	43.60	516.36	518.65
SPIS-02	42.33	44.35	517.88	519.90
SPIS-05	41.85	44.16	516.38	518.69
SPIS-06	46.81	49.12	515.86	518.17
SPIS-10	42.10	44.64	518.93	521.47
SPIS-15	40.91	43.50	518.30	520.89
SPIS-15A	34.30	36.43	521.53	523.66
SPIS-18	34.74	37.10	519.25	521.61
SPIS-22	44.00	46.04	515.81	517.85
SPIS-25*	46.08	46.20	524.97	525.09
SPIS-26	45.38	46.82	522.30	523.74
SPIS-27*	48.60	48.82	521.58	521.80
SPIS-28	44.18	46.50	515.54	517.86
SPMW-01	36.78	39.00	527.98	530.20
SPMW-02	46.63	47.90	521.00	522.27
SPMW-03	42.25	44.45	517.41	519.61
SPMW-04	46.65	49.30	515.60	518.25
SPMW-05	60.54	62.09	521.98	523.53
SPMW-06R	71.48	72.67	523.22	524.41
SPMW-07	42.15	43.97	517.83	519.65
SPMW-08**	42.00	43.12	522.73	523.85
SPMW-09	38.27	40.27	522.28	524.28
SPMW-10R	67.22	68.63	523.98	525.39
SPMW-11R	48.15	50.42	514.86	517.13
SPMW-12	46.65	49.00	515.65	518.00
SPMW-13	45.96	48.42	515.73	518.19
SPOB-12R2	48.21	50.52	516.36	518.67
SPOB-15R2	42.84	44.81	516.55	518.52
SPOB-17R	34.43	34.88	523.16	523.61
SPOB-18R	34.66	34.58	517.38	517.30
SPOB-26	33.49	34.18	519.36	520.05
SPOB-29	41.10	43.55	517.84	520.29
SPOB-34	45.58	47.87	515.90	518.19
T2-B	15.88	18.05	523.58	525.75

(1) Depth to Water in Feet

(2) Water Level Elevation in Feet above Mean Sea Level

* Recommended for deletion from the water level monitoring list because of spurious readings during each monitoring period.

** SPMW-08 field measurement 49.0 approximatley 7' above normal historic reading. Adjusted to historic reading for groundwater flow

Prepared by: MJT 3/19/08
Reviewed by: MT 3/28/08

Table 4-1
2006 Groundwater Monitoring Results
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			**SPIS-23**	**SPIS-23**	**SPIS-24**	**SPIS-24-DUPLICA**	**SPIS-24**	**SPIS-24 DUPLICA**	**SPMW-01**	**SPMW-01**
Sample Date			4/11/2007	10/23/2007	4/11/2007	4/11/2007	10/23/2007	10/23/2007	4/11/2007	10/23/2007
Sample Type			Industrial Supply Well	Industrial Supply Well	Industrial Supply Well	Industrial Supply Well	Industrial Supply Well	Industrial Supply Well	Monitor Well	Monitor Well
Media			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Laboratory	Concentration	PRG	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services
Lab ID	Units	MG/L	C5D280128011	C5J200402008	C5D280128012	C5D280128013	C5J200402009	C5J200402010	C5D280128001	C5J190360001
Arsenic	MG/L	0.05	0.0022	0.01U	0.0012	0.0011	0.01U	0.01U	0.001U	0.001U
Beryllium	MG/L	0.004	0.001U	0.001U	0.001U	0.001U	0.001U	0.01U	0.001U	0.01U
Cadmium	MG/L	0.005	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Copper	MG/L	3.8	0.001U	0.01U	0.0374	0.0301	0.0122J	0.0195J	0.001U	0.001U
Manganese	MG/L	1.4	0.298	0.265	0.407	0.402	0.385	0.385	0.0114	0.01U
Nickel	MG/L	2	0.0066	0.01	0.0158	0.0141	0.01	0.01	0.0021	0.0032
Ammonia as Nitrogen	MG/L	30	0.424	0.41	20.7	20.9	19.7	19.5	0.05	0.05
Nitrate/Nitrite	MG/L	10	2.42	2.76	6.71	6.72	8.27	8.4	1.85	1.95

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			4/11/2007	10/23/2007	4/11/2007	10/23/2007	4/11/2007	10/23/2007	4/11/2007	10/23/2007
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Laboratory	Concentration	PRG	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services
Lab ID	Units	MG/L	C5D280128007	C5J200402004	C5D280128010	C5J200402007	C5D280128019	C5J200402015	C5D280128002	C5J190360002
Arsenic	MG/L	0.05	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Beryllium	MG/L	0.004	0.001U	0.01U	0.001U	0.01U	0.001U	0.01U	0.001U	0.01U
Cadmium	MG/L	0.005	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Copper	MG/L	3.8	0.001U	0.001U	0.0019	0.001U	0.0021	0.001U	0.001U	0.001
Manganese	MG/L	1.4	0.316	0.289	1.32	0.0548	0.0354	0.0238	0.0237	0.01U
Nickel	MG/L	2	0.0034	0.0032	0.0236	0.005	0.0054	0.0059	0.0037	0.0029
Ammonia as Nitrogen	MG/L	30	0.05	0.07	0.05	0.05	0.05	0.05	0.05	0.05
Nitrate/Nitrite	MG/L	10	4.55	0.86	2.45	3.64	3.42	3.41	2.34	1.64

Location			Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network	Monitoring Network
Sample Name			**SPMW-06R**	**SPMW-06R**	**SPMW-07**	**SPMW-07-DUPLICA**	**SPMW-07**	**SPMW-07 DUPLICA**	**SPMW-08**	**SPMW-08**
Sample Date			4/11/2007	10/23/2007	4/11/2007	4/11/2007	10/23/2007	10/23/2007	4/11/2008	10/23/2008
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Laboratory	Concentration	PRG	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services
Lab ID	Units	MG/L	C5D280128004	C5J200402001	C5D280128008	C5D280128009	C5J200402005	C5J200402006	C5D280128005	C5J200402002
Arsenic	MG/L	0.05	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Beryllium	MG/L	0.004	0.001U	0.01U	0.001U	0.001U	0.01U	0.01U	0.001U	0.01U
Cadmium	MG/L	0.005	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Copper	MG/L	3.8	0.0011	0.0019J	0.0023	0.0016	0.0014J	0.0014J	0.001U	0.001U
Manganese	MG/L	1.4	**2.45**	**1.88**	0.553	0.56	0.528	0.511	**2.28**	**1.54**
Nickel	MG/L	2	0.0144	0.031	0.0046	0.0054	0.005	0.0059	0.01	0.0087
Ammonia as Nitrogen	MG/L	30	**31.6**	26.6	**77.9**	**78**	**78.1**	**85.3**	0.208	0.22
Nitrate/Nitrite	MG/L	10	**13.8**	9.3	5.67	5.68	**23.4**	**24.8**	0.136	0.14

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 PRG.
PRG	Preliminary Remedial Goals.
B	Estimated. (preceding value).
J	Estimated. (following value).

Prepared by: MT 5/05/08
Reviewed by: SC 5/23/08

Table 4-1
2006 Groundwater Monitoring Results
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-10R**	**SPMW-11R**	**SPMW-11R**	**SPMW-12**	**SPMW-12**
Sample Date			4/11/2008	10/23/2008	4/11/2007	10/23/2007	4/11/2007	10/23/2007	4/11/2007	10/23/2007
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Laboratory	Concentration	PRG	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services
Lab ID	Units	MG/L	C5D280128006	C5J200402003	C5D280128003	C5J190360003	C5D280128016	C5J200402012	C5D280128017	C5J200402013
Arsenic	MG/L	0.05	0.0016	0.001U	0.0021	0.001U	0.001U	0.001U	0.001U	0.001U
Beryllium	MG/L	0.004	**0.0099**	0.01U	0.005U	0.01U	0.005U	0.01U	0.001U	0.01U
Cadmium	MG/L	0.005	**0.0177**	**0.0094**	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Copper	MG/L	3.8	**7.63**	2.65J	0.0061	0.004J	0.001U	0.001U	0.0017	0.0022J
Manganese	MG/L	1.4	**19.3**	**14**	0.515	0.381	0.0472	0.0514	0.031	0.0326
Nickel	MG/L	2	1.14	0.55	0.0722	0.061	0.0134	0.0191	0.0088	0.0081
Ammonia as Nitrogen	MG/L	30	**22.2**	19.5	0.05	0.05	0.223	0.15	0.399	0.32
Nitrate/Nitrite	MG/L	10	**12.8**	**38.4**	2.78	2.28	3.01	4.84	4.04	2.69

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			4/11/2007	10/23/2007	4/11/2007	10/23/2007	4/12/2006	10/25/2006
Sample Type			Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
Media			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Laboratory	Concentration	PRG	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services	Columbia Analytical Services
Lab ID	Units	MG/L	C5D280128018	C5J200402014	C5D280128015	C5J200402011	C5D280128014	C5J200402016
Arsenic	MG/L	0.05	0.001U	0.001U	0.001U	0.001U	0.0103	0.0089
Beryllium	MG/L	0.004	0.001	0.01U	0.005U	0.01U	0.001U	0.01U
Cadmium	MG/L	0.005	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Copper	MG/L	3.8	0.001U	0.001U	0.001U	0.001U	0.001U	0.0272J
Manganese	MG/L	1.4	0.222	0.214	0.0568	0.0688	0.41	0.422
Nickel	MG/L	2	0.0021	0.0022	0.0149	0.0151	0.0041	0.059
Ammonia as Nitrogen	MG/L	30	0.05	0.05	0.799	1.25	0.577	0.51
Nitrate/Nitrite	MG/L	10	1.22	1.46	4.12	5	0.1	0.05

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 PRG.
PRG	Preliminary Remedial Goals.
B	Estimated. (preceding value).
J	Estimated. (following value).

Prepared by: MT 5/05/08
Reviewed by: SC 5/23/08

Table 4-2
Extracted Groundwater Volume for 2007
South Point Superfund Site
South Point, Ohio

Date	SPIS-23 Pressure (PSI)	SPIS-23 Flow Rate (GPM)	SPIS-23 Cumulative Flow Reading (Gal.)	SPIS-24 Pressure (PSI)	SPIS-24 Flow Rate (GPM)	SPIS-24 Cumulative Flow (Gal.)
Jan-07	2	130	259,066,000	65	440	90,697,000
Feb-07	4	110	269,582,000	54	450	124,517,000
Mar-07	3	115	274,241,000	54	439	142,259,000
Apr-07	3	101	279,870,000	55	436	163,888,000
May-07	4	116	284,496,000	54	440	181,552,000
Jun-07	4	114	289,270,000	54	436	197,337,000
Jul-07	16	150	294,843,000	54	437	294,843,000
Aug-07	19	150	300,097,000	54	440	227,717,000
Sep-07	19	154	307,800,000	54	439	247,315,000
Oct-07	19	154	315,318,000	54	430	268,852,000
Nov-07	18	158	321,610,000	55	434	286,470,000
Dec-07	18	156	329,777,000	55	437	309,232,000
Annual Flow (Gallons)			**70,711,000**			**218,535,000**
Average Flow (GPM)			**134**			**438**
Annual System Flow (Gallons)			**289,246,000**			

GPM = gallons per minute
PSI = pounds per square inch

Prepared by: MT 5/05/08
Reviewed by: SC 5/22/08

Table 4-3
Extracted Contaminant Mass During Year 2007
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-07	Oct-07	Average		
SPIS-23					
Ammonia as Nitrogen	0.424	0.41	0.417	70,711,000	112
Manganese	0.298	0.265	0.2815	70,711,000	75
Nitrate/Nitrite	2.42	2.76	2.59	70,711,000	693
SPIS-24					
Ammonia as Nitrogen	20.7	19.7	20.2	218,535,000	16,710
Manganese	0.407	0.385	0.396	218,535,000	328
Nitrate/Nitrite	6.71	8.27	7.49	218,535,000	6,196
TOTALS					
Ammonia as Nitrogen					**16,822**
Nitrate/Nitrite					**403**
Manganese					**6,889**

1 gallon = 3.78541 liters
Concentration (mg/l) * Conversion (l/gal) * Volume (gal) * Conversion (kg/mg)

Prepared by: MT 5/5/08
Prepared by: SC 5/22/08

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

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

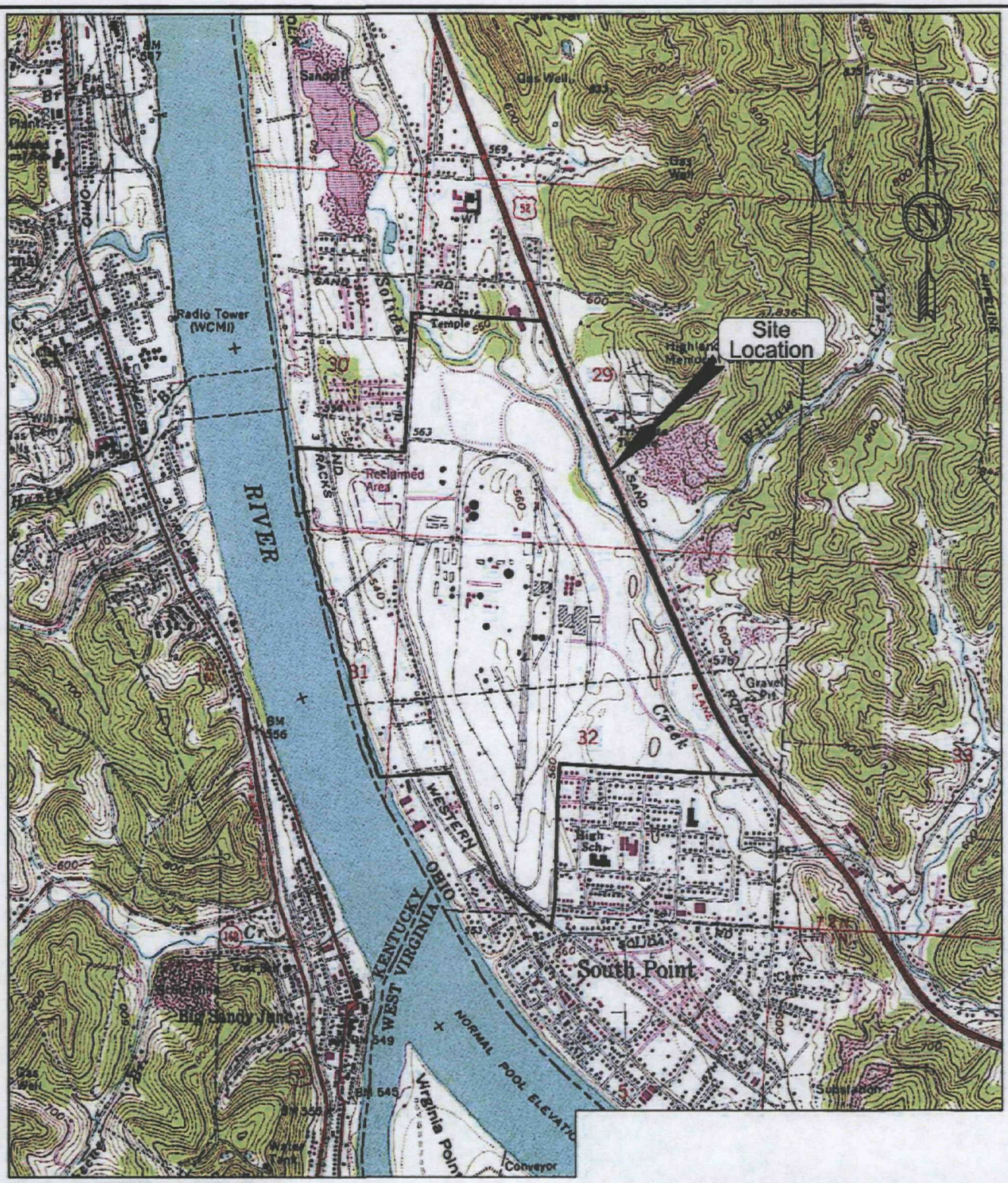
Table 5-1
NPDES Discharge Data
South Point Plant Superfund Site
South Point, OH

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

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

FIGURES

FIGURES



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

SCALE (FT)

24,000 0 24,000

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

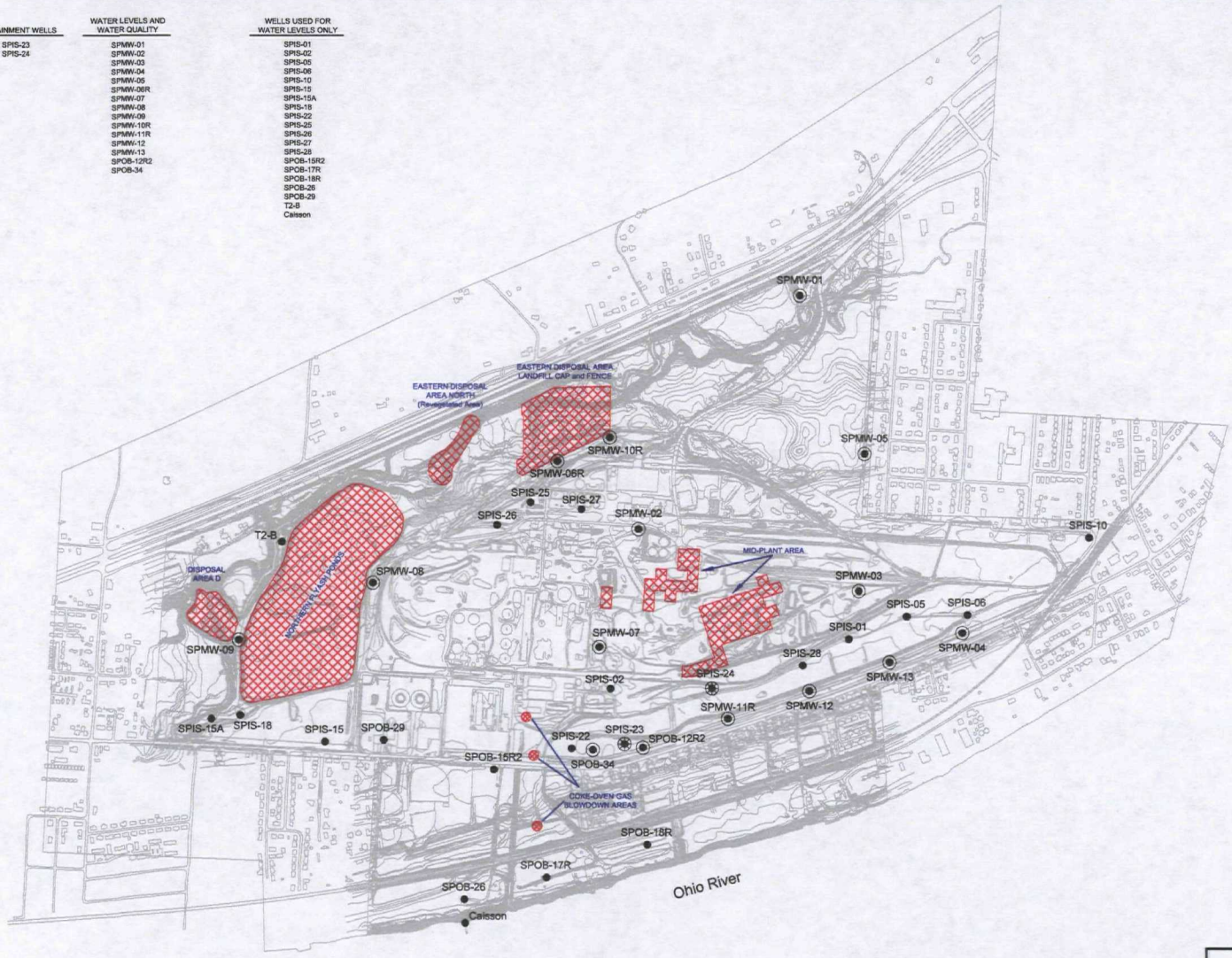
MACTEC
46850 Magellan Drive, Suite 190
Novi, MI 48377

FIGURE 2-1

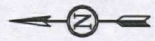
SITE LOCATION
SOUTHPOINT PLANT SUPERFUND SITE
SOUTHPOINT, OHIO

P:\INDUSTRIAL PROJECTS\Honeywell\VIRGINTON TAR\South Point\4.0 Project Deliverables\4.1 Reports\Annual06DraftRpt\FIG 2-1.dwg Wed, 25 Apr 2007 - 10:47am dpass

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



Legend



Legend

Areas Subject to Inspection and Maintenance

Groundwater Containment System

- Containment Wells
- Wells Used for Water Levels and Water Quality
- Wells Used for Water Levels Only

SCALE (FT)

1000 0 500 1000

FIGURE 3-1

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

DESIGNED BY	DP	3/9/07
DRAWN BY	DP	3/9/07
CHKD. BY	MT	3/9/07

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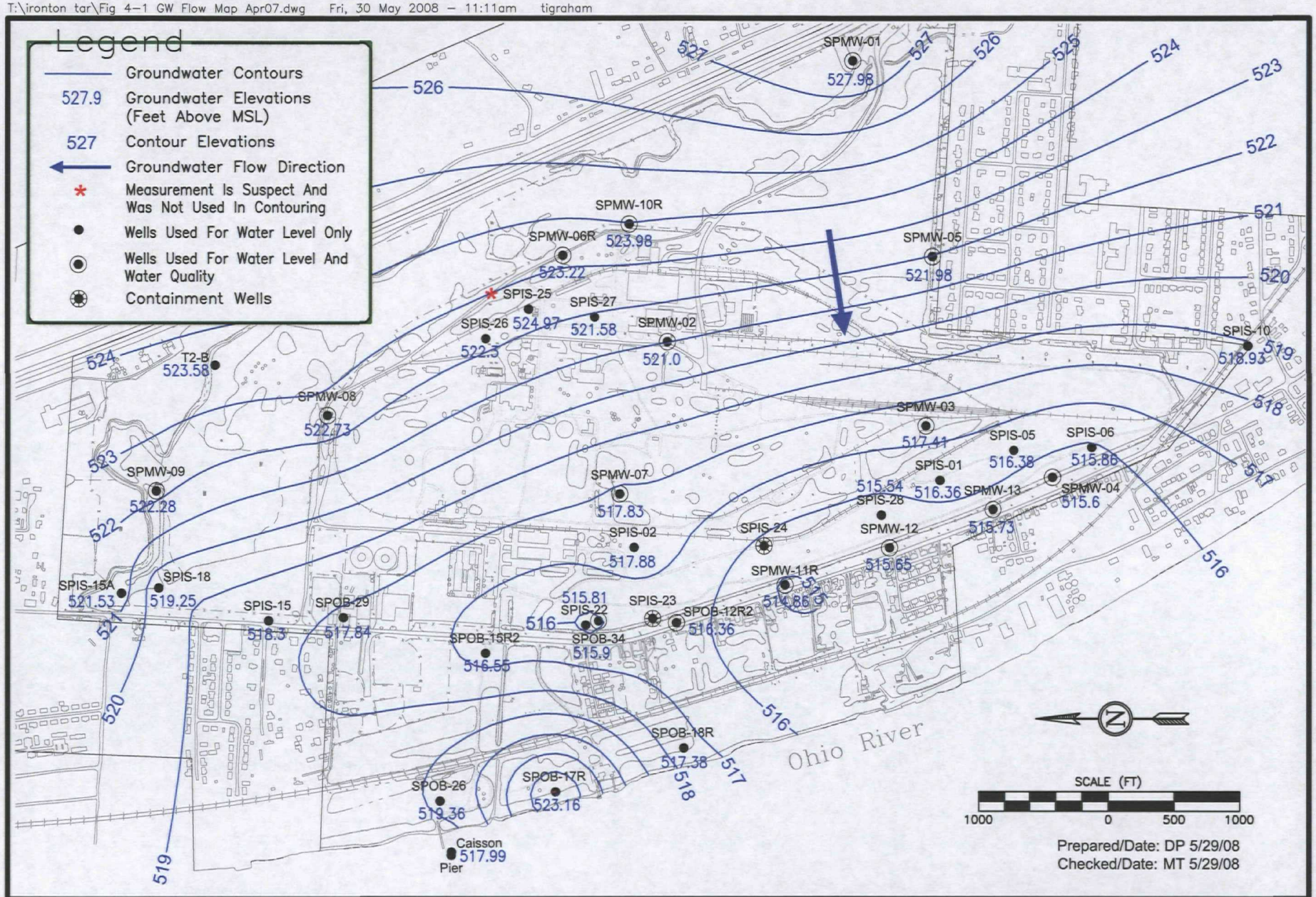
46850 Magellan Drive, Suite 190
Novi, MI 48377

P:\INDUSTRIAL PROJECTS\Honeywell\RONTON 1AR\South Point\4.0 Project Deliverables\4.1 Reports\Annual06\r-rifl\r\FIG 3-1.dwg Tue, 08 May 2007 - 2:45pm dpcss

T:\ironton tar\Fig 4-1 GW Flow Map Apr07.dwg Fri, 30 May 2008 - 11:11am tigraham

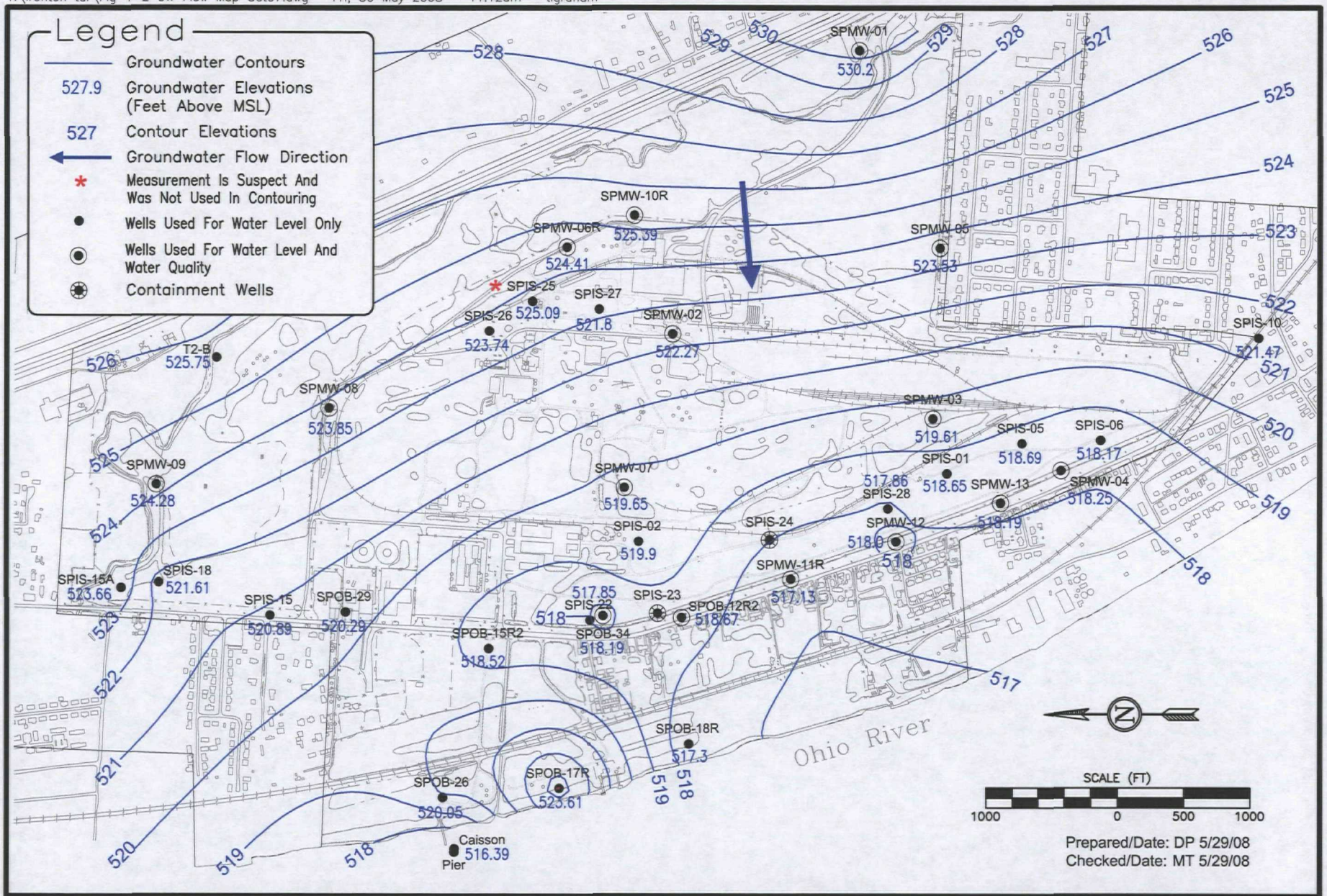


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

GROUNDWATER FLOW MAP
APRIL 2007
Project 3293-07-1300
Figure 4-1

T:\ironton tar\Fig 4-2 GW Flow Map Oct07.dwg Fri, 30 May 2008 – 11:12am tigraham

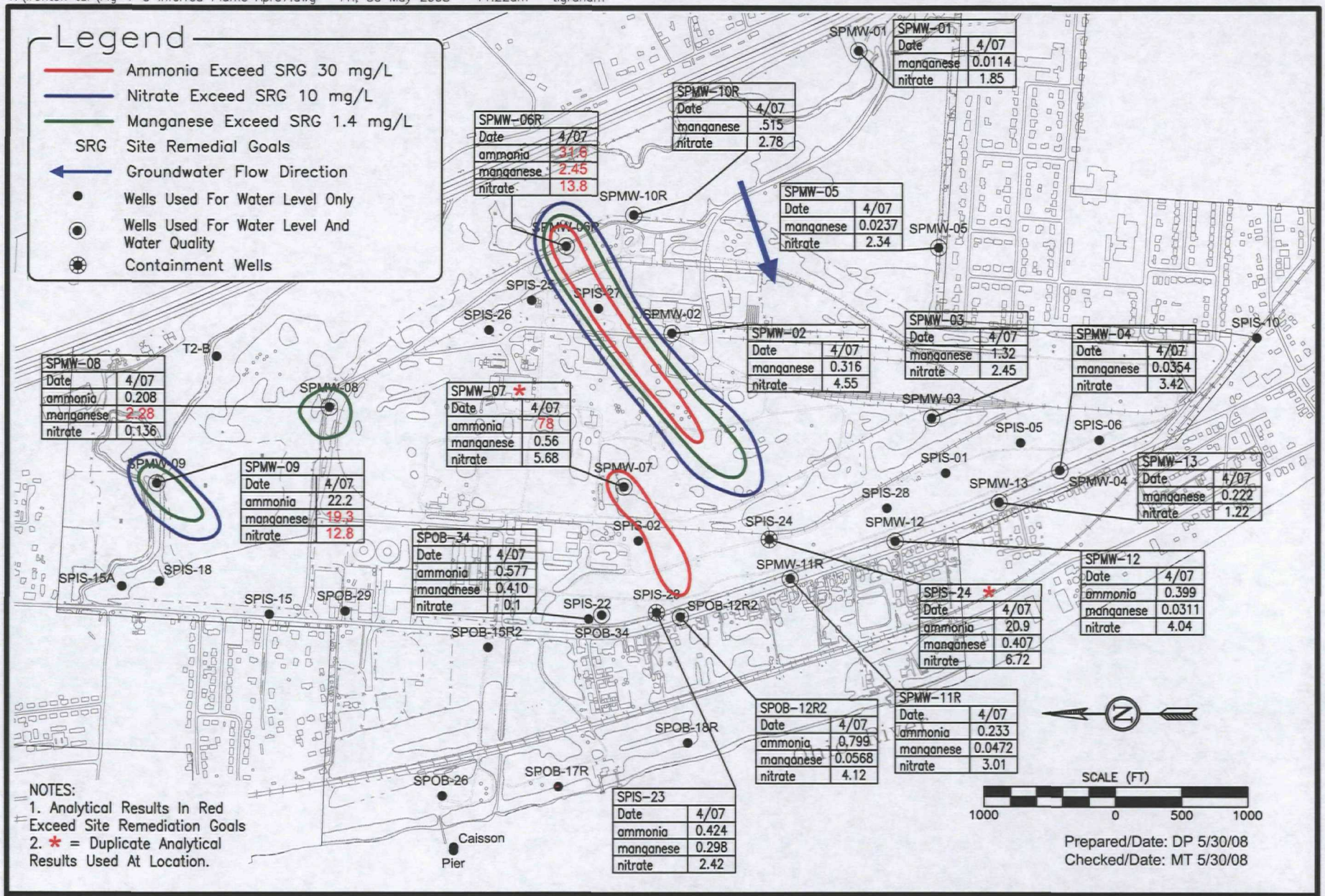


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

GROUNDWATER CONTOUR MAP
OCTOBER 2007
Project 3293-07-1300
Figure 4-2

T:\ironton tar\Fig 4-3 Inferred Plume Apr07.dwg Fri, 30 May 2008 - 11:22am tigraham

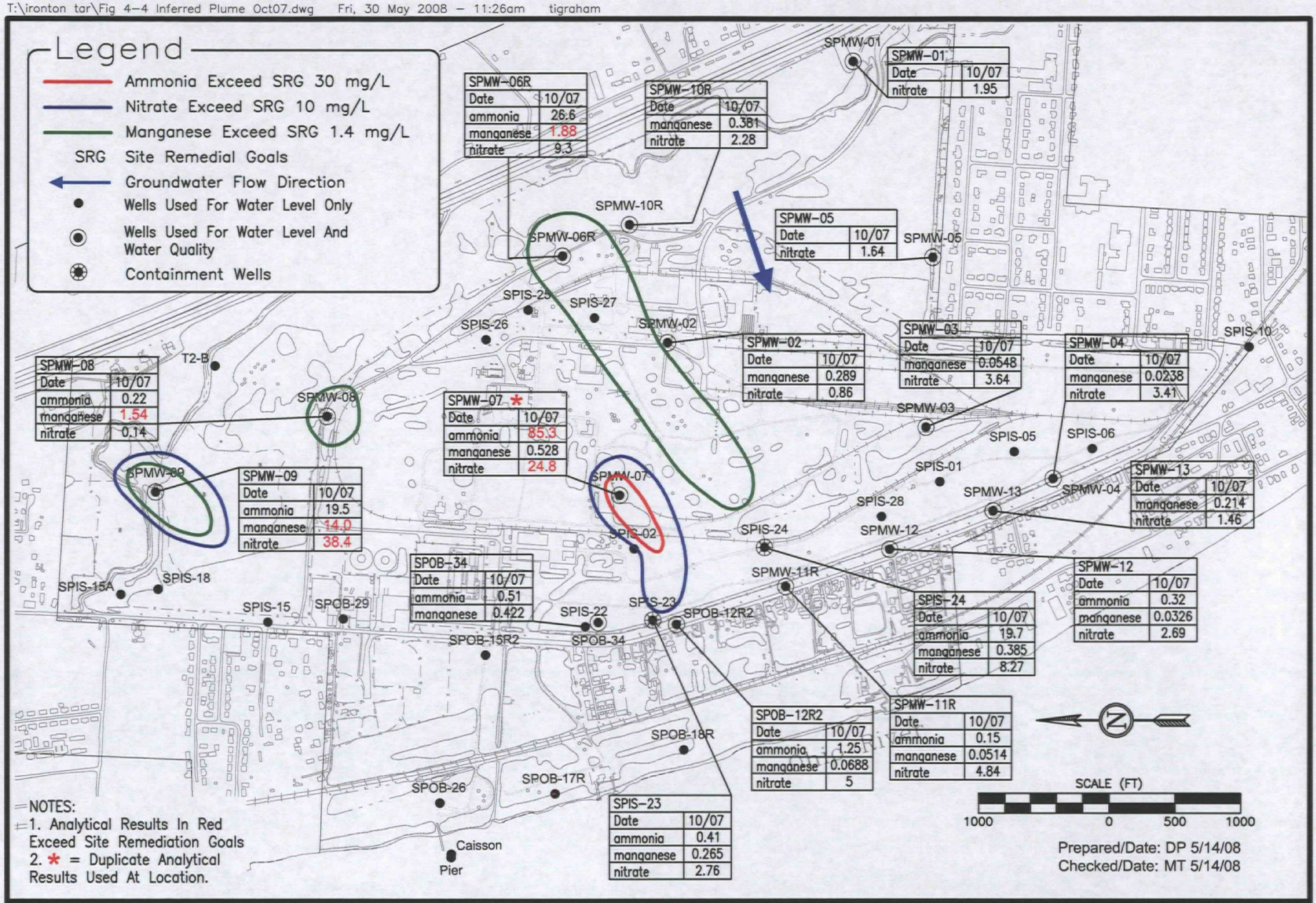


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - APRIL 2007
Project 3293-07-1300
Figure 4-3

T:\ironton tar\Fig 4-4 Inferred Plume Oct07.dwg Fri, 30 May 2008 - 11:26am tigraham

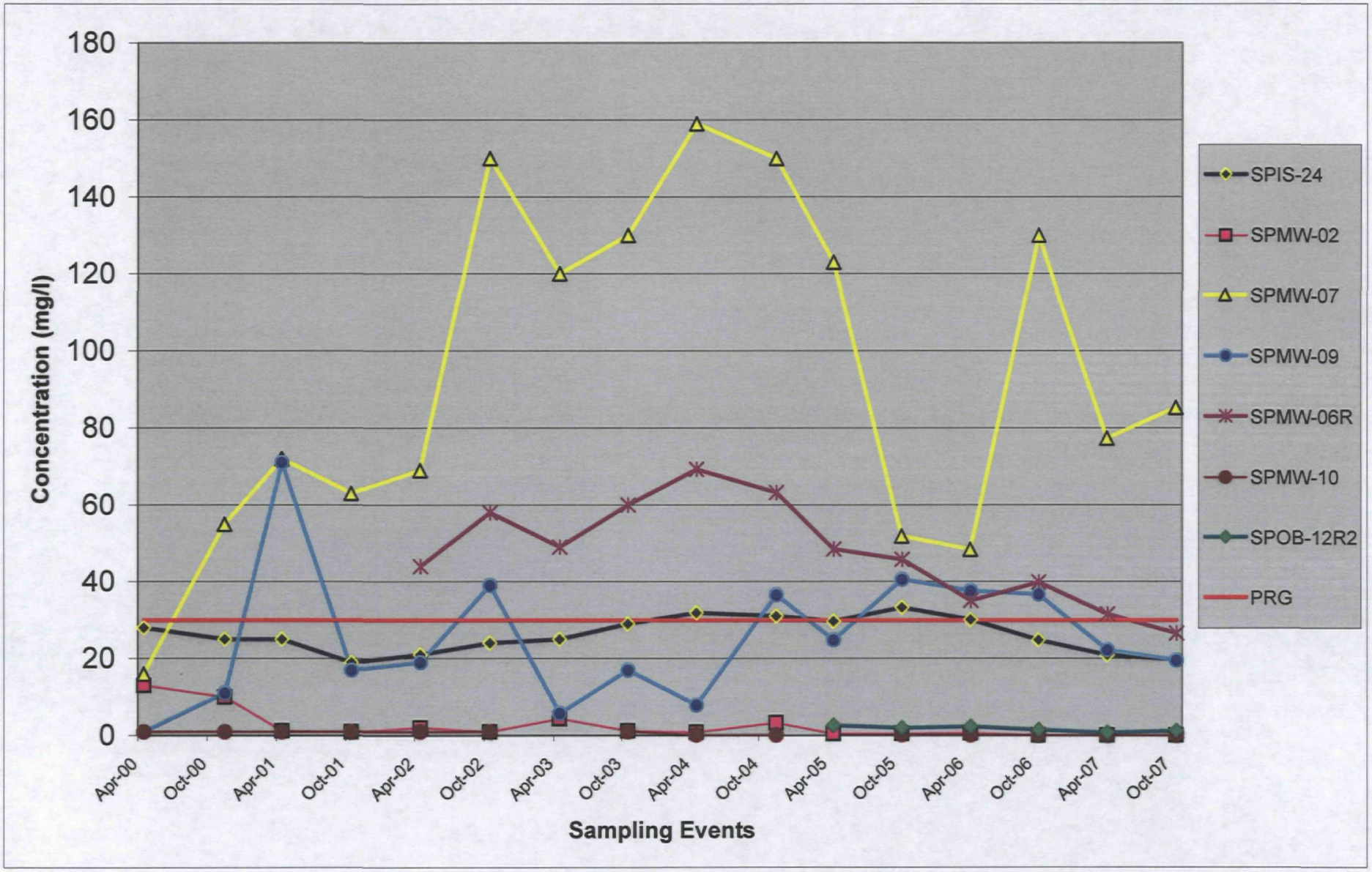


HONEYWELL
SOUTHPOINT, OHIO

MACTEC

ANALYTICAL RESULTS & INFERRED CONTAMINATION PLUME - OCTOBER 2007
Project 3293-07-1300
Figure 4-4

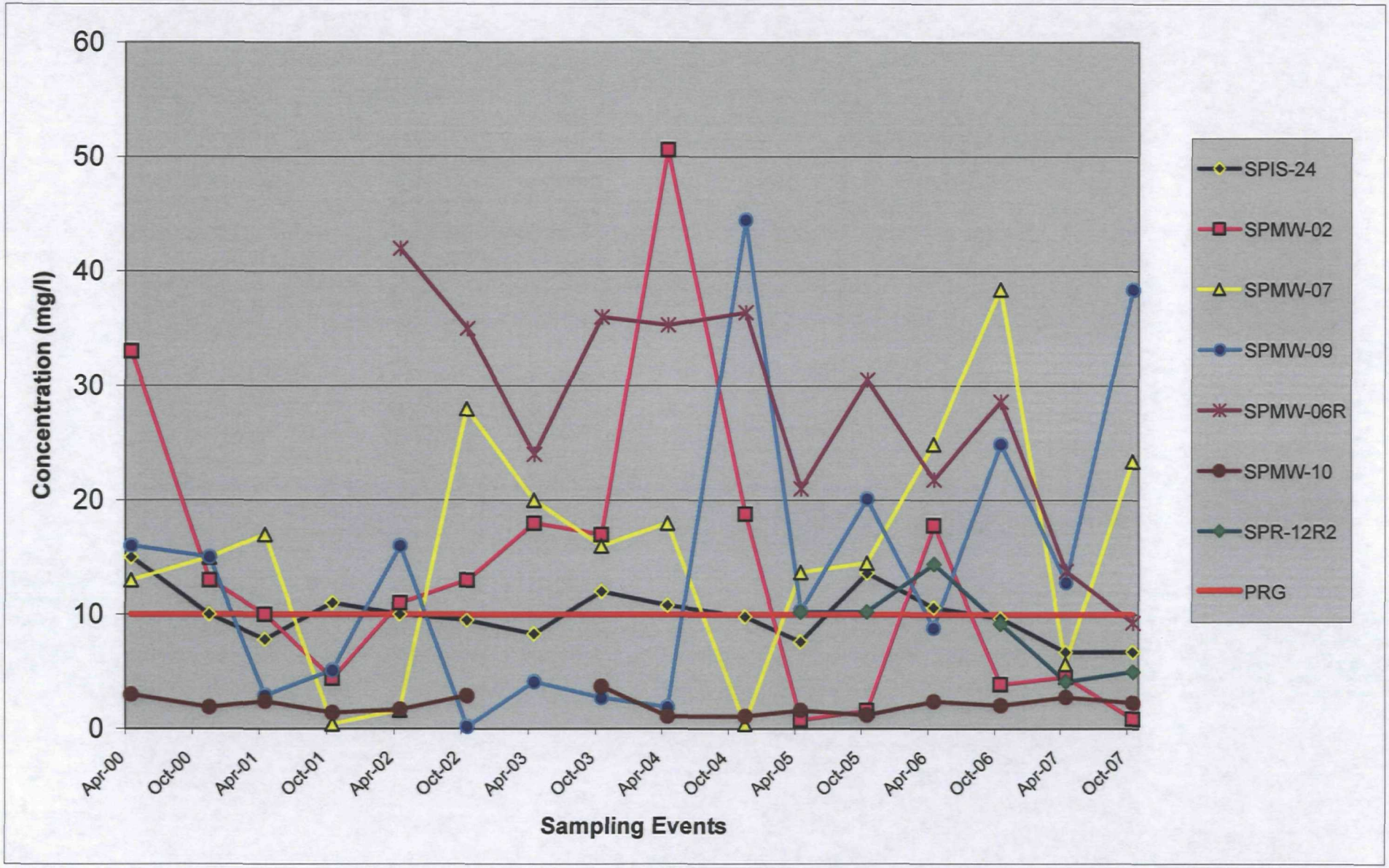
Figure 4-5
Ammonia Trends in Groundwater
South Point Superfund Site
South Point, Ohio



Prepared by: MJT 3/17/08
Reviewed by: SGC 4/10/08

MACTEC Engineering and Consulting, Inc.

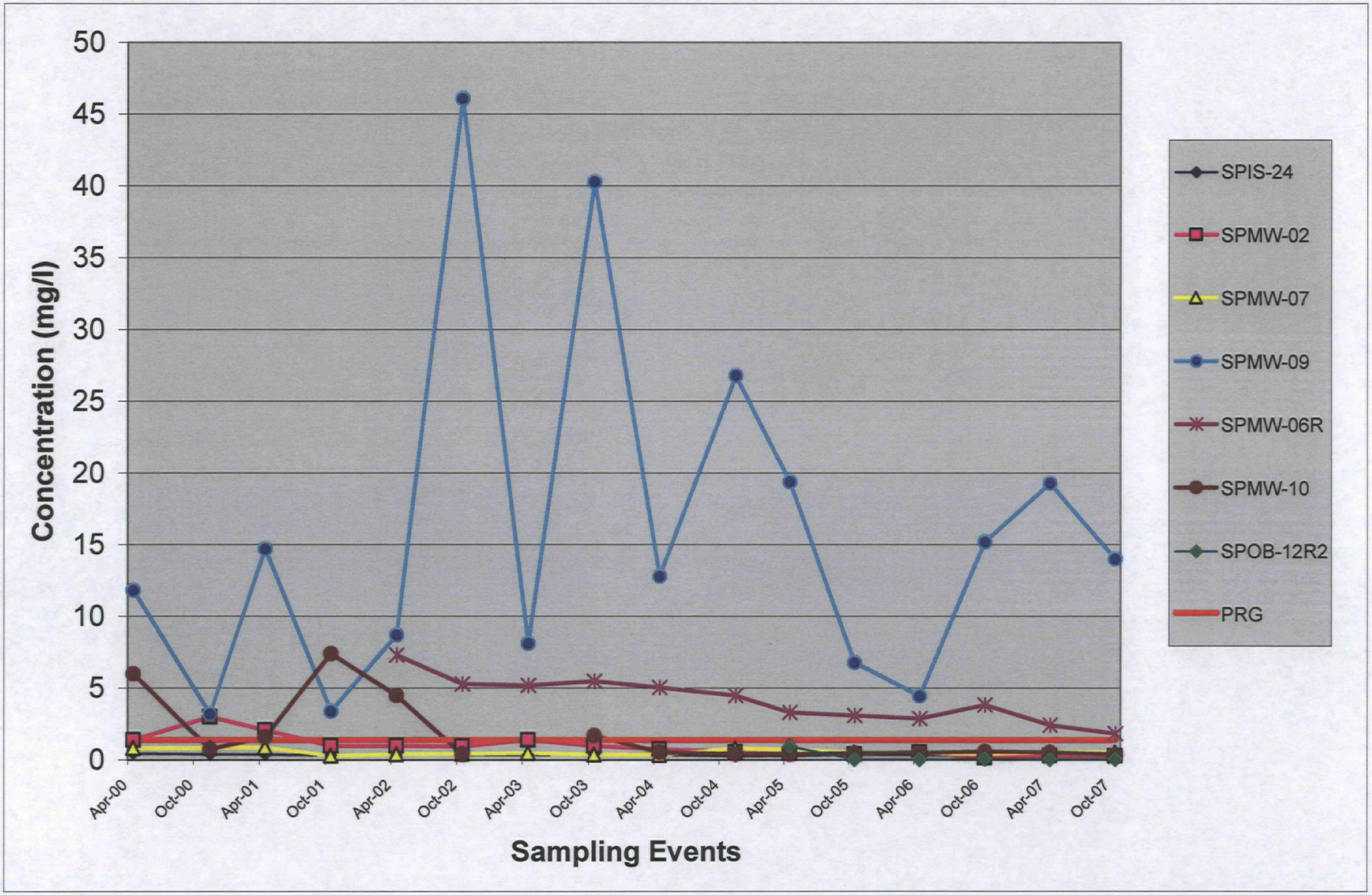
Figure 4-6
Nitrate/Nitrite Trends in Groundwater
South Point Superfund Site
South Point, Ohio



Prepared by: MJT 3/17/08
Reviewed by: SGC 4/10/08

MACTEC Engineering and Consulting, Inc.

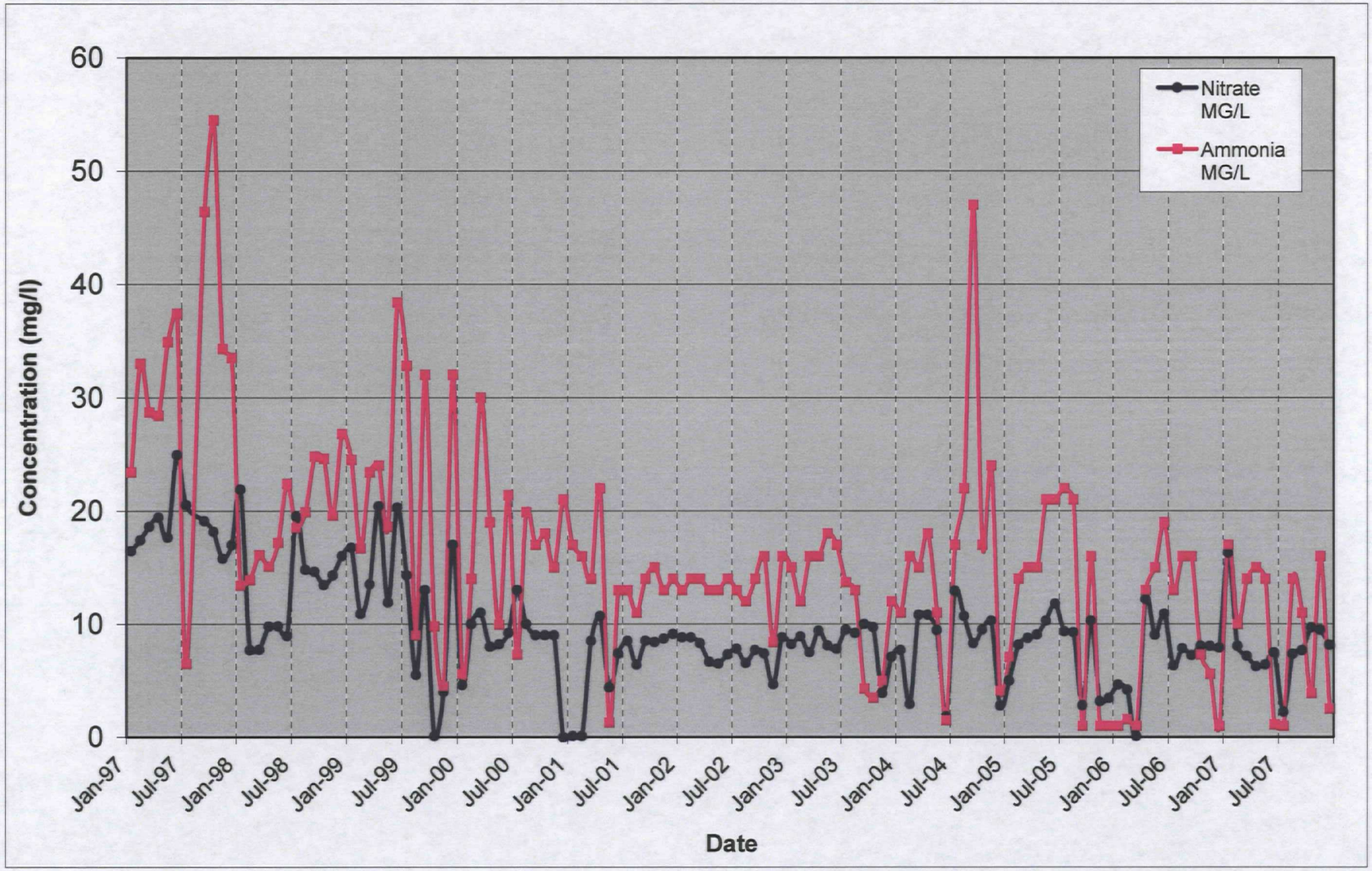
Figure 4-7
Manganese Trends in Groundwater
South Point Superfund Site
South Point, Ohio



Prepared by: MJT 3/17/08
Reviewed by: SGC 4/10/08

MACTEC Engineering and Consulting, Inc.

Figure 5-1
NPDES Trends
January 1997 through December 2007
South Point Plant Superfund Site
South Point, Ohio



MACTEC Engineering and Consulting, Inc.

Prepared by: MT
Reviewed by: SGC 4/25/08

APPENDIX A

APPENDIX A

WATER SAMPLING LOGS

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-01
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 0830 END 0930	SAMPLE TIME	0920

JOB NUMBER:
EVENT NO:
DATE: 4-10-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 36.78 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/ml/min)

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

HISTORICAL WELL DEPTH (TOR): 62.10 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 INTEGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mm/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
850	36.78	500	13.8	41	6.15	0.89	64	188		
855	36.78	500	13.8	35	6.33	1.09	67	194		
900	36.78	500	13.8	34	6.36	1.19	68	202		
905	36.78	500	13.7	33	6.39	1.18	69	209		
910	36.78	500	13.9	32	6.39	1.22	72	215		
915	36.78	500	13.9	32	6.39	1.27	72	220		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [ ] BLADDER
- [ ] PERISTALTIC
- [x] OTHER

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:

Prepared/Date: 4-10-07
Checked/Date: HO/MCS

Honeywell
102 COLUMBIA RD. BOX 2108
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-02	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 1435 END 1505	SAMPLE TIME	1500	DATE	4-10-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER	46.63 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 (TOR)	75.28 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 INTEGRITY: INTEGRITY / YES / NO / N/A
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING		CAP ✓ / CASING LOCKED ✓ / COLLAR

(purge volume (liters per minute) x time duration (minutes) x 0.00026 gal/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1440	46.63	500	13.9	70	6.31	1.87	43	331		
1443	46.63	500	13.9	74	6.38	0.23	23	294		
1446	46.63	500	13.9	79	6.49	0.00	51	262		
1449	46.63	500	13.9	79	6.52	0.00	56	259		
1452	46.63	500	13.8	81	6.52	0.00	58	256		
1455	46.63	500	13.9	81	6.69	0.00	120	236		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2108
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 36024
3293061221/2200.3

PORT2005033a.cdr

PROJECT: OMI
SITE ID: SOUTH POINT
ACTIVITY: START 1510 END 1440
FIELD SAMPLE NUMBER: SPMW-03
SITE TYPE:
SAMPLE TIME: 1535
JOB NUMBER:
EVENT NO:
DATE: 4-10-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 42.25 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): 67.18 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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1515	42.25	500	13.8	48	7.06	0.08	94	237		
1518	42.25	500	13.8	56	6.96	0.00	97	223		
1521	42.25	500	13.8	60	6.92	0.00	98	215		
1524	42.25	500	13.8	0.09	6.78	0.00	110	163		
1527	42.25	500	13.8	0.09	6.79	0.00	110	161		
1530	42.25	500	13.8	0.09	6.77	0.00	100	152		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: PM

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT: OMI
SITE ID: South Point
ACTIVITY: START 1245 END 1325
FIELD SAMPLE NUMBER: SPMW-04
SITE TYPE:
SAMPLE TIME: 1320
JOB NUMBER:
EVENT NO:
DATE: 4-11-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 46.65 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL PURGED: GAL
(Purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/mililiter)

HISTORICAL WELL DEPTH (TOR): 66.78 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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1250	46.65	500	14.3	52	6.76	0.16	11	115		
1255	46.65	500	14.3	54	6.65	0.10	17	110		
1300	46.65	500	14.3	53	6.63	0.06	23	107		
1305	46.65	500	14.3	57	6.62	0.02	14	101		
1310	46.65	500	14.3	57	6.62	0.02	14	101		
1315	46.65	500	14.2	58	6.62	0.01	28	100		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES NO

NOTES:

Prepared/Date: 4-11-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-05	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO	
ACTIVITY	START 0935 END 1015	SAMPLE TIME	1010	DATE	4-10-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	60.54 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	85.84 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

CASING / WELL DIFFERENCE: FT

WELL DIAMETER: 2 IN

WELL INTERGRITY:

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

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0940	60.54	500	12.1	58	6.94	4.50	40	217		
0945	60.54	500	14.0	51	7.11	4.31	45	151		
0950	6055	500	13.6	50	7.53	3.99	43	158		
0955	60.54	500	13.5	49	7.55	3.84	33	165		
1000	60.54	500	13.7	49	7.63	3.71	24	160		
1005	60.54	500	13.6	49	7.61	3.56	13	160		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT	OMT	FIELD SAMPLE NUMBER	SPMW-06R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 1110 END 1150	SAMPLE TIME	1145	DATE	4-10-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	71.48 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	101.40 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/ml/min)

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1115	71.48	500	14.6	0.16	6.64	0.00	200	27		
1120	71.49	500	14.6	0.18	6.77	0.00	160	-90		
1125	71.48	500	14.6	0.16	6.78	0.00	150	-109		
1130	71.48	500	14.6	0.15	6.80	0.00	120	-170		
1135	71.48	500	14.7	0.15	6.81	0.00	120	-192		
1140	71.48	500	14.7	0.15	6.78	0.00	140	-208		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: DT

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-07	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 1545 END 1615	SAMPLE TIME	1610	DATE	4-10-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	42.15 FT	HISTORICAL WELL DEPTH (TOR)	57.10 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 gallon/liter)

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1550	42.15	500	14.9	0.17	7.10	0.00	390	252		
1553	42.15	500	14.8	0.17	7.11	0.0	280	251		
1556	42.15	500	14.9	0.16	7.14	0.00	150	230		
1559	42.15	500	14.9	0.16	7.18	0.00	160	217		
1602	42.15	500	14.8	0.15	7.30	0.00	430	183		
1605	42.15	500	14.8	0.15	7.30	0.00	440	182		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

Dup.

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT: OMI
SITE ID: South Point
ACTIVITY: START 1300 END 1340
FIELD SAMPLE NUMBER: SPMW-08
SITE TYPE:
SAMPLE TIME: 1335
JOB NUMBER:
EVENT NO:
DATE: 4-10-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 49.0 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): 66.21 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/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1305	49	500	14.3	0.11	6.07	0.00	100	198		
1310	49	500	14.2	0.11	6.08	0.00	98	190		
1315	49	500	14.3	0.13	6.17	0.00	90	151		
1320	49	500	14.3	0.11	6.35	0.00	110	91		
1325	49	500	14.3	0.11	6.44	0.00	130	65		
1330	49	500	14.3	0.10	6.49	0.00	140	47		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: DH

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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-09	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO	
ACTIVITY	START 1345 END 1415	SAMPLE TIME	1410	DATE	4-10-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	38.27 FT	HISTORICAL WELL DEPTH (TOR)	60.24 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	REPILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/liter)

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1350	38.27	500	13.6	0.16	3.83	0.42	200	444		
1353	38.27	500	13.5	0.15	3.64	0.00	200	449		
1356	38.27	500	13.5	0.15	3.64	0.00	210	450		
1359	38.27	500	13.6	0.15	3.63	0.00	130	453		
1402	38.27	500	13.6	0.15	3.66	0.00	80	453		
1405	38.27	500	13.5	0.15	3.67	0.00	120	453		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT20050033a.cdr

PROJECT: OMI
SITE ID: South Point
ACTIVITY: START 1020 END 1105
FIELD SAMPLE NUMBER: SPMW-10R
SITE TYPE:
SAMPLE TIME: 1100
JOB NUMBER:
EVENT NO:
DATE: 4-10-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 67.22 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/ml/min)
HISTORICAL WELL DEPTH (TDR): 94.90 FT
PRESSURE TO PUMP: PSI
REPILL 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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1030	67.22	500	13.7	35	4.56	1.34	670	277		
1035	67.22	500	13.7	36	4.67	0.99	310	219		
1040	67.22	500	13.7	37	4.66	0.95	300	204		
1045	67.22	500	13.8	38	4.66	0.93	330	187		
1050	67.22	500	13.8	38	4.66	0.91	260	181		
1055	67.22	500	13.5	42	4.59	0.91	300	194		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

Prepared/Date: 4-10-07
Checked/Date: MH

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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.odt

PROJECT: OMI
SITE ID: SOUTH POINT
ACTIVITY: START 1020 END 1050

FIELD SAMPLE NUMBER: SPMW-12
SITE TYPE:
SAMPLE TIME: 1045

JOB NUMBER:
EVENT NO:
DATE: 4-11-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 46.65 FT
FINAL DEPTH TO WATER: FT
SCREEN LENGTH: FT
TOTAL VOL. PURGED: GAL
(purge volume (milliliters per minute) x time duration (minutes) = 0.00026 gallons/liter)

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

HISTORICAL WELL DEPTH (TOR): 64.90 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/min)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mmhos)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1025	46.65	500	13.9	0.9	6.91	0.00	11	137		
1028	46.65	500	13.9	0.9	6.90	0.00	13	129		
1031	46.65	500	13.9	0.30	6.88	0.00	16	124		
1034	46.65	500	13.9	0.15	6.86	0.00	24	120		
1037	46.65	500	13.9	0.09	6.84	0.00	34	117		
1040	46.65	500	14.0	0.09	6.86	0.00	50	110		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

Prepared/Date: 4-11-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-11R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 0940 END 1010	SAMPLE TIME	1005	DATE	4-11-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER	48.15 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 (TOR)	65.10 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 / CAP / CASING / LOCKED / COLLAR	YES ✓ / NO / N/A
TOTAL VOL PURGED	GAL	REFILL SETTING		DISCHARGE SETTING			

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0945	48.15	500	14.5	34	5.26	0.75	15	173		
0948	48.15	500	14.5	35	5.49	0.37	5	162		
0951	48.15	500	14.5	36	5.67	0.31	5	155		
0954	48.15	500	14.4	39	5.93	0.26	19	148		
0957	48.15	500	14.4	38	5.93	0.25	20	148		
1000	48.15	500	14.4	39	5.93	0.24	22	148		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-11-07
Checked/Date: DH

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102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.odr

PROJECT	OMI	FIELD SAMPLE NUMBER	SPMW-13
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 1205 END 1240	SAMPLE TIME	1235

JOB NUMBER: EVENT NO: DATE: 4-11-07 FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	45.96 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOB)	71.03 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER: 2 IN

WELL INTERGRITY:

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

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1215	45.96	500	13.9	9.9	7.01	0.00	12	142		
1218	45.96	500	13.9	1.7	7.03	0.00	12	134		
1221	45.96	500	13.9	0.43	7.06	0.00	13	126		
1224	45.96	500	13.9	0.18	7.14	0.00	16	117		
1227	45.96	500	13.9	0.10	7.26	0.00	20	108		
1230	45.96	500	13.9	70	7.46	0.00	37	88		

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date:

Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI	FIELD SAMPLE NUMBER	SPOB-12 R2	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO	
ACTIVITY	START 0900 END 0935	SAMPLE TIME	0930	DATE	4-11-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	48.21 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	67.07 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:	
TOTAL VOL PURGED	GAL	REPILL SETTING		DISCHARGE SETTING			

(purge volume (milliliters per minute) x time duration (minutes) ÷ 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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0910	48.21	500	14.8	81	6.25	0.00	100	54		
0913	48.21	500	14.8	81	6.25	0.00	100	51		
0916	48.21	500	14.8	79	6.23	0.00	190	49		
0919	48.21	500	14.7	79	6.24	0.00	200	49		
0922	48.21	500	14.9	78	6.23	0.00	330	41		
0925	48.21	500	14.9	78	6.23	0.00	350	40		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-11-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2109
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35074
3283051221/2200.3

PROJECT	OMI	FIELD SAMPLE NUMBER	SPOB-34	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 0820 END 0955	SAMPLE TIME	0850	DATE	4-11-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	45.58 FT	HISTORICAL WELL DEPTH (TOR)	81.92 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	PRESSURE TO PUMP	PSI	PID AMBIENT AIR	0.0 PPM	WELL DIAMETER	2 IN
SCREEN LENGTH	FT	REFILL SETTING		PID WELL MOUTH	0.0 PPM	DISCHARGE SETTING	
TOTAL VOL. PURGED	GAL						

(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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0830	45.58	500	15.1	0.11	7.11	0.00	13	-233		
0833	45.58	500	15.1	0.11	7.19	0.00	4	-205		
0836	45.58	500	15.2	0.11	7.34	0.00	2	-220		
0839	45.58	500	15.2	0.11	7.35	0.00	2	-220		
0842	45.58	500	15.1	0.11	7.38	0.00	3	-218		
0845	45.58	500	15.2	0.11	7.42	0.00	2	-214		

EQUIPMENT DOCUMENTATION

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

ANALYTICAL PARAMETERS

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

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: 4-11-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
329305122/2200.3

PROJECT: OMI
SITE ID: SOUTH POINT
ACTIVITY: START 1325 END 1340
FIELD SAMPLE NUMBER: SPTS-24
SITE TYPE:
SAMPLE TIME: 1335
JOB NUMBER:
EVENT NO:
DATE: 4-11-07
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
(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

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

WELL INTEGRITY:

INTEGRITY	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (NTU)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1335			14.2	.01	6.77					

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

Dup. Pumping well

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES (NO)

NOTES:

Prepared/Date: 4-11-07
Checked/Date: PLL

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
329305122 1/2200.3

PROJECT: OMI
SITE ID: SOUTH POINT
ACTIVITY: START 1345 END 1355
FIELD SAMPLE NUMBER: SPLS-23
SITE TYPE:
SAMPLE TIME: 1350
JOB NUMBER:
EVENT NO:
DATE: 4-11-07
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

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/ml)

WELL INTEGRITY:

INTEGRITY	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (l/min)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1350	—	—	14.7	71	7.12					

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

MS, MSD, Pumping well

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES (NO)

NOTES:

Prepared/Date: 4-11-07
Checked/Date: DH

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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.2

JOB NUMBER:

PROJECT: OMI/ Honeywell

FIELD SAMPLE NUMBER: SPMW-01

EVENT NO.:

SITE ID:

SITE TYPE:

DATE: 10-23-07

ACTIVITY: START 0930 END 1010

SAMPLE TIME: 1005

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 39.00 FT

PROTECTIVE CASING STICKUP (FROM GROUND): 3 FT

CASING / WELL DIFFERENCE: FT

FINAL DEPTH TO WATER: FT

HISTORICAL WELL DEPTH (TOR): 62.15 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 INTEGRITY:

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

TOTAL VOL. PURGED: GAL

REFILL SETTING:

DISCHARGE SETTING:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. F)	SPECIFIC CONDUCTANCE (µmho/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)	COMMENTS
0935	39.00	500	14.6	263	6.39	0.91	5	155		
0940	39.00	500	14.6	235	6.36	1.27	4	167		
0945	39.00	500	14.6	230	6.36	1.40	3	174		
0950	39.00	500	14.6	222	6.35	1.51	7	179		
0955	39.00	500	14.6	216	6.34	1.55	2	183		
1000	39.00	500	14.6	224	6.34	1.55	4	185		

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: 10-23-07

Checked/Date: DH

Honeywell

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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2800.2

JOB NUMBER:

PROJECT: OMI / Honeywell

FIELD SAMPLE NUMBER: SPMW-02

EVENT NO:

SITE ID: South Point

SITE TYPE:

DATE: 10-23-07

ACTIVITY: START 1415 END 1445

SAMPLE TIME: 1440

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 47.90 FT

PROTECTIVE CASING STICKUP (FROM GROUND): 3 FT

CASING / WELL DIFFERENCE: FT

FINAL DEPTH TO WATER: FT

HISTORICAL WELL DEPTH (TOP): 75.2 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
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

TOTAL VOL. PURGED: GAL

REFILL SETTING:

DISCHARGE SETTING:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (NTU)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1420	47.90	500	15.5	496	7.03	1.53	20	351		
1423	47.90	500	15.5	494	7.02	1.28	15	322		
1426	47.90	500	15.1	502	6.99	0.41	18	311		
1429	47.90	500	15.1	510	7.11	0.00	24	270		
1432	47.90	500	14.9	500	7.17	0.00	28	248		
1435	47.90	500	14.7	495	7.27	0.00	37	230		

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: 10-23-07

Checked/Date: PK

Honeywell

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MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

JOB NUMBER

PROJECT: OMI Honeywell
FIELD SAMPLE NUMBER: SPMW-03
EVENT NO
SITE ID: South Point
SITE TYPE
DATE: 10-23-07
ACTIVITY: START 1450 END 1520
SAMPLE TIME: 1515
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 44.45 FT
PROTECTIVE CASING STICKUP (FROM GROUND): 3 FT
CASING / WELL DIFFERENCE: FT
FINAL DEPTH TO WATER: FT
HISTORICAL WELL DEPTH (TOB): 67 FT
PID AMBIENT AIR: 0.0 PPM
WELL DIAMETER: 2 IN
SCREEN LENGTH: FT
PRESSURE TO PUMP: PSI
PID WELL MOUTH: 0.0 PPM
TOTAL VOL PURGED: GAL
REFILL SETTING
DISCHARGE SETTING

WELL INTERIGRITY:

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

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallon/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1455	44.45	500	14.2	379	6.65	0.00	33	192		
1458	44.45	500	14.2	374	6.54	0.00	27	154		
1501	44.45	500	14.2	373	6.56	0.00	25	151		
1504	44.45	500	14.2	372	6.59	0.00	20	145		
1507	44.45	500	14.2	372	6.60	0.00	20	142		
1510	44.45	500	14.2	370	6.61	0.00	19	140		

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: 10-23-07
Checked/Date: PH

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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
329305 1221/2200.3

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-04
SITE ID	South Point	SITE TYPE	
ACTIVITY	START 1115 END 1140	SAMPLE TIME	1135

JOB NUMBER:
EVENT NO:
DATE: 10-24-07
FILE TYPE:

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	49.30 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOB)	66.75 FT	PID AMBIENT AIR	0.0 PPM
SCREEN LENGTH	FT	PRESSURE TO PUMP	PSI	PID WELL MOUTH	0.0 PPM
TOTAL VOL. PURGED	GAL	REFILL SETTING		DISCHARGE SETTING	

WELL DIAMETER: 2 IN

WELL INTERGRITY:

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

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallon/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1118	49.3	500	14.7	360	6.57	0.27	7	160		
1121	49.3	500	14.7	364	6.55	0.23	21	155		
1124	49.3	500	14.7	362	6.53	0.14	18	139		
1127	49.3	500	14.7	356	6.50	0.14	17	141		
1130	49.3	500	14.7	357	6.50	0.12	17	141		
1133	49.3	500	14.7	357	6.50	0.13	20	144		

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: 10-24-07
Checked/Date: PH

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

JOB NUMBER

PROJECT: OmI / Honeywell
FIELD SAMPLE NUMBER: SPmw-05
EVENT NO
SITE ID: South Point
SITE TYPE
DATE: 10-23-07
ACTIVITY: START 1015 END 1100
SAMPLE TIME: 1055
FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 62.09 FT
PROTECTIVE CASING STICKUP (FROM GROUND): 3 FT
CASING / WELL DIFFERENCE: FT
FINAL DEPTH TO WATER: FT
HISTORICAL WELL DEPTH (TOP): 85.83 FT
PID AMBIENT AIR: 0.0 PPM
WELL DIAMETER: 2 IN
SCREEN LENGTH: FT
PRESSURE TO PUMP: PSI
PID WELL MOUTH: 0.0 PPM
TOTAL VOL. PURGED: GAL
REFILL SETTING:
DISCHARGE SETTING:

WELL INTEGRITY:

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/min)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1025	62.09	500	14.2	350	7.51	3.93	30	180		
1030	62.09	500	14.4	354	7.59	3.67	15	152		
1035	62.09	500	14.5	354	7.63	3.58	8	160		
1040	62.09	500	14.5	355	7.65	3.42	6	162		
1045	62.09	500	14.4	355	7.67	3.29	6	161		
1050	62.09	500	14.4	354	7.68	3.20	7	159		

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:
Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-06R
SITE ID	SOUTH POINT	SITE TYPE	
ACTIVITY	START 1150 END 1230	SAMPLE TIME	1225

JOB NUMBER: EVENT NO: DATE: 10-23-07 FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 72.67 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 (TOP): 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

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1155	72.67	500	15.8	826	6.34	0.55	46	157		
1200	72.67	500	16.1	842	6.51	0.03	46	94		
1205	72.67	500	16.1	860	6.59	0.00	56	61		
1210	72.67	500	16.0	869	6.62	0.00	47	47		
1215	72.67	500	16.0	875	6.66	0.00	42	24		
1220	72.67	500	16.0	884	6.70	0.00	36	-4		

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:

Checked/Date:

Honeywell
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MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

JOB NUMBER:

PROJECT: OMI / Honeywell

FIELD SAMPLE NUMBER: SPMW-07

EVENT NO:

SITE ID:

SITE TYPE:

DATE: 10-23-07

ACTIVITY: START 1530 END 1600

SAMPLE TIME: 1555

FILE TYPE:

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 43.97 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): 67.21 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 INTEGRITY:

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

TOTAL VOL. PURGED: GAL

REFILL SETTING:

DISCHARGE SETTING:

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/hr)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mmhos)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1535	43.97	500	15.4	1.35	7.46	0.00	48	288		
1538	43.97	500	15.4	1.32	7.46	0.00	18	255		
1541	43.97	500	15.3	1.29	7.48	0.00	38	233		
1544	43.97	500	15.4	1.24	7.49	0.00	25	228		
1547	43.97	500	15.3	1.15	7.50	0.00	18	183		
1550	43.97	500	15.3	1.18	7.50	0.00	23	168		

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: 10-23-07

Checked/Date: PH

Honeywell

102 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/RONTON COKE FACILITY
RONTON, OHIO
SITE NO. 35024
329305122 1/2200.3

PORT2005033a.cdr

JOB NUMBER:
EVENT NO:
DATE: 10-23-07
FILE TYPE:

PROJECT: OMI / Honeywell
SITE ID: South Point
ACTIVITY: START 1235 END 1300
FIELD SAMPLE NUMBER: SPMW-04
SITE TYPE:
SAMPLE TIME: 1255

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 43.12 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 (TOB): 66.22 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 INTEGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (NTU)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1238	43.12	500	14.9	605	6.67	0.00	66	159		
1241	43.12	500	14.9	611	6.63	0.00	74	140		
1244	43.12	500	14.9	615	6.62	0.00	84	124		
1247	43.12	500	14.8	615	6.63	0.00	110	115		
1250	43.12	500	14.8	615	6.63	0.00	130	105		
1253	43.12	500	14.8	612	6.63	0.00	130	101		

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:
Checked/Date:

Honeywell
102 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
329305122 1/2200.3

JOB NUMBER

PROJECT: OMI / Honeywell

FIELD SAMPLE NUMBER: SPMW-09

EVENT NO

SITE ID: South Point

SITE TYPE

DATE: 10-23-07

ACTIVITY: START 1310 END 1335

SAMPLE TIME: 1330

FILE TYPE

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER: 42.62 FT

PROTECTIVE CASING STICKUP (FROM GROUND): 3 FT

CASING / WELL DIFFERENCE: FT

FINAL DEPTH TO WATER: FT

HISTORICAL WELL DEPTH (TOP): 60.3 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
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

TOTAL VOL. PURGED: GAL

REFILL SETTING

DISCHARGE SETTING

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (mL/min)	TEMP. (+/- deg. C)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (NTU)	REDOX (+/- mV)	PUMP INTAKE DEPTH (ft)	COMMENTS
1313	42.62	500	14.0	827	3.85	1.25	57	407		
1316	42.62	500	13.9	834	3.74	0.00	63	412		
1319	42.62	500	13.8	847	3.73	0.00	66	414		
1322	42.62	500	13.9	851	3.73	0.00	69	414		
1325	42.62	500	13.8	848	3.73	0.00	71	415		
1326	42.62	500	13.8	846	3.73	0.00	75	416		

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:

Checked/Date:

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MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-10R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 1105 END 1145	SAMPLE TIME	1140	DATE	10-23-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	68.63 FT	PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOR)	95.9 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 0.00026 gallons/liter)

WELL INTEGRITY:

INTEGRITY	YES	NO	NA
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1110	68.63	500	14.9	227	4.41	2.56	840	295		
1115	68.63	500	15.0	228	4.37	2.33	730	291		
1120	68.63	500	15.2	230	4.32	1.73	450	286		
1125	68.63	500	15.3	233	4.30	0.82	260	277		
1130	68.63	500	15.2	232	4.29	0.69	220	269		
1135	68.63	500	15.1	230	4.27	0.50	240	266		

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 COLLECTER	SAMPLE BOTTLE ID LETTERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED (YES) NO

NOTES:

Prepared/Date: _____

Checked/Date: _____

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LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3203061221/2200.3

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-11R	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 0945 END 1015	SAMPLE TIME	1010	DATE	10-24-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER	50.42 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) 67.04 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 INTEGRITY: 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/ml/liter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0950	50.42	500	15.0	294	5.62	2.15	57	245		
0953	50.42	500	15.0	313	5.56	1.37	32	245		
0956	50.42	500	15.0	342	5.75	0.32	1	235		
0959	50.42	500	15.0	344	5.74	0.31	1	235		
0902	50.42	500	15.0	348	5.78	0.25	0	237		
0905	50.42	500	14.9	348	5.78	0.13	1	239		

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: 10-24-07

Checked/Date: PH

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LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PORT2005033a.cdr

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-12	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 1015 END 1040	SAMPLE TIME	1035	DATE	10-24-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	49.00 FT			PROTECTIVE CASING STICKUP (FROM GROUND)	3 FT	CASING / WELL DIFFERENCE	FT
FINAL DEPTH TO WATER	FT	HISTORICAL WELL DEPTH (TOP)	64.9 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 gallon/liter)

WELL INTEGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1018	49	500	14.4	456	5.62	7.51	0	294		
1021	49	500	14.4	440	6.92	0.03	0	267		
1024	49	500	14.4	439	6.91	0.00	0	265		
1027	49	500	14.4	432	6.87	0.00	34	250		
1030	49	500	14.4	409	6.82	0.00	120	229		
1033	49	500	14.3	410	6.82	0.00	119	224		

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: _____

Checked/Date: _____

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LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3393061221/2290.3

PORT2005033a.cdr

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SPMW-13	JOB NUMBER	
SITE ID	SOUTH POINT	SITE TYPE		EVENT NO	
ACTIVITY	START 1045 END 1110	SAMPLE TIME	1105	DATE	10-24-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	48.42 FT	HISTORICAL WELL DEPTH (TOP)	71.03 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 total duration (minutes) x 0.00026 gallons/liter)

WELL INTERGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1048	48.42	500	14.4	407	7.76	0.00	34	257		
1051	48.42	500	14.4	407	7.76	0.00	34	256		
1054	48.42	500	14.4	404	7.75	0.00	33	255		
1057	48.42	500	14.4	407	7.78	0.00	35	243		
1100	48.42	500	14.5	407	7.78	0.00	36	236		
1103	48.42	500	14.4	407	7.79	0.00	37	231		

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 2155	☐ 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: 10-24-07

Checked/Date: PH

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LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

PROJECT	OMI / Honeywell	FIELD SAMPLE NUMBER	SP OB-12R2	JOB NUMBER	
SITE ID	South Point	SITE TYPE		EVENT NO	
ACTIVITY	START 0912 END 0940	SAMPLE TIME	0935	DATE	10-24-07
				FILE TYPE	

WATER LEVEL / PUMP SETTINGS

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

INITIAL DEPTH TO WATER	50.52 FT	HISTORICAL WELL DEPTH (TOB)	67.04 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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0915	50.52	500	15.4	717	6.34	0.00	10	103		
0918	50.52	500	15.4	723	6.36	0.00	13	102		
0921	50.52	500	15.4	724	6.38	0.00	18	101		
0924	50.52	500	15.4	690	6.39	0.00	28	99		
0927	50.52	500	15.4	688	6.39	0.00	60	102		
0930	50.52	500	15.4	671	6.39	0.00	38	104		

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 CONTAMINIZED (YES) NO

NOTES:

Prepared/Date: 10-24-07

Checked/Date: PH

Honeywell
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MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

JOB NUMBER

PROJECT: DMI / Honeywell

SITE ID: South Point

ACTIVITY: START 0845 END 0910

FIELD SAMPLE NUMBER: SPOB-34

SITE TYPE

SAMPLE TIME: 0905

EVENT NO

DATE: 10-24-07

FILE TYPE

WATER LEVEL / PUMP SETTINGS

INITIAL DEPTH TO WATER: 47.87 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 (TOB): 81.9 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 INTEGRITY:

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

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
0848	47.87	500	15.8	777	7.48	0.00	2	-164		
0851	47.87	500	15.8	776	7.54	0.00	0	-174		
0854	47.87	500	15.8	776	7.54	0.00	0	-175		
0857	47.87	500	15.9	775	7.56	0.00	0	-179		
0900	47.87	500	15.9	774	7.56	0.00	0	-182		
0903	47.87	500	15.9	772	7.60	0.00	1	-186		

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

Has Odor of Rotten Eggs.

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: (YES) NO

NOTES:

Prepared/Date: 10-24-07

Checked/Date: PH

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MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

JOB NUMBER

PROJECT: OMI / Honeywell | FIELD SAMPLE NUMBER: SPIS-23 | EVENT NO

SITE ID: South Point | SITE TYPE | DATE: 10-23-07

ACTIVITY: START 1605 END 1615 | SAMPLE TIME: 1610 | 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 | CASING / WELL DIFFERENCE ___ FT

FINAL DEPTH TO WATER ___ FT | HISTORICAL WELL DEPTH (TOR) ___ FT | PID AMBIENT AIR ___ PPM | WELL DIAMETER ___ IN

SCREEN LENGTH ___ FT | PRESSURE TO PUMP ___ PSI | PID WELL MOUTH ___ PPM

TOTAL VOL. PURGED ___ GAL | REFILL SETTING | DISCHARGE SETTING

(purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gallons/liter)

WELL INTERGRITY:

INTEGRITY	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS

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					MS, MSD

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES (NO)

NOTES:

Prepared/Date: ____

Checked/Date: ____

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MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/RONTON COKE FACILITY
RONTON, OHIO
SITE NO. 35024
3293051221/2200.3

JOB NUMBER

PROJECT: OMI Honeywell

FIELD SAMPLE NUMBER: SPIS-24

EVENT NO

SITE ID: South Point

SITE TYPE

DATE

ACTIVITY: START 1615 END 1625

SAMPLE TIME: 1620

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

WELL INTEGRITY:

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)	TEMP. (+/- deg. c)	SPECIFIC CONDUCTANCE (mS/cm)	pH (units)	DO (mg/L)	TURBIDITY (ntu)	REDOX (+/- mv)	PUMP INTAKE DEPTH (ft)	COMMENTS

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 (Dup)

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES NO

NOTES:

Prepared/Date: ____

Checked/Date: ____

Honeywell
102 COLUMBIA RD., BOX 2108
MORRISTOWN, NJ 07962

MACTEC

LOW FLOW GROUNDWATER DATA RECORD
ALLIED CHEMICAL/IRONTON COKE FACILITY
IRONTON, OHIO
SITE NO. 35024
3293051221/2200.3

APPENDIX B

APPENDIX B

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