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April 2004 Semi-Annual Post-Closure Groundwater Monitoring Report: Former International Paper Folding Carton Facility, Wilmington, North Carolina

Prepared for

International Paper
Memphis, Tennessee

INTERNATIONAL PAPER

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June 3, 2004

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Mr. Bud McCarty
Hazardous Waste Section
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605

Subject: April 2004 Semi-Annual Post-Closure Groundwater Monitoring Report, Former International Paper Folding Carton Facility, Wilmington, North Carolina NCD 072 022 726-M1

Dear Mr. McCarty:

Enclosed please find three copies of the Semi-Annual Post-Closure Groundwater Monitoring Report, which contains the results from the April 2004 monitoring event at the former International Paper folding carton facility in Wilmington, North Carolina. This report was prepared by Exponent to satisfy the reporting requirements under the facility's Hazardous Waste Management Permit NCD 072 022 726-M1. The report also includes a summary of normal well maintenance and repairs completed in April 2004.

Please contact me at (901) 419-3878 with any comments or questions

Sincerely,

Tom Richardson

cc: Facility File, Wilmington

Exponent®

April 2004 Semi-Annual Post-Closure Groundwater Monitoring Report: Former International Paper Folding Carton Facility, Wilmington, North Carolina

Prepared for

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May 2004

Doc. no. 8601269.004 0201 0504 R207

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Tom C. Richardson
Corporate EHS Remediation Project Manager

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Introduction

This data report presents the results of a groundwater sampling event conducted April 6–7, 2004, at the former International Paper Folding Carton Facility (the facility), located at 2221 J.R. Kennedy Drive in Wilmington, North Carolina (Figure 1). Additionally, normal maintenance repairs were made to several of the wells in the facility's groundwater monitoring well network on April 6, 2004. These tasks were completed to satisfy the requirements of the facility's Hazardous Waste Management Permit No. NCD 072 022 726-M1 (Permit), issued on July 25, 1997 (DEHNR 1997), and amended with a Class 2 permit modification on June 6, 2001 (DENR 2001). The re-application of ORC®, as required in the *Corrective Action Plan for the International Paper Retail Packaging Facility, Wilmington, North Carolina* (CAP) (Exponent 2000a) was last performed in December 2002 per the *ORC® Re-application Plan for Groundwater Corrective Action* (Exponent 2002a). The April 2004 groundwater sampling was performed to satisfy the Permit's semi-annual groundwater requirements, and was completed in accordance with the *Groundwater Sampling and Analysis Plan for Corrective Action and Compliance Monitoring* (SAP) (Radian 1998) and the *Addendum to the Groundwater Sampling and Analysis Plan for Corrective Action and Compliance Monitoring* (Addendum) (Exponent 2000b).

The CAP is based on enhanced natural attenuation and is designed to augment existing biodegradation processes that are reducing the concentration and extent of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in groundwater associated with an accidental release of organic compounds from a former aboveground storage tank (AST) farm at Solid Waste Management Unit (SWMU) 14 (Exponent 2000a). As specified in the CAP, International Paper installed an ORC® array in June 2001. This data report provides a description of ongoing performance monitoring (Exponent 2003a,b) since the December 2002 ORC® re-application. To satisfy the CAP's performance monitoring requirements, monitoring wells MW-09, MW-31, and MW-34 were sampled for selected VOCs, SVOCs, chemical oxygen demand (COD), and field parameters (i.e., pH, temperature, specific conductivity, dissolved oxygen [DO], oxidation-reduction potential [ORP], and iron) in April 2004.

The facility's Permit specifies semi-annual groundwater sampling and analysis, in April and October, for selected VOCs, SVOCs, and field parameters, at seven shallow monitoring wells (POC-01, MW-09, MW-21, MW-23, MW-25, MW-31, and MW-34) at the site. In addition, the permit requires collection of groundwater samples from well POC-01 for Appendix IX analysis (40 CFR 264, Appendix IX) in April of each year. Annual groundwater sampling and analysis of one deep well (MW-10) is required only in October of each year, and therefore, was not completed during the April 2004 sampling event.

This data report describes the sampling locations, sampling methods, deviations from the SAP and Addendum, data quality, methods used to measure field parameters, and analytical methods used to analyze samples for VOCs, SVOCs, COD, and Appendix IX constituents.

Plume Background and ORC® Re-application History

As described in detail in the CAP (Exponent 2000a), natural biodegradation processes (combined with recovery operations following the MEK spill and an engineered cap for source control) have caused the VOC and SVOC plume to shrink over time. Site-specific data have shown a loss of contaminant mass over time. Field measurements of redox in groundwater within the plume in October 1999 (Exponent 1999) showed that the redox potential (Eh) of the plume was significantly negative, and the plume contained high dissolved iron concentrations, which indicate anaerobic conditions. Dissolved oxygen concentrations within the plume were typically on the order of 1 mg/L or lower.

Because VOCs typically biodegrade more slowly under anaerobic conditions than under aerobic conditions, oxygen was applied to the groundwater using ORC® applied via a borehole array at the perceived downgradient end of the anaerobic plume. The goal of the aerobic zone creation was to increase the degradation of benzene, which was not being reduced at the same rate as the other organic contaminants present in the plume (i.e., the benzene plume showed a slight contraction over the same time period compared to acetone, MEK, and toluene).

The conceptual anaerobic and aerobic zones originally depicted in the CAP are shown in Figure 2, along with the last ORC® borehole injection array. Due to the limited number of recent field measurements (since 2001) and the variability present in the field measurements, it is not possible to further clarify the extent of the aerobic and anaerobic zones beyond what was conceptualized in the CAP. The recent analytical data for benzene, however, do validate the effectiveness of the ORC®-induced aerobic zone at enhancing the biodegradation of benzene within the groundwater.

The last ORC® re-application was performed on December 10–12, 2002, and the borehole array is depicted in Figure 2. International Paper first applied ORC® to the same injection array on June 13, 2001. Each application consisted of 57 1.5-in.-diameter boreholes (ORC-1A through ORC-57A), which were advanced for the injection of ORC® using direct-push methods. The injection array consists of a double row of injection points in a horseshoe configuration. The inner row includes an 80-ft central segment extending 40 ft north and 40 ft south of a point 50 ft west-northwest (i.e., hydraulically downgradient) of MW-09. From the northern and southern ends of the central segment, two 140-ft segments extend at angles of 60° east of north and 60° east of south, respectively. The outer row is offset 5 ft in both the perpendicular and parallel directions from the inner row. The angled segments of the outer row are each 80 ft long, as shown in Figure 2. Galvanized steel fence posts were previously installed at each of the four array corners and were surveyed to a horizontal accuracy of 0.1 ft. The locations of the individual injection points were marked using the corner guideposts and a distance wheel.

ORC® was injected into each borehole from the bottom of the borehole to approximately 2 ft below ground surface (bgs). A total of 2,474 pounds (dry weight) of ORC® was injected during the December 2002 re-injection. The uppermost 2 ft of each borehole was sealed using bentonite chips.

Monitoring Well Maintenance and Repairs

Twenty-three existing wells are located on the facility property. On April 6, 2004, an inspection of these 23 wells was performed, and the following maintenance and repairs were made:

- Fire ant mounds were noted within the Waste Management Unit near well POC-1. Corrective action was not performed, because any pesticide treatment could influence groundwater concentrations.
- Monitoring well MW-27 has a J-plug slip cap only, because there is not room for a padlock beneath the bolt-on manhole cover.
- The well information plate was replaced at monitoring well MW-21.

As previously discussed in the April 2003 semi-annual groundwater monitoring report, well MW-05 was abandoned in July 2003. Equipment installed to withdraw groundwater for the facility's previously planned dual-phase extraction system was obstructing the well and hindering reliable sample collection. This well is not included in the Permit-specified semi-annual post-closure groundwater-monitoring program and was being used only for measuring water levels. The absence of water-level measurements will not hinder the analysis of site groundwater flow contours.

Groundwater Sampling Summary

As specified in the SAP, groundwater samples are to be collected semi-annually, in April and October of each year. The semi-annual groundwater sampling was completed April 6–7, 2004.

Sampling Locations

During the April sampling event, a total of seven monitoring wells (POC-01, MW-09, MW-21, MW-23, MW-25, MW-31, and MW-34) at the facility were sampled for selected VOCs, SVOCs, and field parameters (Figure 1). Monitoring wells MW-31 and MW-34 were also sampled for chemical oxygen demand (COD). In addition, groundwater samples collected from monitoring well POC-01 were analyzed for Appendix IX constituents, including herbicides, dioxins/furans, pesticides, polychlorinated biphenyl (PCBs), total metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, thallium, tin, vanadium, and zinc), cyanide, and sulfide. Depth to groundwater was measured in all seven sampled monitoring wells and in 16 additional wells.

Well completion details are provided in Table 1. Sampling was performed by URS Corporation personnel.

Groundwater Sampling Summary

Unless noted in this section, all field sampling activities were performed in accordance with the SAP and Addendum.

Static water levels were measured in all wells prior to purging. This was done to ensure that the recorded water levels represent the undisturbed water table. The depth to water in individual wells was measured using an electronic water-level indicator. Depths to water and calculated groundwater elevations are provided in Table 2.

Monitoring wells were purged using a peristaltic pump with new, dedicated tubing.[1] During groundwater purging, flow from the discharge tube was directed into a flow-through cell and allowed to discharge from the cell directly to a secondary container. Use of the flow-through cell minimizes contact between the groundwater and the ambient atmosphere, which can influence some field parameter measurements (e.g., pH, temperature, DO, and ORP). Field parameters (i.e., pH, temperature, specific conductivity, DO, ORP, turbidity, and ferrous and total iron) were measured using a YSI 556 multi-parameter meter and recorded at every purge volume. Turbidity was measured using a Hach 2100P turbidimeter, and ferrous and total iron measurements were made using a Hach DR/820 colorimeter and AccuVac ampules. All meters

[1] This is a deviation from the SAP, which specifies the use of a bailer for purging and sample collection. A pump with dedicated tubing was used in conjunction with a flow-through cell to improve the quality and reliability of the field parameter measurements. Samples for laboratory analysis of VOCs were collected using a disposable Teflon® bottom-loading bailer.

were calibrated and operated in accordance with the manufacturer's recommendations. At least three well volumes, or the number of well volumes required until field parameters stabilized within 10% of the previous reading, whichever was greater, were removed prior to sampling.

After purging the appropriate volume of groundwater and achieving equilibration of field parameters, groundwater samples were collected following the procedures specified in the SAP and Addendum for laboratory analysis of VOCs, SVOCs, COD, and Appendix IX constituents (as specified above). Samples for VOC analyses were collected using a disposable Teflon® bottom-loading bailer, while samples for all other analyses were collected from the pump discharge line. Samples were then packed in an ice-filled cooler and submitted to Columbia Analytical Services (CAS), in Jacksonville, Florida, for analysis.

Field quality control (QC) samples for the April 2004 sampling consisted of one field duplicate from well POC-01 (including the Appendix IX parameter list), one equipment blank, and one trip blank. Organic-free, deionized water for blanks was supplied by CAS.

Investigation Results

Corrective Action Performance Monitoring Results

This section presents the results of the groundwater performance monitoring conducted to assess the effectiveness of the corrective action as described in the CAP (Exponent 2000a) and the *ORC® Re-application Plan for Groundwater Corrective Action* (Exponent 2002a). The initial ORC® application was implemented in June 2001, and an ORC® re-application was implemented in December 2002. Ongoing monitoring results for the well upgradient of the ORC® array (MW-09), and the two downgradient monitoring wells (MW-31 and MW-34), are presented in Table 3. Table 3 also contains monitoring results for the baseline, pre-corrective action, sampling event in April 2001.

Criteria under the CAP for initiating an ORC® re-application include a review of data from the two downgradient monitoring wells (MW-31 and MW-34). If the data at either well show a combination of dissolved oxygen concentrations less than 2.0 mg/L and a benzene concentration greater than 1.0 μg/L, then a re-application of ORC® is required.

Benzene concentrations at monitoring well MW-09, upgradient of the ORC® array, have fluctuated between 8.5 and 51 μg/L since the April 2001 sampling event, which occurred just prior to the first ORC® application, and during April 2004, the benzene concentration was 13 μg/L. Benzene has not been detected at monitoring well MW-31 since October 2002. At monitoring well MW-34, benzene has not been detected since February 2003. Figure 3 depicts time-series concentrations of benzene in MW-09, MW-31, MW-34, and the source well POC-01. Although collecting reliable DO measurements in the field on a consistent basis has proven difficult, DO concentrations have generally been below 2 mg/L in both MW-31 and MW-34. COD concentrations in all three wells have generally decreased over time, with the greatest decreases observed in the two downgradient wells (MW-31 and MW-34) (Table 3).

Results from the April 2004 performance monitoring (i.e., monitoring wells MW-09, MW-31, and MW-34) are provided with the semi-annual groundwater monitoring results below.

Semi-Annual Groundwater Sampling Results

Groundwater elevation measurements are presented in Table 2 and Figure 4. Measured depths to groundwater ranged from 2.30 to 7.64 ft on April 6, 2003, and calculated groundwater elevations ranged from 10.23 to 23.95 ft above mean sea level (amsl).

Field parameter measurements are summarized in Table 4. Near-neutral to slightly acidic pH was measured in all wells, with values ranging from 5.16 to 6.70. Specific conductivity values ranged from 127 to 665 μS/cm, and Eh ranged from 84.7 to 188 mV. DO measurements ranged from 0.08 to 1.93 mg/L Field measurements of ferrous iron ranged from 2.47 to 64.5 mg/L, and from 2.42 to 65.0 mg/L for total iron.

Table 5 summarizes the April 2004 groundwater analytical results for the nine VOCs and eight SVOCs specified by the facility's Permit. Table 6 summarizes the Appendix IX groundwater analytical results for samples collected from monitoring well POC-01.

Consistent with previous sampling results, benzene continues to be the most widely distributed hazardous constituent. Benzene concentrations exceeded the permit-specified groundwater protection standard (GWPS) of 1 μg/L in samples from three of the seven monitoring wells sampled in April 2004 (Table 5). Benzene concentrations exhibit a decreasing trend in the downgradient direction—from 37 μg/L at POC-01 to 6.4 μg/L at MW-23 (Figure 5). Of the permit-specified VOCs and SVOCs, five other compounds exceeded the GWPS in monitoring well POC-01 (Table 5); 2-butanone at 785 μg/L, ethylbenzene at 72 μg/L, toluene at 54,000 μg/L, 2-methylphenol at 13.1 μg/L, and 4-methylphenol at 12.0 μg/L. Other Appendix IX constituents detected in POC-01 (Table 6) include tetrachloroethene (6.1 μg/L), *m,p*-xylenes (215 μg/L), *o*-xylene (40 μg/L), octachlorodibenzo-p-dioxin (123.3 pg/L), total tetrachlorodibenzofurans (10.4 pg/L), antimony (0.38 μg/L), arsenic (1.77 μg/L), barium (15.3 μg/L), cobalt (0.22 μg/L), vanadium (3.69 μg/L), and zinc (7.64 μg/L). Herbicides, PCBs, and pesticides were all undetected at POC-01 (Table 6). In monitoring wells MW-31 and MW-34, COD levels were 13 and 20 mg/L, respectively.

Table 7 presents analytical results for the field QC samples. All analytes were undetected in the QC samples. Further data validation details are provided in the data quality assurance review section below.

Groundwater Velocity Calculations

Figure 4 depicts groundwater elevation contours and groundwater flow directions in the shallow water-bearing zone, based on groundwater-level measurements made on April 6, 2004. The principal direction of groundwater flow is to the west-northwest, although near monitoring wells MW-24 and MW-25, groundwater appears to flow to the southwest. This flow pattern is generally consistent over time (Exponent 2000a,b; 2003a,b; International Paper 2001; Radian 1994), although it is common for groundwater elevations in individual wells to vary seasonally by more than 3 ft in response to fluctuations in precipitation and groundwater recharge.

Groundwater velocity, V_{gw}, in the shallow water-bearing zone beneath the facility was estimated using the equation:

$$V_{gw} = Ki/n$$

where:

K = hydraulic conductivity [ft/day]

i = hydraulic gradient (change of groundwater elevation/distance) [ft/ft]

n = effective porosity [percent].

The typical hydraulic conductivity of the shallow water-bearing zone beneath the facility is 10 ft/day, based on the results of several slug tests and pumping tests at the facility (Radian 1994). Average groundwater seepage velocities in the shallow water-bearing zone were estimated using this value, an estimated effective porosity of 17% (Radian 1994), and calculated hydraulic gradients along three flow paths (A-A', B-B', C-C') shown in Figure 4. Using a calculated hydraulic gradient of 0.006 ft/ft for flow path A-A', which represents groundwater flow beneath the facility building, results in an estimated groundwater seepage velocity of 0.4 ft/day. The flow path B-B' (calculated hydraulic gradient of 0.013 ft/ft) represents groundwater flow to the southwest downgradient of SWMU 14, and the calculated groundwater seepage velocity was 0.8 ft/day. Flow to west-northwest downgradient of SWMU 14 toward MW-23 is represented by flow path C-C'. Using a calculated hydraulic conductivity of 0.015 ft/ft for this flow path yields an estimated groundwater seepage velocity of 0.9 ft/day.

Discussion of Groundwater Sampling Results

Corrective Action Performance Monitoring

Performance monitoring for the corrective action consists of the results from the monitoring well immediately upgradient of the ORC® array (MW-09) and the two wells immediately downgradient (MW-31 and MW-34). The results of the two most recent sampling events, in February and April 2003, suggest that the two ORC® injections have measurably oxidized groundwater downgradient of the ORC® array. Although DO concentrations are below 2 mg/L, COD concentrations have decreased continually over time. COD measures the amount of a chemical oxidant required to oxidize, or remove groundwater constituents (via precipitation of inorganic compounds [e.g., Fe^{2+} and Mn^{2+}] or transformation of organic compounds [e.g., benzene]). Therefore, decreases in COD levels indicate that dissolved constituents have been removed from groundwater. Most importantly, the December 2002 ORC® re-injection appears to be successfully enhancing the natural attenuation of benzene (Figure 3). No organic contaminants have been detected at monitoring well MW-31 since October 2002 (Table 8), and organic contaminants have not been detected at MW-34 since February 2003. An additional round of performance monitoring is scheduled for October 2004 to evaluate whether the corrective action objectives (i.e., benzene concentrations below the GWPS of 1 μg/L, or DO concentrations above 2 mg/L) continue to be achieved at MW-31 and MW-34.

Semi-Annual Groundwater Sampling

Groundwater monitoring has been conducted at the facility for the past 15 years. Table 8 summarizes historical monitoring data through April 2004 for the hazardous constituents listed in the facility's Permit.

Historically, MEK (2-butanone), toluene, acetone, and benzene have been the compounds most frequently detected at concentrations above the GWPS listed in the Permit. As indicated by the data presented in Table 8, concentrations of these constituents have decreased significantly in the monitoring wells (e.g., MW-06, MW-09, MW-31, and POC-01). In general, monitoring results from April 2004 indicate that this trend is continuing. An increase in concentrations of benzene, MEK, and toluene was observed in POC-01, indicating that source flushing by groundwater is still occurring. Based on the April 2004 groundwater monitoring results (Table 5), the GWPS is exceeded in one location (monitoring well POC-01) for MEK, ethylbenzene, toluene, 2-methylphenol, and 4-methylphenol; and three locations for benzene (monitoring wells MW-09, MW-23, and POC-01).

These results indicate that the occurrence of hazardous constituents at concentrations above the GWPS is limited to a relatively small area downgradient to the west-northwest from the former AST farm at the facility (Figure 5). In addition, long-term trends demonstrate that plume concentrations are stable or decreasing. Although benzene continues to exceed the GWPS over a larger area than other constituents, the historical data presented in Table 6 show decreasing

concentrations in individual monitoring wells, with the exception of well MW-23, which has shown a slight increase in benzene concentration between April 2003 (2.1 μg/L) and April 2004 (6.4 μg/L). However, a review of the historical monitoring results for MW-23, summarized in Table 8, indicates that benzene concentrations have fluctuated between 2 and 6.5 μg/L over the last 7 years.

The concentration trend over time for benzene in wells POC-01 and MW-09 is illustrated in Figure 6. These two wells are located downgradient of the former AST farm, and benzene has continued to trend lower in MW-09. The April 2004 benzene concentration in well POC-01 increased to 37 μg/L, which indicates that benzene concentrations may be stable within the source plume area, trending between 7 and 44 μg/L.

Results of Data Quality Assurance Review

Exponent performed a quality assurance review for chemical analyses completed on groundwater samples collected on April 6–7, 2004.

Six groundwater samples were collected and are associated with CAS data package J0400771. Analyses were completed for SVOCs, VOCs, and COD. In addition, one trip blank was analyzed for VOCs, and one equipment blank was analyzed for SVOCs and VOCs. All analyses were completed by CAS in Jacksonville, Florida.

One groundwater sample and one field duplicate sample were collected and are associated with CAS data package J0400772. Analyses were completed for SVOCs, VOCs, organochlorine pesticides, PCBs, metals, polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), chlorinated herbicides, cyanide, sulfide, and pH. CAS's Jacksonville laboratory completed all analyses except the PCDD/F analyses, which were completed by CAS's laboratory in Houston, Texas; and the chlorinated herbicides, cyanide, sulfide, and pH analyses, which were completed by CAS's subcontractor laboratory, Test America, Inc., in Nashville, Tennessee.

The quality assurance review was conducted to verify that the laboratory quality assurance and quality control procedures were documented and that the quality of the data is sufficient for their intended purposes. The quality assurance review included evaluating the applicable quality control results reported by the laboratory. The data were validated in accordance with guidance specified by the *USEPA Contract Laboratory Program, National Functional Guidelines for Organic Data Review* (U.S. EPA 1999a) for organic compound analyses, the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (U.S. EPA 2002a) for metals, the *USEPA National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (U.S. EPA 2002b) for PCDD/F analyses, and in the context of method-specific quality control requirements for COD, cyanide, sulfide, and pH analyses. Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods not specifically addressed by the functional guidelines (e.g., COD, cyanide, sulfide, and pH analyses).

Analytical Methods

Analyses were completed in accordance with the methods listed in the following table:

Constituent	Method
VOCs	SW-846 Method 8260B[a]
SVOCs	SW-846 Method 8270C[a]
Organochlorine pesticides	SW-846 Method 8081A[a]
PCBs	SW-846 Method 8082[a]
PCDD/Fs	SW-846 Method 8290[a]
Chlorinated herbicides	SW-846 Method 8151A[a]
Metals	SW-846 Methods 6020 and 7470A[a]
Cyanide	SW-846 Method 9012A[a]
Sulfide	EPA Method 376.1[b]
pH	SW-846 Method 9040B[a]
Chemical oxygen demand	EPA Method 410.2[b]

[a] U.S. EPA 1997
[b] U.S. EPA 1999b

Completeness

Results reported by the laboratory were 100% complete. A total of eight results were rejected (*R*) during the quality assurance review. Completeness was greater than 99% after the quality assurance review.

Holding Times and Sample Preservation

Method-specific holding-time constraints were met.

Instrument Performance

The performance of the analytical instruments, as documented by the laboratory, was acceptable.

Initial and Continuing Calibration

Initial and continuing calibrations were completed for all applicable target analytes and generally met the criteria for acceptable performance, with the exceptions discussed below. The frequency of calibration was met in all instances.

For the VOC analyses completed on samples GW0005 and GW0006 associated with data package J0400772, the average relative response factors (RRFs) calculated from the initial calibration for 1,4-dioxane (average RRF of 0.003), isobutyl alcohol (average RRF of 0.014), acetonitrile (average RRF of 0.043), and propionitrile (average RRF of 0.047) were below the

data validation criterion of 0.050. In accordance with data validation guidance (U.S. EPA 1999a), the undetected results reported for these four VOCs for samples GW0005 and GW0006 were rejected (*R*) during the quality assurance review. The RRFs for 1,4-dioxane, isobutyl alcohol, acetonitrile, and propionitrile were also below 0.050 in the associated continuing calibration verifications (CCVs); however, no additional action was required, because results for these compounds were rejected (*R*) previously, based on the average RRF results from the initial calibration.

For the analysis of VOCs completed on samples GW0005 and GW0006 in data package J0400772, the difference between the RRF for the CCV standard and the average RRF from the initial calibration was above the data validation control limit of 25% for acetone, acrylonitrile, 2-butanone, methacrylonitrile, and trans-1,4-dichloro-2 butene. In accordance with data validation guidance (U.S. EPA 1999a), the results reported for these five VOCs for samples GW0005 and GW0006 were qualified as estimated (*J*) during the quality assurance review.

For the analysis of SVOCs completed on samples GW0005 and GW0006 in data package J0400772, the difference between the RRF for the CCV standard and the average RRF from the initial calibration was above the data validation control limit of 25% for aniline and bis (2-chloroisopropyl) ether. In accordance with data validation guidance (U.S. EPA 1999a), the results reported for these two SVOCs for samples GW0005 and GW0006 were qualified as estimated (*J*) during the quality assurance review.

For the analysis of organochlorine pesticides associated with samples in data package J0400772, the difference between the calibration factor for the CCV standard and the average calibration factor from the initial calibration was above the data validation control limit of 15% for selected analytes. No action was required, because the method-specific alternative of using the average percent difference of all target analytes resulted in an average percent difference of less than 15%.

For the analysis of chlorinated herbicides associated with samples GW0005 and GW0006 in data package J0400772, the difference between the calibration factor for the CCV standard and the average calibration factor from the initial calibration was above the data validation control limit of 15% for selected analytes. The method-specific alternative of using the average percent difference of all target analytes resulted in an average percent difference of greater than 15%. In response, all chlorinated herbicide results in samples GW0005 and GW0006 were qualified as estimated (*J*) during the quality assurance review.

Method Blank Analyses

Target analytes were generally not detected in the method blanks, with the exceptions discussed below.

Chromium, copper, lead, and nickel were reported as detected in the preparation blank associated with the analysis of samples GW0005 and GW0006 in data package J0400772. Results for the above analytes were restated as undetected (*U*) during the quality assurance review.

For the analysis of PCDD/Fs associated with samples GW0005 and GW0006, OCDD was reported as detected in the method blank. No action was required, because OCDD was not detected in one of the associated samples and was detected at a concentration above the data validation action limit in the other associated sample.

Accuracy

The accuracy of the analytical results is evaluated in the following sections in terms of analytical bias (applicable surrogate compound recoveries, matrix spike [MS] recoveries, and laboratory control sample [LCS] recoveries, internal standard responses, and isotopically labeled internal standard recoveries [PCDD/F analyses only]) and precision (applicable duplicate sample and/or matrix spike duplicate [MSD] analyses).

Surrogate Compound Recoveries

The recoveries reported by the laboratory for the surrogate compounds added to all samples analyzed for SVOCs, VOCs, organochlorine pesticides, and chlorinated herbicides met the laboratory's control limits.

Matrix Spike Recoveries

The MS and/or MS/MSD recoveries reported by the laboratory, as were applicable to the analyses completed, met the laboratory's criteria for acceptable performance. The frequency of MS and/or MSD analysis was met.

Laboratory Control Sample Recoveries

The LCS recoveries reported by the laboratory, as were applicable to the analyses completed, met the laboratory's criteria for acceptable performance. The frequency of LCS analysis was met.

Internal Standard Responses

The responses and retention times for all internal standards (SVOC, VOC, and applicable metals analyses) met method-specific criteria for acceptable performance.

Isotopically Labeled Internal Standard Recoveries

The recoveries of the isotopically labeled internal standard compounds associated with the PCDD/F analyses met method-specific criteria for acceptable performance, with the exceptions discussed below.

For the analyses of PCDD/Fs associated with sample GW0005, recoveries for isotopically labeled internal standards were below the control limit of 40%. Specifically, 1,2,3,7,8-pentachlorodibenzo-*p*-dioxin, octachlorodibenzofuran, 2,3,7,8 tetrachlorodibenzofuran, and 1,2,3,7,8-pentachlorodibenzofuran were below laboratory-established control limits. In response, five results from sample GW0005 were qualified as estimated (*J*) during the quality assurance review.

For the analyses of PCDD/Fs associated with sample GW0006, the isotopically labeled internal standard recovery for octachlorodibenzofuran was below the laboratory-established control limit of 40%. In response, octachlorodibenzofuran in sample GW0006 was qualified as estimated (*J*) during the quality assurance review.

Precision

The results reported by the laboratory for all applicable MSD and duplicate sample analyses, and the frequency of analysis, met the laboratory's criteria for acceptable performance.

Field Quality Control Samples

The field quality control samples consisted of one groundwater field duplicate pair, a trip blank, and an equipment rinsate blank. The trip blanks were analyzed for VOCs only. The equipment rinsate blanks were analyzed for SVOCs and VOCs only.

The precision of all target analytes reported as detected in the field duplicate pair was acceptable. No VOC target analytes were reported as detected in the trip blanks. No SVOC and VOC target analytes were reported as detected in the equipment rinsate blanks.

Target Analyte Identification and Quantification

All criteria for the identification and quantification of all target analytes reported as detected or undetected, as specified in the applicable analytical methods, were met.

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Figures

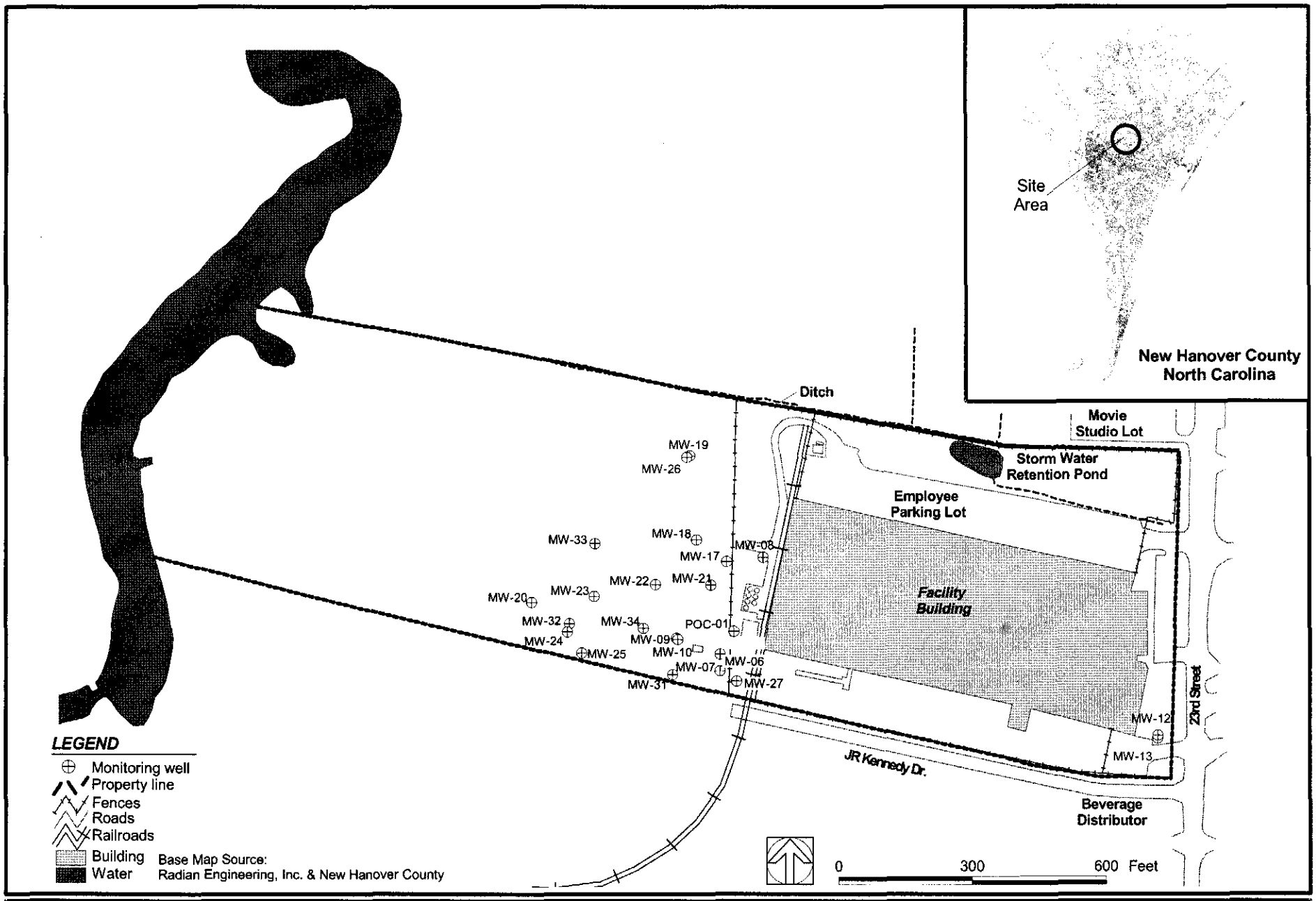
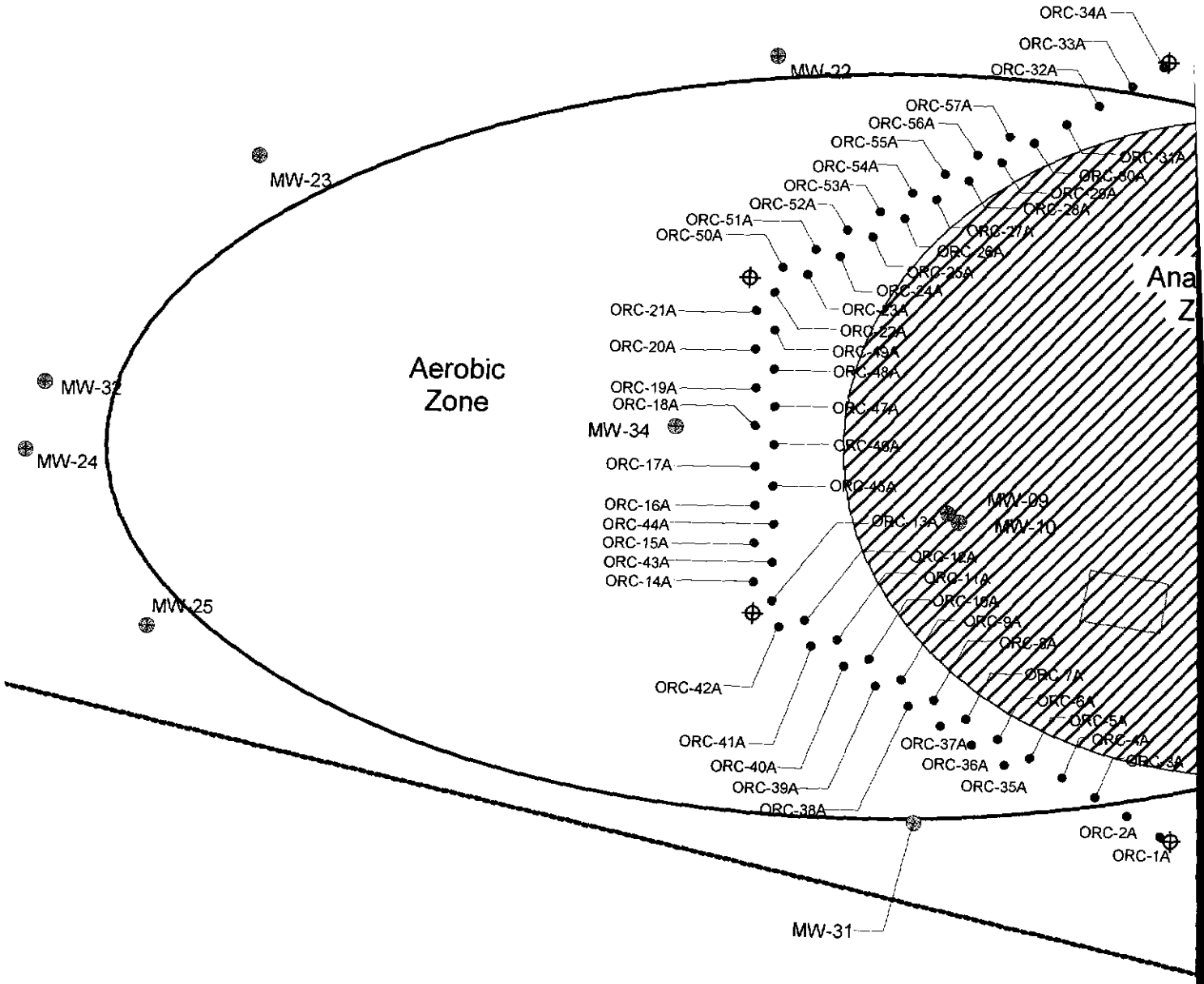


Figure 1. Former International Paper facility, Wilmington, North Carolina.



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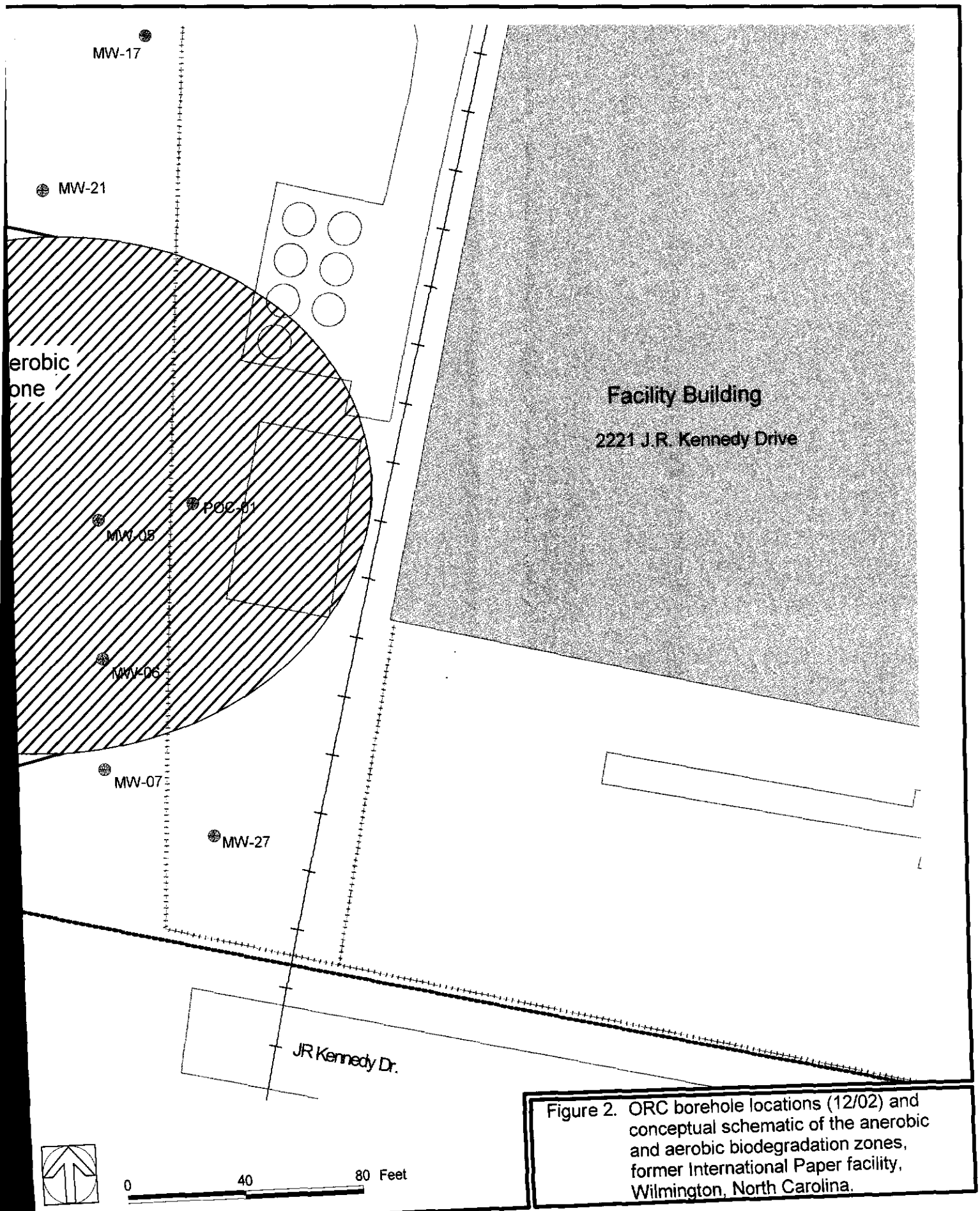
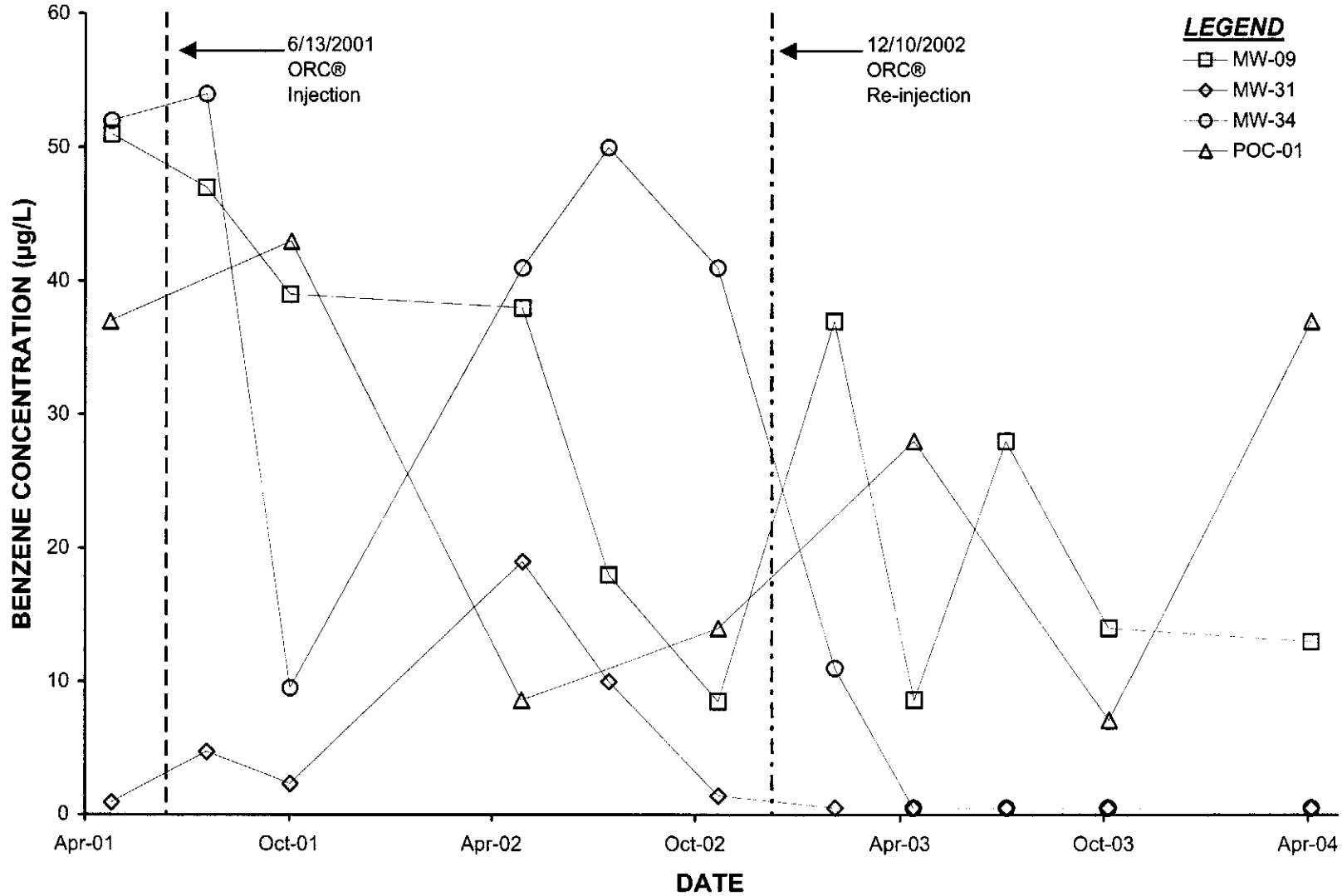


Figure 2. ORC borehole locations (12/02) and conceptual schematic of the anerobic and aerobic biodegradation zones, former International Paper facility, Wilmington, North Carolina.



Note: Field duplicates averaged.
Samples with concentrations below the reporting limit are plotted at one-half the reporting limit.
Benzene concentrations were below the 1 µg/L reporting limit at MW-31 from 2/2003 – 4/2004, and at MW-34 from 4/2003 – 4/2004.

Figure 3. Benzene concentrations in MW-09, MW-31, MW-34, and POC-01 since April 2001, former International Paper facility, Wilmington, North Carolina

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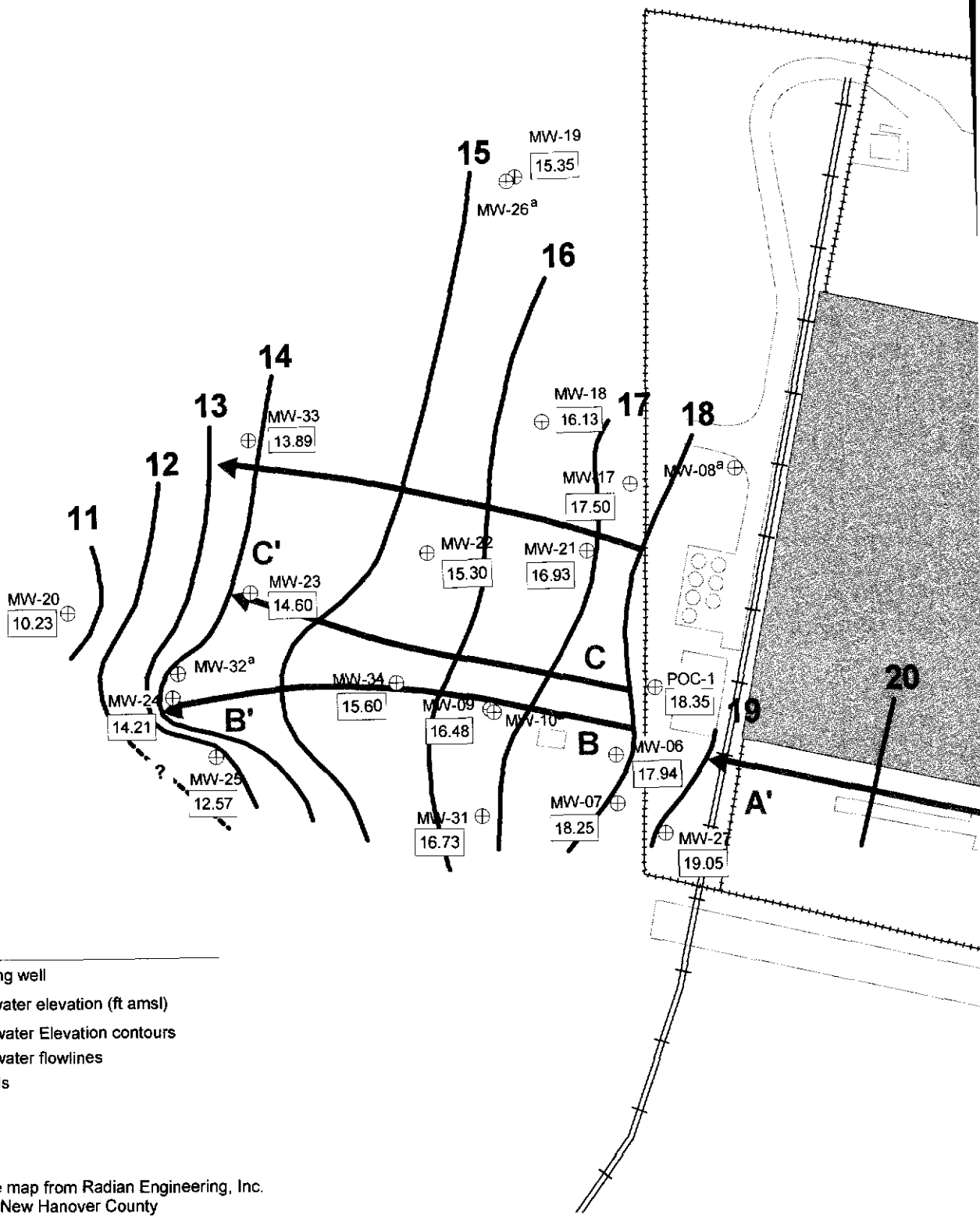

LEGEND

- ⊕ Monitoring well
- 17.71 Groundwater elevation (ft amsl)
- Groundwater Elevation contours
- Groundwater flowlines
- Railroads
- Fences
- Roads
- Building

Source: Base map from Radian Engineering, Inc. and New Hanover County

Note: a Screened in the lower, confined Peedee Formation and not considered for contoured elevations.

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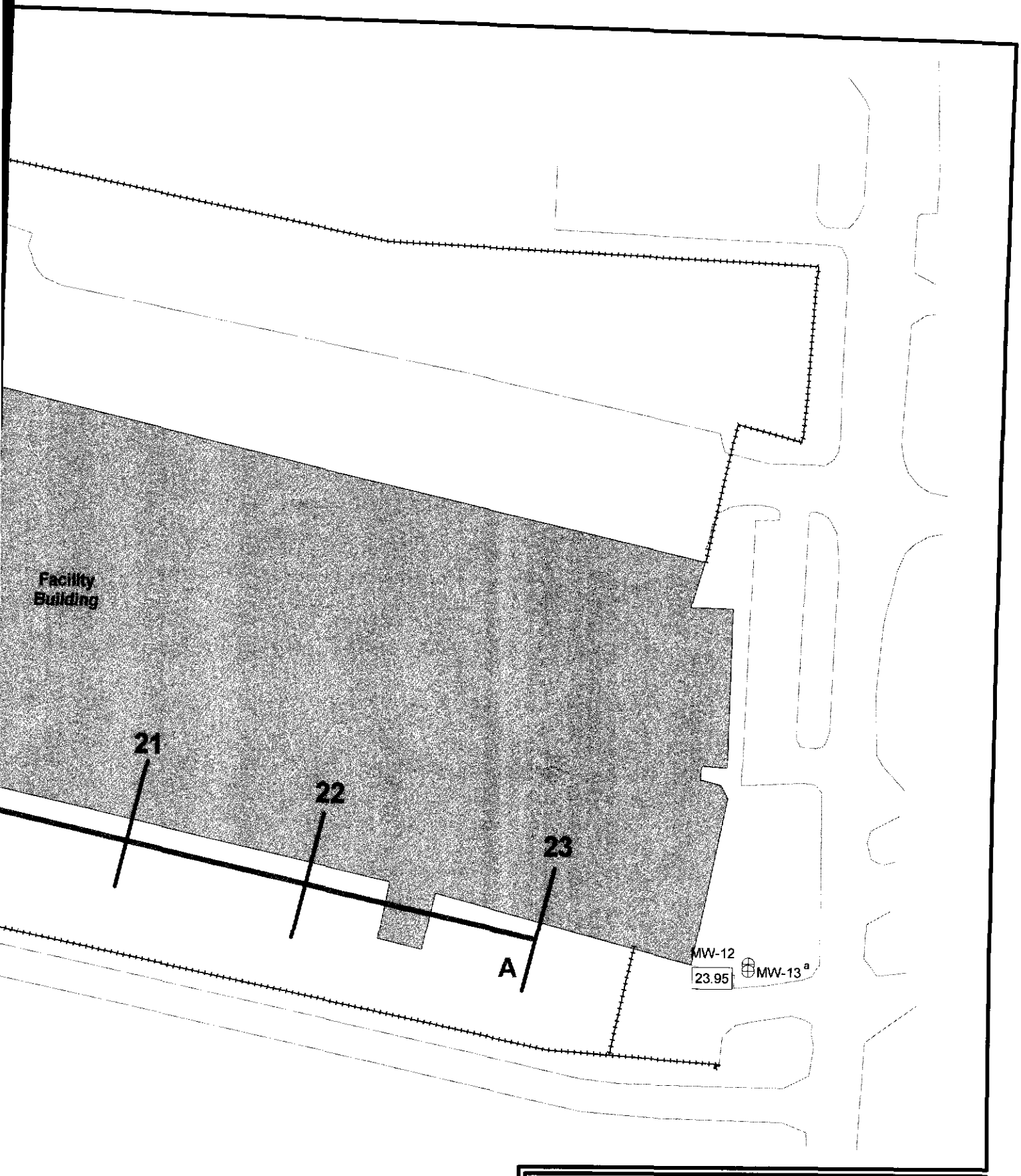


0 100 200 Feet

Figure 4. Shallow groundwater elevations and flow directions (4/6/04), former International Paper facility, Wilmington, North Carolina.

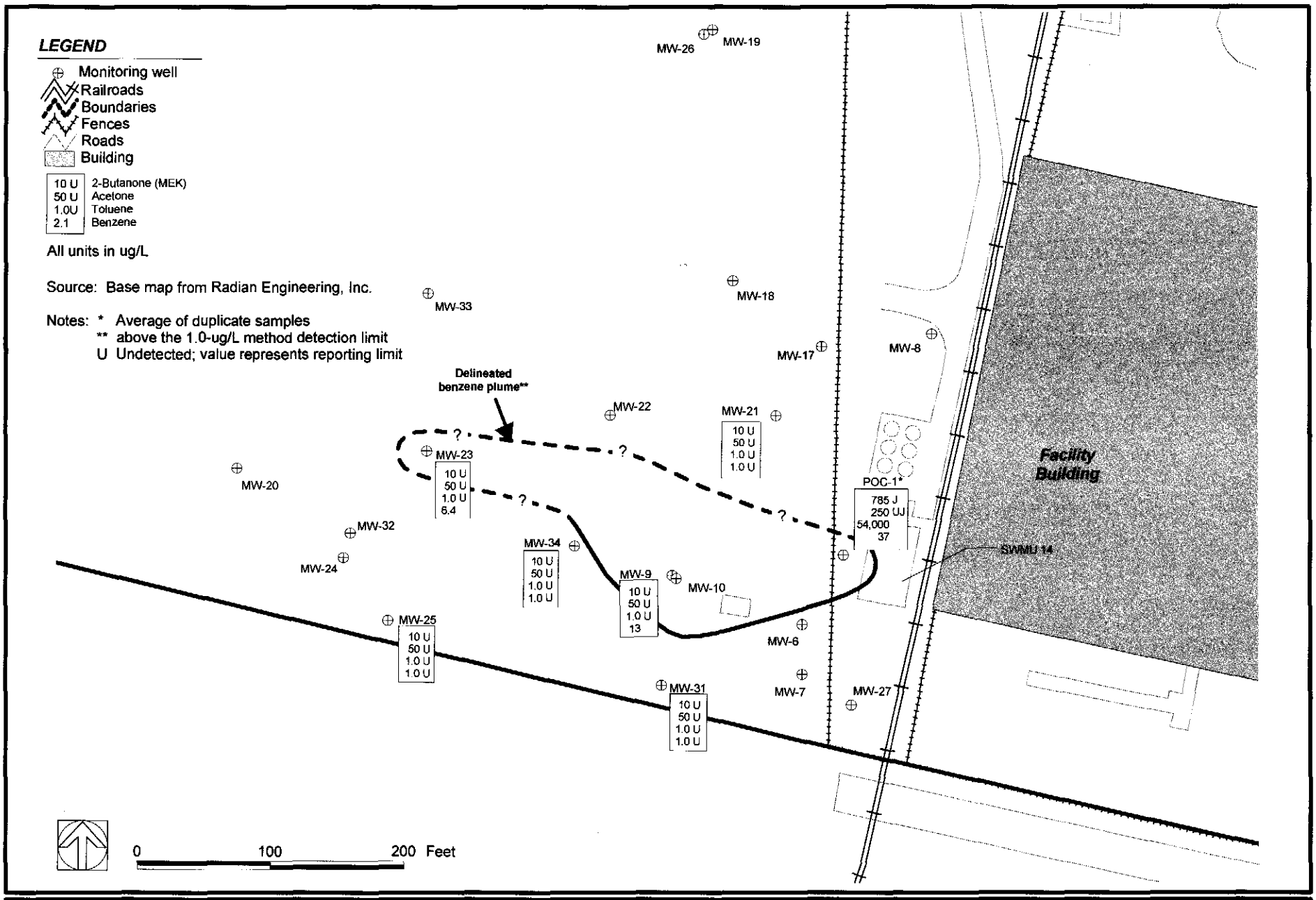
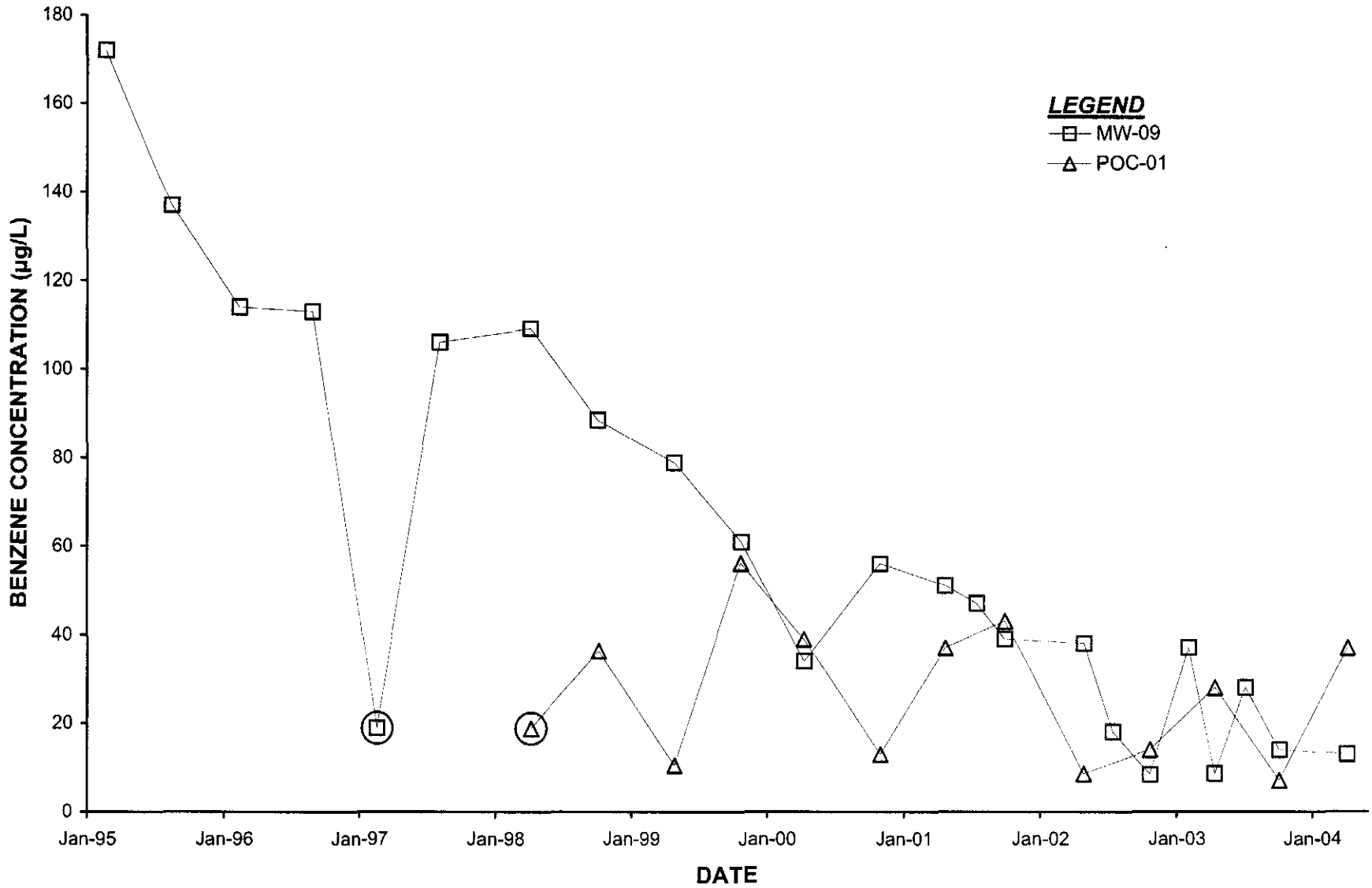


Figure 5. MEK, acetone, toluene, and benzene concentrations in groundwater (4/6–7/04), former International Paper facility, Wilmington, North Carolina.



Note: Non-detects are circled and are plotted at one-half the reporting limit.

Figure 6. Benzene concentrations in MW-09 and POC-01 since 2/21/1995, former International Paper facility, Wilmington, North Carolina

Tables

Table 1. Well construction details, former International Paper facility, Wilmington, North Carolina

Well	Drilling Contractor	Driller Registration Number	Completion Date	Status	Total Depth (ft bgs)	Screen Depth (ft bgs) Top	Screen Depth (ft bgs) Bottom	Total Depth from TOC (ft)	Casing Diameter (in.)	Casing Material	TOC Elevation (ft amsl)	Ground Elevation (ft amsl)
MW-01	Carolina Drilling	728	6/15/1985	Abandoned[b]	--	--	--	--	--	--	--	--
MW-02	Carolina Drilling	728	6/15/1985	Abandoned[c]	--	--	--	--	--	--	27.25	--
MW-03	Carolina Drilling	728	6/16/1985	Abandoned[c]	--	--	--	--	--	--	27.01	--
MW-04	Carolina Drilling	728	6/11/1985	Abandoned[b]	--	--	--	--	--	--	--	--
MW-05	Carolina Drilling	728	6/11/1985	Abandoned[g]	--	--	--	17.4 [f]	--	--	26.15	22.01
MW-06	Carolina Drilling	728	6/10/1985	Existing	16.0	6.0	16.0	18.9	2	PVC	25.32	22.41
MW-07	Carolina Drilling	728	6/10/1985	Existing	17.0	2.0	17.0	20.7	2	PVC	25.89	22.24
MW-08	Carolina Drilling	728	1/21/1986	Existing	--	-- [e]	--	18.4 [f]	--	--	25.87	23.82
MW-09	Carolina Drilling	728	1/21/1986	Existing	18.0	8.0	18.0	19.4	2	PVC	22.31	20.88
MW-10	Carolina Drilling	728	1/23/1986	Existing	42.0	27.5 [a,e]	--	44.5	4	GALV	23.25	20.78
MW-11	Carolina Drilling	728	1/22/1986	Abandoned[d]	--	--	--	--	--	--	24.80	--
MW-12	Carolina Drilling	728	5/6/1986	Existing	20.0	3.0	20.0	21.3	2	PVC	29.41	28.08
MW-13	Carolina Drilling	728	5/6/1986	Existing	--	-- [e]	--	--	--	--	29.66	28.23
MW-14	Carolina Drilling	728	11/16/1986	Abandoned[b]	--	--	--	--	--	--	--	--
MW-15	Carolina Drilling	728	11/16/1986	Abandoned[d]	--	--	--	--	--	--	22.34	--
MW-16	Carolina Drilling	728	11/16/1986	Abandoned[d]	--	--	--	--	--	--	16.58	--
MW-17	Carolina Drilling	728	11/17/1986	Existing	8.5	2.5	8.5	10.5	2	PVC	22.46	20.46
MW-18	Carolina Drilling	728	11/17/1986	Existing	--	--	--	14.4 [f]	--	--	21.72	19.17
MW-19	Carolina Drilling	728	11/17/1986	Existing	--	--	--	12.3 [f]	--	--	21.11	17.91
MW-20	Carolina Drilling	728	11/17/1986	Existing	--	--	--	--	--	--	15.07	13.67
MW-21	Carolina Drilling	728	6/26/1989	Existing	19.3	9.0	19.0	21.1	2	PVC	22.36	20.52
MW-22	Carolina Drilling	728	6/27/1989	Existing	--	--	--	20.8 [f]	--	--	20.87	18.87
MW-23	Carolina Drilling	728	6/28/1989	Existing	11.0	6.0	11.0	13.0	2	PVC	18.48	16.45
MW-24	Carolina Drilling	728	6/27/1989	Existing	17.2	7.2	14.2	19.2	2	PVC	16.51	14.55
MW-25	Carolina Drilling	728	6/28/1989	Existing	12.0	6.0	12.0	14.2	2	PVC	17.93	15.74
MW-26	Carolina Drilling	728	--	Existing	--	-- [e]	--	30.1 [f]	--	--	20.70	17.91
MW-27	Carolina Drilling	728	--	Existing	--	--	--	--	--	--	23.00	23.15
MW-28	Carolina Drilling	728	7/14/1990	Abandoned[d]	10.5	3.5	8.5	10.2	2	PVC	25.66	25.93
MW-29	Carolina Drilling	728	7/14/1990	Abandoned[d]	8.5	3.5	8.5	8.2	2	PVC	25.29	25.59
MW-30	Carolina Drilling	728	7/14/1990	Abandoned[d]	9.3	4.3	9.3	9.0	2	PVC	25.43	25.69
MW-31	Carolina Drilling	728	2/6/1991	Existing	15.0	3.5	13.5	16.9	2	PVC	23.10	21.19
MW-32	--	--	--	Existing	--	-- [e]	--	--	--	--	17.47	14.86
MW-33	--	--	--	Existing	--	--	--	--	--	--	17.53	15.31
MW-34	Parratt-Wolff	2487	10/27/2000	Existing	17.0	5.5	15.5	19.4	2	PVC	21.75	19.33
POC-1	Carolina Drilling	728	11/26/1997	Existing	17.0	7.0	17.0	19.4	2	SS	25.50	23.06

(notes on following page)

Table 1. (cont.)

Note: Reported elevations of existing wells based on June–July 2001 survey results and reported elevations of abandoned wells based on Radian documents.

-- – Not applicable or information not available
GALV – Galvanized steel
PVC – Polyvinyl chloride
SS – Stainless steel
TOC – Top of casing

[a] Completed as an open borehole well below the 4" casing.
[b] Abandoned prior to June 1989.
[c] Likely abandoned during installation of engineered cap at SWMU 14 on July 30, 1991.
[d] Abandoned on December 21, 1999.
[e] Monitoring wells MW-08, MW-10, MW-13, MW-26, and MW-32 are screened in the lower confined Peedee Formation.
[f] Total depth from top of casing obtained on April 17, 2003 by URS personnel.
[g] Abandoned in July 2003.

Table 2. April 2004 groundwater elevations, former International Paper facility, Wilmington, North Carolina

Well ID	Date	TOC Elevation (ft amsl)	Depth to Water from TOC (ft)	Groundwater Elevation (ft amsl)
MW-06	4/6/2004	25.32	7.38	17.94
MW-07	4/6/2004	25.89	7.64	18.25
MW-08	4/6/2004	25.87	7.17	18.70
MW-09	4/6/2004	22.31	5.83	16.48
MW-10	4/6/2004	23.25	7.33	15.92
MW-12	4/6/2004	29.41	5.46	23.95
MW-13	4/6/2004	29.66	5.74	23.92
MW-17	4/6/2004	22.46	4.96	17.50
MW-18	4/6/2004	21.72	5.59	16.13
MW-19	4/6/2004	21.11	5.76	15.35
MW-20	4/6/2004	15.07	4.84	10.23
MW-21	4/6/2004	22.36	5.43	16.93
MW-22	4/6/2004	20.87	5.57	15.30
MW-23	4/6/2004	18.48	3.88	14.60
MW-24	4/6/2004	16.51	2.30	14.21
MW-25	4/6/2004	17.93	5.36	12.57
MW-26	4/6/2004	20.70	6.03	14.67
MW-27	4/6/2004	23.00	3.95	19.05
MW-31	4/6/2004	23.10	6.37	16.73
MW-32	4/6/2004	17.47	5.95	11.52
MW-33	4/6/2004	17.53	3.64	13.89
MW-34	4/6/2004	21.75	6.15	15.60
POC-01	4/6/2004	25.50	7.15	18.35

Note: amsl – above mean sea level
TOC – top of casing

Table 3. Corrective action performance monitoring results, former International Paper facility, Wilmington, North Carolina

Chemical	Units	GW Protection Standard	MW-09										
			4/25/2001	7/19/2001	10/2/2001	4/30/2002	7/16/2002	10/23/2002	2/4/2003	4/16/2003	7/8/2003	10/8/2003	4/6/2004
Conventional Parameters													
Chemical Oxygen Demand	mg/L	--	--	30 [b]	--	--	--	27	21	--	9.0	15	--
Field Parameters													
Conductivity	µS/cm	--	736	550	549	649	639	579	386	451	504	473	488
Dissolved oxygen, wt/vol	mg/L	--	-- [d]	2.09	4.49	0.70	0.1	0.08	--	0.55 [e]	0.17	-- [d]	0.08
pH	pH	--	6.69	-- [d]	6.18	6.53	6.36	6.50	6.42	6.45	6.41	-- [d]	6.23
Redox	mV	--	-87	-70	-92	-119.6	-90.3	-229.0	-86.6	-106	-75.6	-- [d]	-94.4
Eh[a]	mV	--	--	--	--	89.4	115	7.89	120	113	129	-- [d]	122
Temperature	°C	--	16.27	21.8	21.7	17.4	23.1	22.1	17.5	19.9	28.0	20.2	15.39
Turbidity	NTU	--	2.14	9.5	4.4	1.68	0.78	-- [d]	1.14	1.7	0.94	1.42	3.23
Ferrous Iron	mg/L	--	39.3	43.0	35.6	34.6	30.9	22.9	28.1	27.0	28.9	24.1	39.7
Total Iron	mg/L	--	40.3	54.0	38.2	39.5	34.8	23.1	26.1	31.4	33.8	27.1	40.3
Metals													
Total Iron	mg/L	--	--	--	--	--	--	--	--	--	--	36.9 *J*	--
Volatile Organic Compounds													
Acetone	µg/L	700	5.0 *U*	50 *U* [b]	10 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
Benzene	µg/L	1.0	***51***	***47*** [b]	***39***	***38***	***18***	***8.5***	***37***	***8.6***	***28***	***14***	***13***
2-Butanone (MEK)	µg/L	170	5.0 *U*	10 *U* [b]	5.0 *U*	25 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Chlorobenzene	µg/L	50	0.14 *J*	1.0 *U* [b]	1.0 *U*	1 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
Ethylbenzene	µg/L	29	15	12 [b]	11	7.6	2.2	1.1	7.0	1.4	6.1	1.2	1.0 *U*
2-Hexanone	µg/L	50	5.0 *U*	10 *U* [b]	5.0 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*
4-Methyl-2-pentanone	µg/L	50	5.0 *U*	10 *U* [b]	5.0 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*
Toluene	µg/L	1,000	44	18 [b]	3.6 *U*	0.66 *J*	1.2	0.55 *J*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
m,p-Xylenes	µg/L	--	8.8	7.3 [b]	27	7.8	6.1 *J*	1.8 *J*	2.0 *U*	2.0 *U*	2.0	16	5.1
o-Xylene	µg/L	--	0.27	0.21 *J* [b]	0.25 *J*	1 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
Total Xylenes	µg/L	530	9.1	7.5 [b]	28	7.8	7.1 *J* [f]	2.8 *J* [f]	3.0 *U* [f]	3.0 *U* [f]	3.0 [f]	17 [f]	6.1
Semi-volatile Organic Compounds													
Benzoic acid	µg/L	50	50 *U*	50 *UJ* [b]	50 *U*	48 *UJ*	--	51 *UJ*	52 *U*	51 *U*	53 *UJ*	54 *UR*	51 *U*
Benzyl alcohol	µg/L	20	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
1,2-Dichlorobenzene	µg/L	620	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
2-Methylphenol	µg/L	10	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
3- and 4-Methylphenol	µg/L	10	10 *U*	10 *UJ* [b]	10 *U*	9.7 *U*	--	--	--	--	--	--	--
4-Methylphenol	µg/L	10	--	--	--	--	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
Naphthalene	µg/L	21	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
N-Nitrosopiperidine	µg/L	10	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*
Phenol	µg/L	300	5.0 *U*	5.0 *UJ* [b]	5.0 *U*	4.8 *U*	--	5.1 *U*	5.2 *U*	5.1 *U*	5.3 *UJ*	5.4 *U*	5.1 *U*

Table 3. (cont.)

Chemical	Units	GW Protection Standard	MW-31										
			4/25/2001	7/19/2001	10/2/2001	4/30/2002	7/16/2002	10/23/2002	2/4/2003	4/15/2003	7/8/2003	10/7/2003	4/6/2004
Conventional Parameters													
Chemical Oxygen Demand	mg/L	--	--	29	-- [c]	26	--	23	16	14	6.0	14	13
Field Parameters													
Conductivity	µS/cm	--	214	150	162	353	374	224	156	164	197	292	127
Dissolved oxygen, wt/vol	mg/L	--	2.94	1.61	5.81	3.80	1.4	0.24	0.85	0	1.57	1.81	1.93
pH	pH	--	5.87	-- [d]	5.82	6.38	6.30	5.87	5.63	5.82	6.05	6.14	5.16
Redox	mV	--	32	21	-6	-48.5	-64.0	-390.2	-192.0	-152	-82.5	-205.9	-128.6
Eh[a]	mV	--	--	--	--	160	141	-153	14.3	56.3	122	49.4	88.2
Temperature	°C	--	14.35	20.9	21.2	17.1	24.6	20.8	14.2	14.8	21.4	21.1	13.43
Turbidity	NTU	--	38.4	9.8	9	2.25	3.41	-- [d]	2.77	12.0	8.81	4.78	12.8
Ferrous Iron	mg/L	--	5.70	2.30	7.30	12.0	13.0	5.23	2.4	1.75	2.82	5.57	2.70
Total Iron	mg/L	--	8.40	3.10	6.40	12.8	13.7	5.48	2.4	1.97	2.93	5.97	2.67
Metals													
Total Iron	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds													
Acetone	µg/L	700	5.0 *U*	50 *U*	10 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*
Benzene	µg/L	1.0	0.9 *J*	***4.7***	***2.3***	***19***	***10***	***1.4***	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
2-Butanone (MEK)	µg/L	170	5.0 *U*	10 *U*	5.0 *U*	25 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Chlorobenzene	µg/L	50	1.0 *U*	1.0 *U*	1.0 *U*	0.35 *J*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
Ethylbenzene	µg/L	29	1.0 *U*	1.0 *U*	1.0 *U*	1 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
2-Hexanone	µg/L	50	5.0 *U*	10 *U*	5.0 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*
4-Methyl-2-pentanone	µg/L	50	5.0 *U*	10 *U*	5.0 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*
Toluene	µg/L	1,000	1.0 *U*	1.0 *U*	1.0 *U*	1 *U*	1.4	0.72 *J*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
m,p-Xylenes	µg/L	--	2.0 *U*	2.0 *U*	2.0 *U*	2 *U*	2.0 *U*	2.0 *UJ*	2.0 *U*	2.0 *U*	2.0 *U*	2.0 *U*	2.0 *U*
o-Xylene	µg/L	--	1.0 *U*	1.0 *U*	1.0 *U*	1 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*
Total Xylenes	µg/L	530	3.0 *U*	3.0 *U*	3.0 *U*	3 *U*	3.0 *U*[f]	3.0 *U*[f]	3.0 *U*[f]	3.0 *U*[f]	3.0 *U*[f]	3.0 *U*[f]	3.0 *U*[f]
Semi-volatile Organic Compounds													
Benzoic acid	µg/L	50	50 *U*	50 *U*	50 *U*	50 *UJ*	--	52 *UJ*	51 *U*	51 *U*	50 *U*	55 *UR*	51 *U*
Benzyl alcohol	µg/L	20	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
1,2-Dichlorobenzene	µg/L	620	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
2-Methylphenol	µg/L	10	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
3- and 4-Methylphenol	µg/L	10	10 *U*	10 *U*	10 *U*	10 *U*	--	--	--	--	--	--	--
4-Methylphenol	µg/L	10	--	--	--	--	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
Naphthalene	µg/L	21	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
N-Nitrosopiperidine	µg/L	10	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*
Phenol	µg/L	300	5.0 *U*	5.0 *U*	5.0 *U*	5 *U*	--	5.2 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.5 *U*	5.1 *U*

Table 3. (cont.)

Chemical	Units	GW Protection Standard	MW-34										
			4/25/2001	7/19/2001	10/2/2001	4/30/2002	7/16/2002	10/23/2002	2/4/2003	4/15/2003	7/8/2003	10/7/2003	4/6/2004
Conventional Parameters													
Chemical Oxygen Demand	mg/L	--	--	36	30 *U*	31 [b]	--	28 [b]	23 [b]	18 [b]	13 [b]	17 [b]	20
Field Parameters													
Conductivity	µS/cm	--	759	620	592	707	656	693	553	597	701	605	519
Dissolved oxygen, wt/vol	mg/L	--	1.02	0.57	4.15	0.91	0.1	0.10	1.15	0.07 [e]	0.74	0.43	0.12
pH	pH	--	6.67	-- [d]	6.52	6.81	6.58	6.74	6.79	6.82	6.96	6.63	6.70
Redox	mV	--	-113	-100	-154	-112.9	-154	-222.2	-123.7	-161	-190.2	-341	-132.1
Eh[a]	mV	--	--	--	--	96.1	51.1	14.7	82.6	47.3	14.8	-85.3	84.7
Temperature	°C	--	15.96	21.9	22.7	17.9	26.4	22.9	16.8	17.3	22.8	21.7	16.23
Turbidity	NTU	--	3.24	4.0	3.6	0.59	2.37	-- [d]	5.18	2.0	4.55	2.08	23.2
Ferrous Iron	mg/L	--	11.5	64.3	46.8	48.2	40.6	30.1	29.3	37.7	32.1	28.4	27.9
Total Iron	mg/L	--	13.1	71.0	46.2	52.5	39.5	32.9	34	38.7	34.1	31.5	31.4
Metals													
Total Iron	mg/L	--	--	--	--	--	--	--	--	--	--	41.6 *J*	--
Volatile Organic Compounds													
Acetone	µg/L	700	5 *U*	50 *U*	10 *U*	50 *U*[b]	50 *U*[b]	50 *U*	50 *U*[b]	50 *U*[b]	50 *U*[b]	50 *U*[b]	50 *U*
Benzene	µg/L	1.0	***52***	***54***	***9.5***	***41*** [b]	***50*** [b]	***41***	***11*** [b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*
2-Butanone (MEK)	µg/L	170	5.0 *U*	10 *U*	5.0 *U*	25 *U*[b]	10 *U*[b]	10 *U*	10 *U*[b]	10 *U*[b]	10 *U*[b]	10 *U*[b]	10 *U*
Chlorobenzene	µg/L	50	0.95 *J*	0.64 *J*	1.0 *U*	0.64 *J*[b]	1.0 *U*[b]	0.55 *J*	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*
Ethylbenzene	µg/L	29	1.1	0.36 *J*	1.0 *U*	1 *U*[b]	1.0 *U*[b]	1.0 *U*	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*
2-Hexanone	µg/L	50	5.0 *U*	10 *U*	5.0 *U*	25 *U*[b]	25 *U*[b]	25 *U*	25 *U*[b]	25 *U*[b]	25 *U*[b]	25 *U*[b]	25 *U*
4-Methyl-2-pentanone	µg/L	50	5.0 *U*	10 *U*	5.0 *U*	25 *U*[b]	25 *U*[b]	25 *U*	25 *U*[b]	25 *U*[b]	25 *U*[b]	25 *U*[b]	25 *U*
Toluene	µg/L	1,000	1.0 *U*	1.1	1.0 *U*	0.63 *J*[b]	1.1 [b]	0.37 *J*	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*
m,p-Xylenes	µg/L	--	3.8	1.7 *J*	2.0 *U*	2 *U*[b]	2.0 *U*[b]	2.0 *UJ*	2.0 *U*[b]	2.0 *U*[b]	2.0 *U*[b]	2.0 *U*[b]	2.0 *U*
o-Xylene	µg/L	--	0.6	0.57 *J*	1.0 *U*	0.37 *J*[b]	1.0 *U*[b]	1.0 *U*	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*[b]	1.0 *U*
Total Xylenes	µg/L	530	4.3	2.2 *J*	3.0 *U*	3 *U*[b]	3.0 *U*[b,f]	3.0 *U*[f]	3.0 *U*[b,f]	3.0 *U*[b,f]	3.0 *U*[b,f]	3.0 *U*[b,f]	3.0 *U*[f]
Semi-volatile Organic Compounds													
Benzoic acid	µg/L	50	50 *U*	50 *U*	50 *U*	52 *UJ*[b]	--	50 *UJ*	50 *U*[b]	52 *U*[b]	52 *UJ*[b]	55 *UR*[b]	50 *U*
Benzyl alcohol	µg/L	20	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
1,2-Dichlorobenzene	µg/L	620	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
2-Methylphenol	µg/L	10	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
3- and 4-Methylphenol	µg/L	10	10 *U*	10 *U*	10 *U*	10 *U*[b]	--	--	--	--	--	--	--
4-Methylphenol	µg/L	10	--	--	--	--	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
Naphthalene	µg/L	21	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
N-Nitrosopiperidine	µg/L	10	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*
Phenol	µg/L	300	5.0 *U*	5.0 *U*	5.0 *U*	5.2 *U*[b]	--	5.0 *U*	5.0 *U*[b]	5.2 *U*[b]	5.2 *UJ*[b]	5.5 *U*[b]	5.0 *U*

(notes on following page)

Table 3. (cont.)

Note: Highlighted values (bold, *italic*) equal or exceed the groundwater protection standard.
-- – not applicable or not available
J – estimated
R – rejected
U – undetected; value represents reporting limit

[a] Potential measured with Ag/AgCl reference electrode and corrected to Eh.
[b] Value is averaged result of field duplicates.
[c] Sample was to be collected; however, Chain of Custody was not filled out for COD analysis.
[d] No measurements reported due to malfunctioning meter.
[e] Dissolved oxygen measured in a beaker.
[f] Total Xylenes result is sum of m,p-Xylenes and o-Xylene results.

Table 4. April 2004 field parameter measurements, former International Paper facility, Wilmington, North Carolina

Well ID	Date	Temperature (°C)	pH (s.u.)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Eh[a] (mV)	Turbidity (NTU)	Ferrous iron[b] (mg/L)	Total Iron[b] (mg/L)
MW-09	4/6/2004	15.39	6.23	488	0.08	122	3.23	39.7	40.3
MW-21	4/7/2004	16.74	6.01	226	0.13	188	3.84	38.1	38.5
MW-23	4/7/2004	13.94	6.42	401	0.11	105	14.1	64.5	65.0
MW-25	4/6/2004	13.82	6.41	660	0.22	112	1.73	32.5	34.6
MW-31	4/6/2004	13.43	5.16	127	1.93	88.2	12.8	2.70	2.67
MW-34	4/6/2004	16.23	6.70	519	0.12	84.7	23.2	27.9	31.4
POC-01	4/7/2004	15.37	6.56	665	0.57	162	6.70	2.47	2.42

[a] Potential measured with Ag/AgCl electrode and corrected to Eh.

[b] Iron measurements are average of replicates.

Table 5. April 2004 groundwater analytical results, former International Paper facility, Wilmington, North Carolina

Chemical	Groundwater Protection Standard	MW-09 4/6/2004 GW0004	MW-21 4/7/2004 GW0008	MW-23 4/7/2004 GW0007	MW-25 4/6/2004 GW0002	MW-31 4/6/2004 GW0001	MW-34 4/6/2004 GW0003	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Conventional Parameters (mg/L)									
Chemical Oxygen Demand	--	--	--	--	--	13	20	--	--
Volatile Organic Compounds (µg/L)									
Acetone	700	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	50 *U*	250 *UJ*	250 *UJ*
Benzene	1	**13**	1.0 *U*	**6.4**	1.0 *U*	1.0 *U*	1.0 *U*	**38**	**36**
2-Butanone (MEK)	170	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	**800** *J*	**770** *J*
Chlorobenzene	50	1.0 *U*	3.2	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
Ethylbenzene	29	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	**73**	**71**
2-Hexanone	50	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	130 *U*	130 *U*
4-Methyl-2-pentanone	50	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	25 *U*	130 *U*	130 *U*
Toluene	1,000	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	**63,000**	**45,000**
m,p-Xylenes	--	5.1	2.0 *U*	2.0 *U*	2.0 *U*	2.0 *U*	2.0 *U*	220	210
o-Xylene	--	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	1.0 *U*	40	39
Semi-volatile Organic Compounds (µg/L)									
Benzoic acid	50	51 *U*	51 *U*	51 *U*	51 *U*	51 *U*	50 *U*	--	--
Benzyl alcohol	20	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.1 *U*	5.0 *U*
1,2-Dichlorobenzene	620	5.1 *U*	11	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.1 *U*	5.0 *U*
2-Methylphenol	10	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	**17**	9.1
4-Methylphenol	10	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	**14**	9.9
Naphthalene	21	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.1 *U*	5.0 *U*
N-Nitrosopiperidine	10	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.1 *U*	5.0 *U*
Phenol	300	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	5.0 *U*	5.1 *U*	5.0 *U*

Note: Highlighted values (bold, italic) equal or exceed the groundwater protection standard.
-- – not applicable or not available
J – estimated
U – undetected; value represents reporting limit

Table 6. April 2004 Appendix IX groundwater analytical results for POC-01, former International Paper facility, Wilmington, North Carolina

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Volatile Organic Compounds			
Acetone	µg/L	250 *UJ*	250 *UJ*
Acetonitrile	µg/L	130 *UR*	130 *UR*
Acrolein	µg/L	250 *U*	250 *U*
Acrylonitrile	µg/L	50 *UJ*	50 *UJ*
Benzene	µg/L	38	36
Bromodichloromethane	µg/L	5.0 *U*	5.0 *U*
Bromoform	µg/L	5.0 *U*	5.0 *U*
Bromomethane	µg/L	5.0 *U*	5.0 *U*
2-Butanone (MEK)	µg/L	800 *J*	770 *J*
Carbon disulfide	µg/L	50 *U*	50 *U*
Carbon tetrachloride	µg/L	5.0 *U*	5.0 *U*
Chlorobenzene	µg/L	5.0 *U*	5.0 *U*
2-Chloro-1,3-butadiene	µg/L	5.0 *U*	5.0 *U*
Chloroethane	µg/L	5.0 *U*	5.0 *U*
Chloroform	µg/L	5.0 *U*	5.0 *U*
Chloromethane	µg/L	5.0 *U*	5.0 *U*
3-Chloro-1-propene	µg/L	25 *U*	25 *U*
Dibromochloromethane	µg/L	5.0 *U*	5.0 *U*
1,2-Dibromo-3-chloropropane	µg/L	10 *U*	10 *U*
1,2-Dibromoethane	µg/L	5.0 *U*	5.0 *U*
Dibromomethane	µg/L	5.0 *U*	5.0 *U*
1,2-Dichlorobenzene	µg/L	5.0 *U*	5.0 *U*
1,3-Dichlorobenzene	µg/L	5.0 *U*	5.0 *U*
1,4-Dichlorobenzene	µg/L	5.0 *U*	5.0 *U*
trans-1,4-Dichloro-2-butene	µg/L	100 *UJ*	100 *UJ*
Dichlorodifluoromethane	µg/L	25 *U*	25 *U*
1,1-Dichloroethane	µg/L	5.0 *U*	5.0 *U*
1,2-Dichloroethane	µg/L	5.0 *U*	5.0 *U*
1,1-Dichloroethene	µg/L	5.0 *U*	5.0 *U*
trans-1,2-Dichloroethene	µg/L	5.0 *U*	5.0 *U*
1,2-Dichloropropane	µg/L	5.0 *U*	5.0 *U*
cis-1,3-Dichloropropene	µg/L	5.0 *U*	5.0 *U*
trans-1,3-Dichloropropene	µg/L	5.0 *U*	5.0 *U*
1,4-Dioxane	µg/L	500 *UR*	500 *UR*
Ethyl methacrylate	µg/L	5.0 *U*	5.0 *U*
Ethylbenzene	µg/L	73	71
2-Hexanone	µg/L	130 *U*	130 *U*
Iodomethane	µg/L	25 *U*	25 *U*
Isobutyl alcohol	µg/L	250 *UR*	250 *UR*
Methacrylonitrile	µg/L	10 *UJ*	10 *UJ*
Methyl methacrylate	µg/L	5.0 *U*	5.0 *U*
Methylene chloride	µg/L	25 *U*	25 *U*
4-Methyl-2-pentanone	µg/L	130 *U*	130 *U*
Propionitrile	µg/L	50 *UR*	50 *UR*
Styrene	µg/L	5.0 *U*	5.0 *U*
1,1,1,2-Tetrachloroethane	µg/L	5.0 *U*	5.0 *U*
1,1,2,2-Tetrachloroethane	µg/L	5.0 *U*	5.0 *U*

Table 6. (cont.)

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Volatile Organic Compounds (cont.)			
Tetrachloroethene	µg/L	6.6	5.6
Toluene	µg/L	63,000	45,000
1,1,1-Trichloroethane	µg/L	5.0 *U*	5.0 *U*
1,1,2-Trichloroethane	µg/L	5.0 *U*	5.0 *U*
Trichloroethene	µg/L	5.0 *U*	5.0 *U*
Trichlorofluoromethane	µg/L	5.0 *U*	5.0 *U*
1,2,3-Trichloropropane	µg/L	5.0 *U*	5.0 *U*
Vinyl acetate	µg/L	50 *U*	50 *U*
Vinyl chloride	µg/L	5.0 *U*	5.0 *U*
m,p-Xylenes	µg/L	220	210
o-Xylene	µg/L	40	39
Semi-volatile Organic Compounds			
Acenaphthene	µg/L	5.1 *U*	5.0 *U*
Acenaphthylene	µg/L	5.1 *U*	5.0 *U*
Acetophenone	µg/L	11 *U*	10 *U*
2-Acetylaminofluorene	µg/L	5.1 *U*	5.0 *U*
4-Amino biphenyl	µg/L	5.1 *U*	5.0 *U*
Aniline	µg/L	5.1 *UJ*	5.0 *UJ*
Anthracene	µg/L	5.1 *U*	5.0 *U*
Aramite	µg/L	21 *U*	20 *U*
Benz[a]anthracene	µg/L	5.1 *U*	5.0 *U*
Benzo[a]pyrene	µg/L	5.1 *U*	5.0 *U*
Benzo[b]fluoranthene	µg/L	5.1 *U*	5.0 *U*
Benzo[ghi]perylene	µg/L	5.1 *U*	5.0 *U*
Benzo[k]fluoranthene	µg/L	5.1 *U*	5.0 *U*
Benzyl alcohol	µg/L	5.1 *U*	5.0 *U*
bis[2-Chloroethoxy]methane	µg/L	5.1 *U*	5.0 *U*
bis[2-Chloroethyl]ether	µg/L	5.1 *UJ*	5.0 *UJ*
bis[2-Chloroisopropyl]ether	µg/L	5.1 *U*	5.0 *U*
bis[2-Ethylhexyl]phthalate	µg/L	11 *U*	10 *U*
4-Bromophenyl-phenyl ether	µg/L	5.1 *U*	5.0 *U*
Butylbenzyl phthalate	µg/L	11 *U*	10 *U*
4-Chloroaniline	µg/L	5.1 *U*	5.0 *U*
Chlorobenzilate	µg/L	11 *U*	10 *U*
4-Chloro-3-methylphenol	µg/L	5.1 *U*	5.0 *U*
2-Chloronaphthalene	µg/L	5.1 *U*	5.0 *U*
2-Chlorophenol	µg/L	5.1 *U*	5.0 *U*
4-Chlorophenyl-phenyl ether	µg/L	5.1 *U*	5.0 *U*
Chrysene	µg/L	5.1 *U*	5.0 *U*
Diallate	µg/L	5.1 *U*	5.0 *U*
Dibenz[a,h]anthracene	µg/L	5.1 *U*	5.0 *U*
Dibenzofuran	µg/L	5.1 *U*	5.0 *U*
1,2-Dichlorobenzene	µg/L	5.1 *U*	5.0 *U*
1,3-Dichlorobenzene	µg/L	5.1 *U*	5.0 *U*
1,4-Dichlorobenzene	µg/L	5.1 *U*	5.0 *U*
3,3'-Dichlorobenzidine	µg/L	21 *U*	20 *U*
2,4-Dichlorophenol	µg/L	5.1 *U*	5.0 *U*
2,6-Dichlorophenol	µg/L	11 *U*	10 *U*

Table 6. (cont.)

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Semi-volatile Organic Compounds (cont.)			
Diethyl phthalate	µg/L	5.1 *U*	5.0 *U*
Dimethoate	µg/L	5.1 *U*	5.0 *U*
Dimethyl phthalate	µg/L	5.1 *U*	5.0 *U*
p-Dimethylaminoazobenzene	µg/L	5.1 *U*	5.0 *U*
7,12-Dimethylbenz[a]anthracene	µg/L	5.1 *U*	5.0 *U*
3,3'-Dimethylbenzidine	µg/L	21 *U*	20 *U*
a,a-Dimethylphenethylamine	µg/L	21 *U*	20 *U*
2,4-Dimethylphenol	µg/L	5.1 *U*	5.0 *U*
Di-n-butyl phthalate	µg/L	5.1 *U*	5.0 *U*
1,3-Dinitrobenzene	µg/L	11 *U*	10 *U*
2,4-Dinitrophenol	µg/L	21 *U*	20 *U*
2,4-Dinitrotoluene	µg/L	5.1 *U*	5.0 *U*
2,6-Dinitrotoluene	µg/L	5.1 *U*	5.0 *U*
Di-n-octyl phthalate	µg/L	11 *U*	10 *U*
Dinoseb	µg/L	5.1 *U*	5.0 *U*
Disulfoton	µg/L	5.1 *U*	5.0 *U*
Ethyl methanesulfonate	µg/L	5.1 *U*	5.0 *U*
Famphur	µg/L	11 *U*	10 *U*
Fluoranthene	µg/L	5.1 *U*	5.0 *U*
Fluorene	µg/L	5.1 *U*	5.0 *U*
Hexachlorobenzene	µg/L	5.1 *U*	5.0 *U*
Hexachlorobutadiene	µg/L	5.1 *U*	5.0 *U*
Hexachlorocyclopentadiene	µg/L	5.1 *U*	5.0 *U*
Hexachloroethane	µg/L	5.1 *U*	5.0 *U*
Hexachlorophene	µg/L	110 *U*	100 *U*
Hexachloropropene	µg/L	5.1 *U*	5.0 *U*
Indeno[1,2,3-cd]pyrene	µg/L	5.1 *U*	5.0 *U*
Isodrin	µg/L	11 *U*	10 *U*
Isophorone	µg/L	5.1 *U*	5.0 *U*
Isosafrole	µg/L	5.1 *U*	5.0 *U*
Kepone	µg/L	51 *U*	50 *U*
Methapyrilene	µg/L	5.1 *U*	5.0 *U*
Methyl methanesulfonate	µg/L	5.1 *U*	5.0 *U*
Methyl parathion	µg/L	11 *U*	10 *U*
3-Methylcholanthrene	µg/L	5.1 *U*	5.0 *U*
2-Methyl-4,6-dinitrophenol	µg/L	21 *U*	20 *U*
2-Methylnaphthalene	µg/L	5.1 *U*	5.0 *U*
2-Methylphenol	µg/L	17	9.1
4-Methylphenol	µg/L	14	9.9
Naphthalene	µg/L	5.1 *U*	5.0 *U*
1,4-Naphthoquinone	µg/L	11 *U*	10 *U*
1-Naphthylamine	µg/L	5.1 *U*	5.0 *U*
2-Naphthylamine	µg/L	5.1 *U*	5.0 *U*
2-Nitroaniline	µg/L	5.1 *U*	5.0 *U*
3-Nitroaniline	µg/L	5.1 *U*	5.0 *U*
4-Nitroaniline	µg/L	5.1 *U*	5.0 *U*
Nitrobenzene	µg/L	5.1 *U*	5.0 *U*
5-Nitro-o-toluidine	µg/L	5.1 *U*	5.0 *U*

Table 6. (cont.)

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Semi-volatile Organic Compounds (cont.)			
2-Nitrophenol	µg/L	21 *U*	20 *U*
4-Nitrophenol	µg/L	21 *U*	20 *U*
4-Nitroquinoline-1-oxide	µg/L	5.1 *U*	5.0 *U*
N-Nitroso dibutylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitroso diethylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitroso dimethylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitroso-di-n-propylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitrosodiphenylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitrosomethylethylamine	µg/L	5.1 *U*	5.0 *U*
N-Nitrosomorpholine	µg/L	5.1 *U*	5.0 *U*
N-Nitrosopiperidine	µg/L	5.1 *U*	5.0 *U*
N-Nitrosopyrrolidine	µg/L	5.1 *U*	5.0 *U*
Parathion	µg/L	21 *U*	20 *U*
Pentachlorobenzene	µg/L	5.1 *U*	5.0 *U*
Pentachloroethane	µg/L	21 *U*	20 *U*
Pentachloronitrobenzene	µg/L	5.1 *U*	5.0 *U*
Pentachlorophenol	µg/L	21 *U*	20 *U*
Phenacetin	µg/L	5.1 *U*	5.0 *U*
Phenanthrene	µg/L	5.1 *U*	5.0 *U*
Phenol	µg/L	5.1 *U*	5.0 *U*
1,4-Phenylenediamine	µg/L	21 *U*	20 *U*
Phorate	µg/L	5.1 *U*	5.0 *U*
2-Picoline	µg/L	5.1 *U*	5.0 *U*
Pronamide	µg/L	21 *U*	20 *U*
Pyrene	µg/L	5.1 *U*	5.0 *U*
Pyridine	µg/L	21 *U*	20 *U*
Safrole	µg/L	5.1 *U*	5.0 *U*
Sulfotepp	µg/L	11 *U*	10 *U*
1,2,4,5-Tetrachlorobenzene	µg/L	5.1 *U*	5.0 *U*
2,3,4,6-Tetrachlorophenol	µg/L	21 *U*	20 *U*
Thionazin	µg/L	11 *U*	10 *U*
o-Toluidine	µg/L	5.1 *U*	5.0 *U*
1,2,4-Trichlorobenzene	µg/L	5.1 *U*	5.0 *U*
2,4,5-Trichlorophenol	µg/L	5.1 *U*	5.0 *U*
2,4,6-Trichlorophenol	µg/L	5.1 *U*	5.0 *U*
o,o,o-Triethylphosphoro-thiolate	µg/L	21 *U*	20 *U*
1,3,5-Trinitrobenzene	µg/L	5.1 *U*	5.0 *U*
Dioxins/Furans			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/L	10.05 *U*	8.344 *U*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/L	14.03 *U*	11.65 *U*
Total heptachlorodibenzofurans	pg/L	10.05 *U*	8.344 *U*
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	pg/L	20.151 *U*	11.894 *U*
Total heptachlorodibenzo-p-dioxins	pg/L	20.151 *U*	11.894 *U*
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/L	5.449 *U*	4.133 *U*
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/L	5.447 *U*	4.132 *U*
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/L	6.989 *U*	5.302 *U*
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/L	6.086 *U*	4.617 *U*
Total hexachlorodibenzofurans	pg/L	5.449 *U*	4.133 *U*

Table 6. (cont.)

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Dioxins/Furans (cont.)			
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/L	8.577 *U*	7.552 *U*
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/L	7.586 *U*	6.679 *U*
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/L	7.746 *U*	6.820 *U*
Total hexachlorodibenzo-p-dioxins	pg/L	8.577 *U*	7.552 *U*
Octachlorodibenzofuran	pg/L	42.03 *UJ*	33.753 *UJ*
Octachlorodibenzo-p-dioxin	pg/L	232.27	28.705 *U*
1,2,3,7,8-Pentachlorodibenzofuran	pg/L	4.668 *UJ*	4.945 *U*
2,3,4,7,8-Pentachlorodibenzofuran	pg/L	4.703 *UJ*	4.981 *U*
Total pentachlorodibenzofurans	pg/L	4.703 *U*	4.981 *U*
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/L	8.527 *UJ*	8.416 *U*
Total pentachlorodibenzo-p-dioxins	pg/L	8.527 *U*	8.416 *U*
2,3,7,8-Tetrachlorodibenzofuran	pg/L	7.294 *UJ*	6.203 *U*
Total tetrachlorodibenzofurans	pg/L	7.294 *U*	17.219
2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/L	3.651 *U*	5.748 *U*
Total tetrachlorodibenzo-p-dioxins	pg/L	3.651 *U*	5.748 *U*
Herbicides			
2,4-Dichlorophenoxyacetic acid	µg/L	5.00 *UJ*	5.00 *UJ*
Dinoseb	µg/L	2.50 *UJ*	2.50 *UJ*
Silvex	µg/L	0.500 *UJ*	0.500 *UJ*
2,4,5-Trichlorophenoxy-acetic acid	µg/L	0.500 *UJ*	0.500 *UJ*
PCBs			
Aroclor® 1016	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1221	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1232	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1242	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1248	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1254	µg/L	0.50 *U*	0.50 *U*
Aroclor® 1260	µg/L	0.50 *U*	0.50 *U*
Pesticides			
Aldrin	µg/L	0.020 *U*	0.020 *U*
alpha-BHC	µg/L	0.020 *U*	0.020 *U*
beta-BHC	µg/L	0.020 *U*	0.020 *U*
gamma-BHC	µg/L	0.020 *U*	0.020 *U*
delta-BHC	µg/L	0.020 *U*	0.020 *U*
alpha-Chlordane	µg/L	0.020 *U*	0.020 *U*
gamma-Chlordane	µg/L	0.020 *U*	0.020 *U*
4,4'-DDD	µg/L	0.020 *U*	0.020 *U*
4,4'-DDE	µg/L	0.020 *U*	0.020 *U*
4,4'-DDT	µg/L	0.020 *U*	0.020 *U*
Dieldrin	µg/L	0.020 *U*	0.020 *U*
Endosulfan I	µg/L	0.020 *U*	0.020 *U*
Endosulfan II	µg/L	0.020 *U*	0.020 *U*
Endosulfan sulfate	µg/L	0.020 *U*	0.020 *U*
Endrin	µg/L	0.020 *U*	0.020 *U*
Endrin aldehyde	µg/L	0.020 *U*	0.020 *U*
Endrin ketone	µg/L	0.020 *U*	0.020 *U*
Heptachlor	µg/L	0.020 *U*	0.020 *U*

Table 6. (cont.)

Chemical	Units	POC-01 4/7/2004 GW0005	POC-01 (dup) 4/7/2004 GW0006
Pesticides (cont.)			
Heptachlor epoxide	µg/L	0.020 *U*	0.020 *U*
Methoxychlor	µg/L	0.040 *U*	0.040 *U*
Toxaphene	µg/L	0.50 *U*	0.50 *U*
Metals			
Antimony	µg/L	0.333	0.430
Arsenic	µg/L	1.63	1.90
Barium	µg/L	15.2	15.4
Beryllium	µg/L	0.0660 *U*	0.0660 *U*
Cadmium	µg/L	0.100 *U*	0.100 *U*
Chromium	µg/L	1.62 *U*	1.73 *U*
Cobalt	µg/L	0.226	0.224
Copper	µg/L	0.619 *U*	0.383 *U*
Lead	µg/L	0.315 *U*	0.373 *U*
Mercury (total)	µg/L	0.130 *U*	0.130 *U*
Nickel	µg/L	1.93 *U*	2.04 *U*
Selenium	µg/L	0.950 *U*	0.950 *U*
Silver	µg/L	0.0390 *U*	0.0390 *U*
Thallium	µg/L	0.130 *U*	0.130 *U*
Tin	µg/L	0.110 *U*	0.110 *U*
Vanadium	µg/L	3.61	3.76
Zinc	µg/L	7.13	8.15
Inorganics			
Cyanide	mg/L	0.01 *U*	0.01 *U*
Sulfides	mg/L	1.00 *U*	1.00 *U*
pH analyzed in lab			
pH	pH	6.7	6.9

Note: *J* – estimated
R – rejected
U – undetected; value represents detection limit for dioxins/furans and metals and reporting limit for all other chemicals

Table 7. April 2004 field quality control results, former International Paper facility, Wilmington, North Carolina

Chemical	Equipment Blank 4/7/2004 GW0009	Trip Blank 4/7/2004 TB040704
Volatile Organic Compounds (µg/L)		
Acetone	50 *U*	50 *U*
Benzene	1.0 *U*	1.0 *U*
2-Butanone (MEK)	10 *U*	10 *U*
Chlorobenzene	1.0 *U*	1.0 *U*
Ethylbenzene	1.0 *U*	1.0 *U*
2-Hexanone	25 *U*	25 *U*
4-Methyl-2-pentanone	25 *U*	25 *U*
Toluene	1.0 *U*	1.0 *U*
m,p-Xylenes	2.0 *U*	2.0 *U*
o-Xylene	1.0 *U*	1.0 *U*
Semi-volatile Organic Compounds (µg/L)		
Benzoic acid	51 *U*	--
Benzyl alcohol	5.1 *U*	--
1,2-Dichlorobenzene	5.1 *U*	--
2-Methylphenol	5.1 *U*	--
4-Methylphenol	5.1 *U*	--
Naphthalene	5.1 *U*	--
N-Nitrosopiperidine	5.1 *U*	--
Phenol	5.1 *U*	--

Note: -- – not applicable or not available
U – undetected; value represents reporting limit

Table 8. Cumulative groundwater analytical results for RCRA Part B permit hazardous constituents in selected wells, former International Paper facility, Wilmington, North Carolina

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-06	5/31/1989	**450,000** *E*	5,000 *U*	**170**	190 *U*	**1,300,000**	5,000 *U*	97 *U*	5,000 *U*	50,000 *U*	50,000 *U*
MW-06	9/14/1989	**230,000** *E*	8,300 *U*	**1,500**	**77**	**730,000** *E*	8,300 *U*	10 *U*	8,300 *U*	83,000 *U*	83,000 *U*
MW-06	12/4/1989	**38,200** *J*	**99.1**	--	13.3 *J*	**120,000** *E*	5.0 *U*	10 *U*	7.94 *E*	50 *U*	50 *U*
MW-06	3/6/1990	--	--	--	130 *U*	--	--	67 *U*	--	--	--
MW-06	4/12/1990	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-06	5/21/1990	**22,000** *E*	2,500 *U*	**230** *E*	29 *U*	**53,000**	2,800 *U*	11 *U*	2,800 *U*	5,600 *U*	5,600 *U*
MW-06	8/27/1990	**440,000**	17,000 *U*	1,000 *U*	**91** *J*	**630,000**	19,000 *U*	56 *U*	19,000 *U*	38,000 *U*	38,000 *U*
MW-06	11/13/1990	**44,000**	1,800 *U*	--	--	**85,000**	2,000 *U*	2.8 *U*	2,000 *U*	4,000 *U*	4,000 *U*
MW-06	2/15/1991	**450,000**	50 *U*	**1,400** *E*	94 *U*	**410,000**	50 *U*	94 *U*	**40** *J*	500 *U*	**220** *J*
MW-06	5/7/1991	**610,186**	25,000 *U*	**295**	20 *U*	**622,650**	25,000 *U*	10 *U*	25,000 *U*	50,000 *U*	50,000 *U*
MW-06	8/6/1991	**178,000**	5,000 *U*	**275**	**28.6**	**257,000**	5,000 *U*	10 *U*	5,000 *U*	10,000 *U*	10,000 *U*
MW-06	12/19/1991	**23,000** *E*	500 *U*	**120** *E*	12 *E*	**13,000** *E*	500 *U*	9.5 *U*	500 *U*	5,000 *U*	5,000 *U*
MW-06	2/18/1992	**490,000** *E*	500 *U*	950 *U*	190 *U*	**310,000** *E*	500 *U*	190 *U*	500 *U*	5,000 *U*	5,000 *U*
MW-06	5/7/1992	**300,000**	500 *U*	**250**	11 *E*	**200,000** *E*	500 *U*	9.5 *U*	500 *U*	5,000 *U*	5,000 *U*
MW-06	8/20/1992	**230,000** *E*	10,000 *U*	**690**	**57**	200,000 *U*	10,000 *U*	10 *U*	10,000 *U*	100,000 *U*	100,000 *U*
MW-06	10/29/1992	--	--	**140** *E*	15 *E*	--	--	9.5 *U*	--	--	--
MW-06	2/17/1993	**270,000** *E*	**280** *E*	48 *U*	9.5 *U*	**300,000** *E*	250 *U*	9.5 *U*	250 *U*	2,500 *U*	2,500 *U*
MW-06	5/26/1993	**102,000**	NR *U*	**66.8**	--	**74,800**	NR *U*	NR *U*	NR *U*	NR *U*	NR *U*
MW-06	8/26/1993	**200,000**	10,000 *U*	**386** *J*	**36.3**	**129,000**	6,300 *U*	0.635 *U*	3,040 *U*	17,800 *U*	17,800 *U*
MW-06	2/9/1994	**150,000**	10,000 *U*	--	**44** *J*	**230,000**	10,000 *U*	200 *U*	10,000 *U*	20,000 *U*	20,000 *U*
MW-06	8/24/1994	**32,200**	**67**	**171**	0.665 *U*	**75,500**	1.01 *J*	0.67 *U*	7.25	2.83	27.6
MW-06	2/21/1995	**134,000**	**169**	**328**	68.4 *U*	**275,000**	0.741	69 *U*	19	1.7 *U*	0.86 *U*
MW-06	8/15/1995	**49,200**	**31.2**	**118**	2.04	**51,100**	0.319 *U*	1.33 *U*	3.67	0.713 *U*	16.6
MW-06	2/13/1996	**184,000**	**165**	**368**	50.2 *U*	**307,000**	2.2 *U*	38.7 *U*	16.7	11.2 *U*	**55.6**
MW-06	8/28/1996	**118,000** *J*	378 *U*	**219** *J*	2.14 *J*	**267,000** *J*	258 *U*	0.658 *UJ*	649 *UJ*	2,080 *UJ*	809 *UJ*
MW-06	2/19/1997	**194,000**	**107**	**472** *J*	1.4 *U*	**305,000** *J*	2.58 *U*	2.79 *U*	6.49 *J*	20.8 *U*	8.09 *U*
MW-06	8/7/1997	**41,500** *J*	**67.4** *J*	**218** *FJ*	0.363 *U*	**88,200** *J*	0.37 *J*	0.54 *U*	7.32 *J*	4.91 *J*	33.4 *J*
MW-07	5/31/1989	100 *U*	5.0 *U*	9.5 *U*	19 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	9/14/1989	3,300 *U*	170 *U*	10 *U*	10 *U*	**4,000** *E*	170 *U*	10 *U*	170 *U*	1,700 *U*	1,700 *U*
MW-07	12/4/1989	100 *U*	5.0 *U*	--	20 *U*	100 *U*	5.0 *U*	10 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	3/6/1990	100 *U*	5.0 *U*	--	20 *U*	100 *U*	5.0 *U*	10 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	4/12/1990	**72,000** *E*	**38**	--	--	**94,000** *E*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-07	5/21/1990	10 *U*	**1.8** *J*	48 *U*	7.1 *U*	10 *U*	5.0 *U*	2.7 *U*	5.0 *U*	10 *U*	10 *U*
MW-07	8/27/1990	26 *E*	**2.9** *J*	50 *U*	7.5 *U*	10 *U*	5.0 *U*	2.8 *U*	5.0 *U*	10 *U*	10 *U*
MW-07	11/13/1990	91	**3.9** *J*	--	--	130	5.0 *U*	2.8 *U*	5.0 *U*	10 *U*	10 *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-07	2/15/1991	27 *J*	**2.4** *J*	5.6 *J*	9.4 *U*	100 *U*	5.0 *U*	9.4 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	5/7/1991	30	5.0 *U*	50 *U*	20 *U*	10 *U*	5.0 *U*	10 *U*	5.0 *U*	10 *U*	10 *U*
MW-07	8/6/1991	157	**25** *J*	--	--	73.8	25 *U*	--	25 *U*	50 *U*	50 *U*
MW-07	12/19/1991	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	2/18/1992	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	5/7/1992	100 *U*	**6.6** *E*	50 *U*	10 *U*	100 *U*	5.0 *U*	10 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	8/20/1992	330 *E*	**6.9** *E*	50 *U*	9.9 *U*	**490** *E*	5.0 *U*	9.9 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	10/29/1992	--	--	48 *U*	9.6 *U*	--	--	9.6 *U*	--	--	--
MW-07	2/17/1993	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-07	5/26/1993	NR *U*	**6.95**	NR *U*	NR *U*	NR *U*	NR *U*	NR *U*	--	NR *U*	NR *U*
MW-07	8/26/1993	26.6 *J*	**4.09**	40.8 *U*	0.646 *U*	14.7	1.26 *U*	0.672 *U*	0.608 *U*	3.57 *U*	3.57 *U*
MW-07	2/9/1994	5.25	**1.68**	6.28 *U*	0.633 *U*	1.22 *U*	4.94 *U*	0.771 *U*	0.274 *U*	1.23 *U*	1.39 *U*
MW-07	8/24/1994	16	0.657 *U*	2.93 *U*	0.658 *U*	2.76 *U*	1.01 *U*	0.664 *U*	1.1 *U*	1.57 *U*	1.06 *U*
MW-07	2/21/1995	**4,700**	50.3 *U*	2.98 *U*	0.668 *U*	**2,330**	59.1 *U*	0.674 *U*	65.6 *U*	170 *U*	86 *U*
MW-07	8/15/1995	2.87 *U*	**1.02**	5.74 *U*	0.391 *U*	10.1	0.319 *U*	1.34 *U*	0.588 *U*	0.713 *U*	0.493 *U*
MW-07	2/13/1996	1.45 *U*	0.262 *U*	6.65 *U*	1.67 *U*	0.57 *UJ*	0.22 *U*	1.29 *U*	0.381 *U*	1.12 *U*	0.906 *U*
MW-07	8/28/1996	2.22	0.464	--	0.656 *UJ*	0.26 *U*	0.0258 *U*	0.658 *UJ*	0.0649 *U*	0.208 *U*	0.0809 *U*
MW-07	2/19/1997	0.489 *U*	0.0378 *U*	2.62 *UJ*	0.7 *U*	0.26 *U*	0.0258 *U*	1.39 *U*	0.0649 *U*	0.208 *U*	0.0809 *U*
MW-07	8/7/1997	--	0.0605 *U*	6.13 *UJ*	0.36 *U*	--	0.0935 *U*	0.535 *U*	0.109 *U*	0.497 *UJ*	0.188 *UJ*
MW-09	5/31/1989	100 *U*	**250**	17 *E*	19 *U*	**15,000**	5.0 *U*	9.7 *U*	**42**	50 *U*	50 *U*
MW-09	9/14/1989	13,000 *U*	630 *U*	10 *U*	10 *U*	13,000 *U*	630 *U*	10 *U*	630 *U*	6,300 *U*	6,300 *U*
MW-09	12/4/1989	25.9 *J*	**200**	--	5.61 *J*	**2,310** *J*	5.0 *U*	10 *U*	**40.2**	50 *U*	50 *U*
MW-09	3/6/1990	100 *U*	5.0 *U*	--	20 *U*	100 *U*	5.0 *U*	10 *U*	5.0 *U*	50 *U*	50 *U*
MW-09	4/12/1990	670 *U*	34 *U*	--	--	670 *U*	34 *U*	--	34 *U*	340 *U*	340 *U*
MW-09	5/21/1990	**2,400** *E*	880 *U*	42 *J*	10 *J*	2,000 *U*	1,000 *U*	5.3 *U*	1,000 *U*	2,000 *U*	2,000 *U*
MW-09	8/27/1990	**7,500** *E*	2,300 *U*	150 *U*	22 *U*	**5,600** *E*	2,600 *U*	8.4 *U*	2,600 *U*	5,200 *U*	5,200 *U*
MW-09	11/13/1990	**17,000** *E*	2,200 *U*	--	--	**26,000**	2,500 *U*	2.8 *U*	2,500 *U*	5,000 *U*	5,000 *U*
MW-09	2/15/1991	**8,600** *J*	1,200 *U*	47 *U*	9.4 *U*	**12,000** *J*	1,200 *U*	9.4 *U*	1,200 *U*	12,000 *U*	12,000 *U*
MW-09	5/7/1991	10,000 *U*	5,000 *U*	50 *U*	20 *U*	10,000 *U*	5,000 *U*	10 *U*	5,000 *U*	10,000 *U*	10,000 *U*
MW-09	8/6/1991	10,000 *U*	5,000 *U*	50 *U*	**20** *J*	**388,000**	5,000 *U*	10 *U*	5,000 *U*	10,000 *U*	**80,700**
MW-09	12/19/1991	**5,900** *E*	250 *U*	950 *U*	190 *U*	**6,400** *E*	250 *U*	190 *U*	250 *U*	2,500 *U*	2,500 *U*
MW-09	2/17/1992	**150,000** *E*	2,500 *U*	950 *U*	190 *U*	**110,000** *E*	2,500 *U*	190 *U*	2,500 *U*	25,000 *U*	25,000 *U*
MW-09	5/6/1992	20,000 *U*	1,000 *U*	**60** *E*	9.5 *U*	**23,000** *E*	1,000 *U*	9.5 *U*	1,000 *U*	10,000 *U*	10,000 *U*
MW-09	8/20/1992	40,000 *U*	2,000 *U*	**180** *E*	18 *E*	40,000 *U*	2,000 *U*	10 *U*	2,000 *U*	20,000 *U*	20,000 *U*
MW-09	10/28/1992	**4,300**	**230**	48 *U*	9.5 *U*	**13,000**	5 *U*	9.5 *U*	**30**	50 *U*	50 *U*
MW-09	2/17/1993	5,000 *U*	**380** *E*	48 *U*	9.7 *U*	5,000 *U*	250 *U*	9.7 *U*	250 *U*	2,500 *U*	2,500 *U*
MW-09	5/26/1993	**3,260**	**175**	NR *J*	--	**3,940**	NR *U*	NR *U*	NR *U*	NR *U*	NR *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-09	8/26/1993	**6,020**	**151**	38.6 *J*	5.66	**3,810**	1.26 *U*	0.635 *U*	21.7	3.57 *U*	18.5
MW-09	2/9/1994	**2,400**	**230**	7.37	13.9	**2,860**	247 *U*	0.796 *U*	**30**	61.5 *U*	69.5 *U*
MW-09	8/24/1994	70.9	**127**	2.96 *U*	3.35	151	1.01 *U*	0.67 *U*	16.4	1.57 *U*	1.06 *U*
MW-09	2/21/1995	**2,500**	**172**	9.13	8.91	**2,780**	59.1 *U*	0.667 *U*	65.6 *U*	170 *U*	86 *U*
MW-09	8/15/1995	**1,040**	**137** *	6.01	2.56	**889**	0.319 *U*	1.34 *U*	27.9	0.713 *U*	0.493 *U*
MW-09	2/13/1996	454	**114**	6.65 *J*	3.53	**584**	0.22 *U*	1.29 *U*	21.3	1.12 *U*	0.906 *U*
MW-09	8/28/1996	**962** *J*	**113** *J*	--	5.73 *J*	5.2 *UJ*	0.516 *UJ*	0.658 *UJ*	26.6 *J*	4.16 *UJ*	1.62 *UJ*
MW-09	2/19/1997	489 *U*	37.8 *U*	2.62 *UJ*	3.77	260 *U*	25.8 *U*	1.39 *U*	64.9 *U*	208 *U*	80.9 *U*
MW-09	8/7/1997	209 *EJ*	**106**	6.13 *UJ*	3.53	**307** *J*	0.0935 *U*	0.535 *U*	**37.7**	0.497 *UJ*	0.188 *UJ*
MW-09	4/7/1998	347 *J*	**109**	--	3.55	**586**	0.215	0.346 *U*	**35.4**	0.314 *UJ*	0.294 *U*
MW-09	10/6/1998	244 *J*	**88.4**	15.4 *J*	**25.3**	**244** *J*	0.249	0.346 *U*	**32.3**	0.232 *U*	0.576
MW-09	4/29/1999	360	**78.8**	3.37 *J*	12.7	**329**	3.59 *U*	0.398 *U*	27.4	9.0 *U*	6.15 *U*
MW-09	10/27/1999	50 *UJ*	**61**	50 *UJ*	5.0 *U*	10	1.0 *U*	1.0 *U*	**33**	10 *UJ*	10 *U*
MW-09	4/12/2000	50 *UJ*	**34**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	13	10 *U*	10 *U*
MW-09	10/31/2000	10 *U*	**56**	50 *U*	5.0 *U*	9 *J*	1.0 *U*	5.0 *U*	20	10 *U*	10 *U*
MW-09	4/25/2001	5.0 *U*	**51**	50 *U*	5.0 *U*	5.0 *U*	0.14 *J*	5.0 *U*	15	5.0 *U*	5.0 *U*
MW-09	7/19/2001	50 *U*	**47**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	12	10 *U*	10 *U*
MW-09 (dup)	7/19/2001	50 *U*	**47**	50 *UJ*	5.0 *UJ*	10 *U*	1.0 *U*	5.0 *UJ*	12	10 *U*	10 *U*
MW-09	10/2/2001	10 *U*	**39**	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	11	5.0 *U*	5.0 *U*
MW-09	4/30/2002	50 *U*	**38**	48 *UJ*	4.8 *U*	25 *U*	1 *U*	4.8 *U*	7.6	25 *U*	25 *U*
MW-09	7/16/2002	50 *U*	**18**	--	--	10 *U*	1.0 *U*	--	2.2	25 *U*	25 *U*
MW-09	10/23/2002	50 *U*	**8.5**	51 *UJ*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.1	25 *U*	25 *U*
MW-09	2/4/2003	50 *U*	**37**	52 *U*	5.2 *U*	10 *U*	1.0 *U*	5.2 *U*	7.0	25 *U*	25 *U*
MW-09	4/16/2003	50 *U*	**8.6**	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.4	25 *U*	25 *U*
MW-09	7/8/2003	50 *U*	**28**	53 *UJ*	5.3 *UJ*	10 *U*	1.0 *U*	5.3 *UJ*	6.1	25 *U*	25 *U*
MW-09	10/8/2003	50 *U*	**14**	54 *UR*	5.4 *U*	10 *U*	1.0 *U*	5.4 *U*	1.2	25 *U*	25 *U*
MW-09	4/6/2004	50 *U*	**13**	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-10	3/15/1989	--	5 *U*	--	--	10 *U*	5 *U*	10 *U*	5 *U*	--	--
MW-10	8/29/1990	10 *U*	4.4 *U*	50 *U*	7.5 *U*	10 *U*	5.0 *U*	2.8 *U*	5.0 *U*	10 *U*	10 *U*
MW-10	8/6/1991	10 *U*	5 *U*	50.0 *U*	20.0 *U*	10 *U*	5 *U*	10.0 *U*	5 *U*	10 *U*	10 *U*
MW-10	8/19/1992	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-10	8/26/1993	26.6 *U*	2.00 *U*	43.9 *U*	0.693 *U*	4.58 *U*	1.26 *U*	0.722 *U*	0.608 *U*	3.57 *U*	3.57 *U*
MW-10	8/23/1994	5.87 *U*	0.657 *U*	2.96 *U*	0.665 *U*	2.76 *U*	1.01 *U*	0.670 *U*	1.10 *U*	1.57 *U*	1.06 *U*
MW-10	8/15/1995	2.87 *U*	0.462 *U*	5.69 *U*	0.388 *U*	1.60 *U*	0.319 *U*	1.33 *U*	0.588 *U*	0.713 *U*	0.493 *U*
MW-10	8/27/1996	0.489 *U*	0.150	2.67 *U*	0.713 *U*	0.260 *U*	0.0258 *U*	1.42 *U*	0.0649 *U*	0.208 *U*	0.0809 *U*
MW-10	8/6/1997	0.488 *UJ*	0.193	6.02 *UJ*	0.353 *U*	0.598 *UJ*	0.0935 *U*	0.525 *U*	0.109 *U*	0.497 *UJ*	0.188 *UJ*
MW-10	10/6/1998	0.413 *U*	0.377	29.6 *UJ*	0.669 *UJ*	0.222 *UJ*	0.0453 *U*	0.336 *UJ*	0.0928 *U*	0.232 *U*	0.160 *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-10	10/27/1999	50 *UJ*	1.0 *U*	50 *UJ*	5.0 *U*	10 *U*	1.0 *U*	1.0 *U*	1.0 *U*	10 *UJ*	10 *U*
MW-10	10/31/2000	10 *U*	1.0 *U*	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-10	10/3/2001	10 *U*	1.0 *U*	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-10	10/23/2002	50 *U*	1.0 *U*	50 *UJ*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	25 *U*	25 *U*
MW-10	10/8/2003	50 *U*	1.0 *U*	53 *UR*	5.3 *U*	10 *U*	1.0 *U*	5.3 *U*	1.0 *U*	25 *U*	25 *U*
MW-15	8/5/1991	10 *U*	5.0 *U*	50.5 *U*	20.2 *U*	17.5	5.0 *U*	10.1 *U*	5.0 *U*	10 *U*	10 *U*
MW-15	12/19/1991	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-15	2/16/1993	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-16	12/19/1991	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-16	2/16/1993	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-17	6/30/1989	100 *U*	5.0 *U*	--	--	100 *U*	**61**	--	5.0 *U*	50 *U*	50 *U*
MW-18	5/26/1993	NR *U*	NR *U*	--	--	NR *U*	**67**	--	NR *U*	NR *U*	NR *U*
MW-18	2/8/1994	3.93	0.28 *U*	--	--	1.22 *U*	38	--	0.274 *U*	1.23 *U*	1.39 *U*
MW-20	6/30/1989	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-21	6/30/1989	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-21	5/26/1993	NR *U*	NR *U*	--	--	NR *U*	--	--	--	NR *U*	NR *U*
MW-21	4/7/1998	0.413 *U*	0.0375 *U*	--	0.669 *U*	0.222 *U*	4.85	14	0.0928 *U*	0.232 *U*	0.16 *U*
MW-21	10/6/1998	0.413 *U*	0.117	30.2 *UJ*	0.682 *UJ*	0.222 *UJ*	6.64	21.5 *J*	0.0928 *U*	0.232 *U*	0.16 *U*
MW-21	4/29/1999	1.43 *U*	0.228	30.1 *UJ*	0.316 *U*	0.769 *U*	46.9	33.1	0.102 *U*	0.180 *U*	0.123 *U*
MW-21	10/27/1999	50 *UJ*	1.0 *U*	50 *UJ*	5.0 *U*	10 *U*	14	24	1.0 *U*	10 *UJ*	10 *U*
MW-21	4/12/2000	50 *UJ*	1.0 *U*	50 *U*	5.0 *U*	10 *U*	14	17	1.0 *U*	10 *U*	10 *U*
MW-21	10/31/2000	10 *U*	1.0 *U*	50 *U*	5.0 *U*	10 *U*	10	12	1.0 *U*	10 *U*	10 *U*
MW-21	4/25/2001	5.0 *U*	1.0 *U*	50 *U*	5.0 *U*	5.0 *U*	11	15	1.0 *U*	5.0 *U*	5.0 *U*
MW-21	10/2/2001	10 *U*	0.2 *J*	50 *U*	5.0 *U*	5.0 *U*	**55**	77	1.0 *U*	5.0 *U*	5.0 *U*
MW-21	4/30/2002	50 *U*	1 *U*	48 *UJ*	4.8 *U*	25 *U*	**92**	100	1 *U*	25 *U*	25 *U*
MW-21	10/23/2002	50 *U*	1.0 *U*	50 *UJ*	5.0 *U*	10 *U*	22	66	1.0 *U*	25 *U*	25 *U*
MW-21	4/15/2003	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	17	46	1.0 *U*	25 *U*	25 *U*
MW-21	10/8/2003	50 *U*	1.0 *U*	54 *UR*	5.4 *U*	10 *U*	14	23	1.0 *U*	25 *U*	25 *U*
MW-21	4/7/2004	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	3.2	11	1.0 *U*	25 *U*	25 *U*
MW-22	6/30/1989	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-22	2/16/1993	2,000 *U*	100 *U*	48 *U*	9.5 *U*	2,000 *U*	100 *U*	9.5 *U*	100 *U*	1,000 *U*	1,000 *U*
MW-22	5/26/1993	NR *U*	**6.79**	--	--	NR *U*	NR *U*	--	20.9	NR *U*	NR *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-23	6/30/1989	100 *U*	5.0 *U*	--	--	100 *U*	5.0 *U*	--	5.0 *U*	50 *U*	50 *U*
MW-23	8/27/1990	10 *U*	**20** *E*	50 *U*	7.5 *U*	10 *U*	5.0 *U*	2.8 *U*	5.0 *U*	10 *U*	10 *U*
MW-23	8/5/1991	10 *U*	**71.5**	50 *U*	20 *U*	30.8	5.0 *U*	10 *U*	5.0 *U*	10 *U*	10 *U*
MW-23	8/19/1992	100 *U*	**34**	49 *U*	9.7 *U*	100 *U*	5.0 *U*	9.7 *U*	5.0 *U*	50 *U*	50 *U*
MW-23	8/25/1993	28 *U*	**16.8**	42.9 *U*	0.678 *U*	5.67 *U*	1.03 *U*	0.706 *U*	0.786 *J*	4.39 *U*	2.28 *U*
MW-23	8/23/1994	5.87 *J*	**25.6**	2.91 *U*	0.652 *U*	2.76 *U*	10.3	1.27	1.1 *U*	1.57 *U*	1.06 *U*
MW-23	8/14/1995	2.87 *U*	**10.7**	5.69 *U*	0.388 *U*	1.6 *U*	0.319 *U*	1.33 *U*	0.588 *U*	0.713 *U*	0.493 *U*
MW-23	8/27/1996	0.489 *U*	**6.83**	--	0.656 *U*	0.26 *U*	0.0258 *U*	0.658 *U*	0.0649 *U*	0.208 *U*	0.0809 *U*
MW-23	8/6/1997	0.488 *UJ*	**6.28**	6.13 *UJ*	0.36 *U*	0.598 *UJ*	0.0935 *U*	0.535 *U*	0.109 *U*	0.497 *UJ*	0.188 *UJ*
MW-23	4/7/1998	0.413 *U*	**3.94**	--	0.675 *U*	0.222 *U*	0.0453 *U*	0.34 *U*	0.0928 *U*	0.232 *U*	0.16 *U*
MW-23	10/6/1998	0.413 *U*	**3.41**	29.6 *UJ*	0.669 *UJ*	0.222 *UJ*	0.0453 *U*	0.296 *J*	0.0928 *U*	0.232 *U*	0.16 *U*
MW-23	4/29/1999	1.43 *U*	**3.48**	31.6 *UJ*	0.331 *U*	0.769 *U*	0.0718 *U*	0.418 *U*	0.102 *U*	0.180 *U*	0.123 *U*
MW-23	10/27/1999	50 *UJ*	**4.0**	50 *UJ*	5.0 *U*	10 *U*	1.0 *U*	1.0 *U*	1.0 *U*	10 *UJ*	10 *U*
MW-23	4/11/2000	50 *UJ*	**4.0**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-23 (dup)	4/11/2000	50 *UJ*	**4.0**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-23	10/31/2000	10 *U*	**2.0**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-23	4/24/2001	5.0 *U*	**2.8**	50 *U*	5.0 *U*	3.2 *J*	1.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-23	10/2/2001	10 *U*	0.44 *J*	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	1.9	5.0 *U*	5.0 *U*
MW-23	4/30/2002	50 *U*	**2.9**	50 *UJ*	5 *U*	25 *U*	1 *U*	5 *U*	8	25 *U*	25 *U*
MW-23	10/23/2002	31 *J*	**4.1**	51 *UJ*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	13	25 *U*	25 *U*
MW-23	4/16/2003	50 *U*	**2.1**	52 *UR*	5.2 *U*	10 *U*	1.0 *U*	5.2 *U*	1.0 *U*	25 *U*	25 *U*
MW-23	10/8/2003	50 *U*	**4.5**	54 *UR*	5.4 *U*	10 *U*	1.0 *U*	5.4 *U*	1.0 *U*	25 *U*	25 *U*
MW-23	4/7/2004	50 *U*	**6.4**	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-24	6/30/1989	100 *U*	5 *U*	--	--	100 *U*	8.4 *E*	--	5 *U*	50 *U*	50 *U*
MW-24	8/27/1990	10 *U*	**25**	50 *U*	7.5 *U*	10 *U*	8.2 *E*	2.8 *U*	5 *U*	10 *U*	10 *U*
MW-24	8/6/1991	--	--	55.5 *U*	22.2 *U*	--	--	11.1 *U*	--	--	--
MW-24	10/7/1991	100 *U*	**39**	--	--	100 *U*	9.2 *E*	--	5.0 *U*	50 *U*	50 *U*
MW-24	8/19/1992	100 *U*	**52**	48 *U*	9.5 *U*	100 *U*	8.6 *E*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-24	2/16/1993	100 *U*	**30**	48 *U*	9.5 *U*	100 *U*	7.6 *E*	2.5 *J*	5.0 *U*	50 *U*	50 *U*
MW-24	8/25/1993	280 *UF*	**22.9** *F*	39.4 *U*	0.622 *U*	56.7 *UF*	10.3 *UF*	3.3	7.86 *UF*	43.9 *UF*	22.8 *UF*
MW-24	8/23/1994	5.87 *J*	**15.3**	3.06 *U*	0.688 *U*	2.76 *U*	1.01 *U*	0.694 *U*	1.1 *U*	1.57 *U*	1.06 *U*
MW-24	8/14/1995	10.7	**11.2**	6.85 *U*	0.467 *U*	1.6 *U*	10.8	1.6 *U*	0.588 *U*	0.713 *U*	0.493 *U*
MW-24	8/28/1996	1.92	**15.8**	--	0.678 *U*	0.26 *U*	13.2	0.68 *U*	0.0649 *U*	0.208 *U*	0.0809 *U*
MW-24	8/6/1997	0.488 *UJ*	**12.1**	6.13 *UJ*	0.36 *U*	0.598 *UJ*	14.5	0.535 *U*	0.109 *U*	0.497 *UJ*	0.188 *UJ*
MW-25	6/30/1989	100 *U*	**11** *E*	--	--	100 *U*	5 *U*	--	5 *U*	50 *U*	50 *U*
MW-25	4/7/1998	0.413 *U*	**8.1**	--	0.675 *U*	0.222 *U*	2.19	0.34 *U*	0.0928 *U*	0.232 *U*	0.16 *U*
MW-25	10/6/1998	0.413 *U*	**8.22**	30.5 *UJ*	0.688 *U*	0.222 *UJ*	4.24	0.346 *U*	0.0928 *U*	0.232 *U*	0.16 *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-25	4/29/1999	1.43 *U*	**7.98**	30.1 *UJ*	0.316 *U*	0.769 *U*	2.93	0.398 *U*	0.102 *U*	0.180 *U*	0.123 *U*
MW-25	10/27/1999	50 *UJ*	**5**	50 *UJ*	5.0 *U*	10 *U*	1.0	1.0 *U*	1.0 *U*	10 *UJ*	10 *U*
MW-25 (dup)	10/27/1999	50 *UJ*	**5**	50 *UJ*	5.0 *U*	10 *U*	2.0	1.0 *U*	1.0 *U*	10 *UJ*	10 *U*
MW-25	4/11/2000	50 *UJ*	**5**	50 *U*	5.0 *U*	10 *U*	2.0	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-25	10/31/2000	10 *U*	**5**	50 *U*	5.0 *U*	10 *U*	1.0	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-25	4/24/2001	5.0 *U*	**5.0**	50 *U*	5.0 *U*	5.0 *U*	2.2	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-25	10/2/2001	10 *U*	**6.1**	50 *U*	5.0 *U*	5.0 *U*	2.5	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-25	4/30/2002	50 *U*	**4.8**	51 *UJ*	5.1 *U*	25 *U*	2.1	5.1 *U*	1 *U*	25 *U*	25 *U*
MW-25	10/22/2002	50 *U*	**4.2** *J*	51 *UJ*	5.1 *U*	10 *U*	2.3 *J*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-25	4/16/2003	50 *U*	**2.9**	50 *U*	5.0 *U*	10 *U*	1.8	5.0 *U*	1.0 *U*	25 *U*	25 *U*
MW-25	10/8/2003	50 *U*	**3.6**	55 *URJ*	5.5 *U*	10 *U*	2.1	5.5 *U*	1.0 *U*	25 *U*	25 *U*
MW-25	4/6/2004	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	2/15/1991	**1,800**	**7.4** *E*	43 *J*	3.9 *J*	**1,100**	5 *U*	9.4 *U*	2.2 *J*	50 *U*	50 *U*
MW-31	5/7/1991	100 *U*	50 *U*	50 *U*	20 *U*	100 *U*	50 *U*	10 *U*	50 *U*	100 *U*	100 *U*
MW-31	8/6/1991	**1,150**	500 *U*	50.5 *U*	20.2 *U*	**1,110**	500 *U*	10.1 *U*	500 *U*	1,000 *U*	1000 *U*
MW-31	12/19/1991	100 *U*	**11** *E*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-31	2/17/1992	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-31	5/6/1992	100 *U*	**16** *E*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-31	8/19/1992	100 *U*	**5.9** *E*	49 *U*	9.7 *U*	100 *U*	5.0 *U*	9.7 *U*	5.0 *U*	50 *U*	50 *U*
MW-31	10/28/1992	100 *U*	**12** *E*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-31	4/7/1998	0.413 *UJ*	**10.9** *J*	--	0.675 *U*	0.222 *UJ*	0.0453 *UJ*	0.34 *U*	0.0928 *UJ*	0.232 *UJ*	0.16 *UJ*
MW-31	10/6/1998	0.413 *UJ*	**3.42** *J*	30.5 *UJ*	0.688 *U*	0.222 *UJ*	0.0453 *UJ*	0.346 *U*	0.0928 *UJ*	0.232 *UJ*	0.16 *UJ*
MW-31	4/29/1999	1.43 *U*	**6.66**	30.1 *U*	0.316 *U*	0.769 *U*	0.0718 *U*	0.398 *U*	0.102 *U*	0.180 *U*	0.123 *U*
MW-31	10/27/1999	50 *UJ*	**3.0**	50 *UJ*	5.0 *U*	10 *U*	1.0 *U*	1.0 *U*	1.0 *U*	10 *UJ*	10 *U*
MW-31	4/11/2000	50 *UJ*	**3.0**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-31	10/31/2000	10 *U*	**2.0**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-31	4/25/2001	5.0 *U*	0.90 *J*	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-31	7/19/2001	50 *U*	**4.7**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-31	10/2/2001	10 *U*	**2.3**	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-31	4/30/2002	50 *U*	**19**	50 *UJ*	5 *U*	25 *U*	0.35 *J*	5 *U*	1 *U*	25 *U*	25 *U*
MW-31	7/16/2002	50 *U*	**10**	--	--	10 *U*	1.0 *U*	--	1.0 *U*	25 *U*	25 *U*
MW-31	10/23/2002	50 *U*	**1.4**	52 *UJ*	5.2 *U*	10 *U*	1.0 *U*	5.2 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	2/4/2003	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	4/15/2003	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	7/8/2003	50 *U*	1.0 *U*	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	10/7/2003	50 *U*	1.0 *U*	55 *UR*	5.5 *U*	10 *U*	1.0 *U*	5.5 *U*	1.0 *U*	25 *U*	25 *U*
MW-31	4/6/2004	50 *U*	1.0 *U*	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
MW-32	2/16/1993	100 *U*	5.0 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-33	2/15/1993	100 *U*	5 *U*	48 *U*	9.5 *U*	100 *U*	5.0 *U*	9.5 *U*	5.0 *U*	50 *U*	50 *U*
MW-34	10/31/2000	10 *U*	**60**	50 *U*	5 *U*	10 *U*	1.0	5.0 *U*	1.0 *U*	10 *U*	10 *U*
MW-34	4/25/2001	5.0 *U*	**52**	50 *U*	5.0 *U*	5.0 *U*	0.95 *J*	5.0 *U*	1.1	5.0 *U*	5.0 *U*
MW-34	7/19/2001	50 *U*	**54**	50 *U*	5.0 *U*	10 *U*	0.64 *J*	5.0 *U*	0.36 *J*	10 *U*	10 *U*
MW-34	10/2/2001	10 *U*	**9.5**	50 *U*	5.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	1.0 *U*	5.0 *U*	5.0 *U*
MW-34	4/30/2002	50 *U*	**44**	52 *UJ*	5.2 *U*	25 *U*	0.65 *J*	5.2 *U*	1 *U*	25 *U*	25 *U*
MW-34 (dup)	4/30/2002	50 *U*	**38**	53 *UJ*	5.3 *U*	25 *U*	0.62 *J*	5.3 *U*	1 *U*	25 *U*	25 *U*
MW-34	7/16/2002	50 *U*	**45**	--	--	10 *U*	1.0 *U*	--	1.0 *U*	25 *U*	25 *U*
MW-34 (dup)	7/16/2002	50 *U*	**55**	--	--	10 *U*	1.0 *U*	--	1.0 *U*	25 *U*	25 *U*
MW-34	10/23/2002	50 *U*	**41**	50 *UJ*	5.0 *U*	10 *U*	0.55 *J*	5.0 *U*	1.0 *U*	25 *U*	25 *U*
MW-34	2/4/2003	50 *U*	**12**	51 *U*	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	1.0 *U*	25 *U*	25 *U*
MW-34 (dup)	2/4/2003	50 *U*	**10**	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	25 *U*	25 *U*
MW-34	4/15/2003	50 *U*	1.0 *U*	53 *U*	5.3 *U*	10 *U*	1.0 *U*	5.3 *U*	1.0 *U*	25 *U*	25 *U*
MW-34 (dup)	4/15/2003	50 *U*	1.0 *U*	52 *U*	5.2 *U*	10 *U*	1.0 *U*	5.2 *U*	1.0 *U*	25 *U*	25 *U*
MW-34	7/8/2003	50 *U*	1.0 *U*	52 *UJ*	5.2 *UJ*	10 *U*	1.0 *U*	5.2 *UJ*	1.0 *U*	25 *U*	25 *U*
MW-34 (dup)	7/8/2003	50 *U*	1.0 *U*	52 *UJ*	5.2 *UJ*	10 *U*	1.0 *U*	5.2 *UJ*	1.0 *U*	25 *U*	25 *U*
MW-34	10/7/2003	50 *U*	1.0 *U*	55 *UR*	5.5 *U*	10 *U*	1.0 *U*	5.5 *U*	1.0 *U*	25 *U*	25 *U*
MW-34 (dup)	10/7/2003	50 *U*	1.0 *U*	55 *UR*	5.5 *U*	10 *U*	1.0 *U*	5.5 *U*	1.0 *U*	25 *U*	25 *U*
MW-34	4/6/2004	50 *U*	1.0 *U*	50 *U*	5.0 *U*	10 *U*	1.0 *U*	5.0 *U*	1.0 *U*	25 *U*	25 *U*
POC-01	4/7/1998	413 *U*	37.5 *U*	--	13.5 *J*	222 *U*	45.3 *U*	0.343 *U*	92.8 *U*	232 *U*	160 *U*
POC-01	10/6/1998	52.7 *J*	**36.3** *J*	21.9 *J*	7.16	57.8 *J*	0.762 *J*	0.346 *U*	**45.4** *J*	0.232 *UJ*	22.5 *J*
POC-01	4/29/1999	1.43 *U*	**10.5**	--	1.42	0.769 *U*	0.411	0.398 *U*	16.6	0.180 *U*	0.123
POC-01	10/26/1999	**890** *J*	**56**	300 *J*	5.0 *U*	**4,700**	1.0 *U*	1.0 *U*	**87**	10 *U*	40
POC-01	4/11/2000	220 *J*	**39**	50 *U*	4.0	**1,100**	1.0 *U*	10 *U*	**44**	10 *U*	13
POC-01	10/31/2000	10 *U*	**14**	50 *U*	5.0 *U*	50	1.0 *U*	5.0 *U*	6.0	10 *U*	10 *U*
POC-01 (dup)	10/31/2000	10 *U*	**13**	50 *U*	5.0 *U*	40	1.0 *U*	5.0 *U*	5.0	10 *U*	10 *U*
POC-01	4/24/2001	440 *J*	**41** *J*	50 *U*	10 *U*	**1,700**	0.17 *J*	10 *U*	**31** *J*	5.0 *UJ*	14 *J*
POC-01 (dup)	4/24/2001	270 *J*	**32** *J*	50 *U*	5.0 *U*	**1,400**	0.18 *J*	5.0 *U*	20 *J*	5.0 *UJ*	9.2 *J*
POC-01	10/3/2001	42	**41**	50 *U*	5.0 *U*	110	1.0 *U*	5.0 *U*	7.3	5.0 *U*	1.1 *J*
POC-01 (dup)	10/3/2001	58	**44**	50 *U*	5.0 *U*	**200**	1.0 *U*	5.0 *U*	11	5.0 *U*	2.0 *J*
POC-01	4/29/2002	16 *J*	**8.6**	50 *UJ*	5 *U*	25 *UJ*	1 *U*	5 *U*	1.2	25 *U*	25 *UJ*
POC-01	10/23/2002	25 *J*	**13**	52 *UJ*	5.2 *U*	12 *J*	1.0 *U*	5.2 *U*	3.1 *J*	25 *U*	25 *U*
POC-01 (dup)	10/23/2002	26 *J*	**14**	51 *UJ*	5.1 *U*	27 *J*	1.0 *U*	5.1 *U*	6.2 *J*	25 *U*	25 *U*
POC-01	4/16/2003	81	**28**	--	5.1 *U*	10 *U*	1.0 *U*	5.1 *U*	28	25 *U*	25 *U*
POC-01	10/8/2003	50 *U*	**7.1**	55 *UR*	5.5 *U*	10 *U*	1.0 *U*	5.5 *U*	1.0 *U*	25 *U*	25 *U*

Table 8. (cont.)

Well ID	Date	Acetone (µg/L)	Benzene (µg/L)	Benzoic acid (µg/L)	Benzyl alcohol (µg/L)	2-Butanone (MEK) (µg/L)	Chlorobenzene (µg/L)	1,2-Dichloro-benzene (µg/L)	Ethylbenzene (µg/L)	2-Hexanone (µg/L)	4-Methyl-2-Pentanone (µg/L)
GW Protection Standard		700	1.0	50	20	170	50	620	29	50	50
POC-01	4/7/2004	250 *UJ*	**38**	--	5.1 *U*	**800** *J*	5.0 *U*	5.1 *U*	**73**	130 *U*	130 *U*
POC-01 (dup)	4/7/2004	250 *UJ*	**36**	--	5.0 *U*	**770** *J*	5.0 *U*	5.0 *U*	**71**	130 *U*	130 *U*

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-06	5/31/1989	**1,900**	--	--	**180** *E*	9.7 *U*	9.7 *U*	97 *U*	**210,000**	--	--	5,000 *U*
MW-06	9/14/1989	--	--	--	--	10 *U*	50 *U*	32 *E*	**110,000**	--	--	8,300 *U*
MW-06	12/4/1989	**433** *E*	10 *U*	--	**505**	10 *U*	10 *U*	8.9 *J*	**58,500**	--	--	5.0 *U*
MW-06	3/6/1990	**920**	67 *U*	--	**210** *E*	67 *U*	67 *U*	67 *U*	--	--	--	--
MW-06	4/12/1990	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-06	5/21/1990	**270**	--	--	**250**	6.1 *U*	11 *U*	9.9 *U*	**25,000**	--	--	2,800 *U*
MW-06	8/27/1990	**1,700**	--	--	**400** *E*	32 *U*	58 *U*	29 *J*	**100,000**	--	--	19,000 *U*
MW-06	11/13/1990	--	--	--	--	1.6 *U*	2.9 *U*	--	**41,000**	--	--	2,000 *U*
MW-06	2/15/1991	**1,700**	--	--	**400** *E*	94 *U*	94 *U*	37 *J*	**150,000**	--	--	67 *E*
MW-06	5/7/1991	**669**	--	--	**205**	10 *U*	5.0 *U*	10 *U*	**317,194**	--	--	25,000 *U*
MW-06	8/6/1991	**953**	--	--	**151**	10 *U*	5.0 *U*	11.9	**67,200**	--	--	5,000 *U*
MW-06	12/19/1991	**240** *E*	--	--	**110**	9.5 *U*	--	9.5 *U*	**12,000**	--	--	500 *U*
MW-06	2/18/1992	**1,200**	--	--	**290** *E*	190 *U*	--	190 *U*	**120,000** *D*	--	--	500 *U*
MW-06	5/7/1992	**630**	--	--	**180** *E*	9.5 *U*	--	9.5 *U*	**44,000**	--	--	500 *U*
MW-06	8/20/1992	**1,000**	--	--	**240** *E*	10 *U*	10 *U*	22 *E*	**62,000**	--	--	10,000 *U*
MW-06	10/29/1992	**340**	--	--	**150**	9.5 *U*	9.5 *U*	9.5 *U*	--	--	--	--
MW-06	2/17/1993	**990**	--	--	**280**	9.5 *U*	9.5 *U*	14 *E*	**98,000**	--	--	250 *U*
MW-06	5/26/1993	**287** *ER*	--	--	**89** *F*	NR *U*	NR *U*	--	**26,300**	--	--	NR *U*
MW-06	8/26/1993	**656**	--	**178** *F*	--	0.572	0.597 *U*	8.72	**54,800**	--	--	8,250 *U*
MW-06	2/9/1994	**810**	--	**280**	--	200 *U*	200 *U*	200 *U*	**100,000**	--	--	10,000 *U*
MW-06	8/24/1994	**269**	--	**129** *F*	--	0.789 *J*	0.981 *U*	10.9	**40,100**	--	--	19
MW-06	2/21/1995	**642**	--	**198** *F*	--	81.2 *U*	101 *U*	69.3 *U*	**105,000**	--	--	48.9
MW-06	8/15/1995	**154** *EF*	--	**94.7** *F*	--	1.49 *U*	0.542 *U*	1.1	**11,300**	5.81	1.67	--
MW-06	2/13/1996	**478**	--	**165** *FJ*	--	45.4 *U*	7.65 *U*	11 *J*	**83,800**	38.4	12	--
MW-06	8/28/1996	--	--	**110** *J*	--	0.797 *J*	0.476 *UJ*	2.67 *J*	**36,000** *J*	688 *UJ*	490 *UJ*	--
MW-06	2/19/1997	**399**	--	**208** *FJ*	--	5.68 *U*	1.81 *U*	1.28 *U*	**62,600**	6.88 *U*	4.9 *U*	--
MW-06	8/7/1997	**208** *F*	--	**154** *J*	--	0.649	0.456 *U*	2.85	**19,900**	13.4 *J*	4.15 *J*	--
MW-07	5/31/1989	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-07	9/14/1989	--	--	--	--	10 *U*	50 *U*	10 *U*	900	--	--	170 *U*
MW-07	12/4/1989	10 *U*	10 *U*	--	10 *U*	10 *U*	10 *U*	10 *U*	5.0 *U*	--	--	5.0 *U*
MW-07	3/6/1990	10 *U*	10 *U*	--	10 *U*	10 *U*	10 *U*	10 *U*	5.0 *U*	--	--	5.0 *U*
MW-07	4/12/1990	--	--	--	--	--	--	--	**97,000**	--	--	7.9 *E*
MW-07	5/21/1990	4.8 *U*	--	--	4.8 *U*	1.5 *U*	2.8 *U*	2.5 *U*	1.2 *J*	--	--	5.0 *U*
MW-07	8/27/1990	5.0 *U*	--	--	5.0 *U*	1.6 *U*	2.9 *U*	2.6 *U*	15 *E*	--	--	5.0 *U*
MW-07	11/13/1990	--	--	--	--	1.6 *U*	2.9 *U*	--	34	--	--	5.0 *U*

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-07	2/15/1991	9.4 *U*	--	--	9.4 *U*	9.4 *U*	9.4 *U*	9.4 *U*	23 *E*	--	--	5.0 *U*
MW-07	5/7/1991	10 *U*	--	--	10 *U*	10 *U*	5.0 *U*	10 *U*	92	--	--	5.0 *U*
MW-07	8/6/1991	10 *U*	--	--	10 *U*	10 *U*	5.0 *U*	10 *U*	169	--	--	25 *U*
MW-07	12/19/1991	9.5 *U*	--	--	9.5 *U*	9.5 *U*	--	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-07	2/18/1992	9.5 *U*	--	--	9.5 *U*	9.5 *U*	--	9.5 *U*	32	--	--	5.0 *U*
MW-07	5/7/1992	10 *U*	--	--	10 *U*	10 *U*	--	10 *U*	51	--	--	5.0 *U*
MW-07	8/20/1992	9.9 *U*	--	--	9.9 *U*	9.9 *U*	9.9 *U*	9.9 *U*	170	--	--	5.0 *U*
MW-07	10/29/1992	9.6 *U*	--	--	9.6 *U*	9.6 *U*	9.6 *U*	9.6 *U*	--	--	--	--
MW-07	2/17/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-07	5/26/1993	--	--	--	--	NR *U*	NR *U*	NR *U*	168	--	--	NR *J*
MW-07	8/26/1993	3.5	--	4.23	--	0.506 *U*	0.632 *U*	0.934 *U*	55 *F*	--	--	1.65 *U*
MW-07	2/9/1994	0.662 *U*	--	0.456 *U*	--	0.66 *U*	0.793 *U*	0.347 *U*	7.0	--	--	0.63 *U*
MW-07	8/24/1994	0.542 *U*	--	7.22 *F*	--	0.781 *U*	0.972 *U*	0.667 *U*	0.805 *J*	--	--	2.54 *U*
MW-07	2/21/1995	0.55 *U*	--	0.822 *U*	--	0.792 *U*	0.986 *U*	0.677 *U*	119	--	--	110 *U*
MW-07	8/15/1995	0.481 *U*	--	0.534 *U*	--	1.5 *U*	0.547 *U*	0.415 *U*	1.45	0.509 *U*	0.402 *U*	--
MW-07	2/13/1996	0.762 *U*	--	0.432 *U*	--	1.51 *U*	0.255 *U*	0.366 *U*	0.245 *U*	0.487 *U*	0.388 *U*	--
MW-07	8/28/1996	0.636 *UJ*	--	0.485 *UJ*	--	0.502 *UJ*	0.476 *UJ*	--	0.0492 *U*	0.0688 *U*	0.049 *U*	--
MW-07	2/19/1997	0.645 *U*	--	0.524 *U*	--	2.84 *U*	0.907 *U*	0.638 *U*	0.0492 *U*	0.0688 *U*	0.049 *U*	--
MW-07	8/7/1997	0.349 *U*	--	0.449 *U*	--	0.405 *U*	0.451 *U*	1.51 *U*	--	0.19 *U*	0.097 *U*	--
MW-09	5/31/1989	**560**	--	--	**100**	13 *E*	9.7 *U*	9.7 *U*	**110,000**	--	--	110
MW-09	9/14/1989	--	--	--	--	10 *U*	50 *U*	10 *U*	**120,000**	--	--	630 *U*
MW-09	12/4/1989	**382** *E*	10 *U*	--	**99.5**	11.2 *E*	10 *U*	10 *U*	**10,700** *E*	--	--	101
MW-09	3/6/1990	**310**	10 *U*	--	**93**	10 *U*	10 *U*	10 *U*	5.0 *U*	--	--	5.0 *U*
MW-09	4/12/1990	--	--	--	--	--	--	--	740	--	--	34 *U*
MW-09	5/21/1990	**200**	--	--	**88**	7.1 *E*	5.3 *U*	4.9 *U*	**31,000**	--	--	1,000 *U*
MW-09	8/27/1990	**310**	--	--	**84**	3.9 *J*	8.7 *U*	7.8 *U*	**79,000**	--	--	2,600 *U*
MW-09	11/13/1990	--	--	--	--	2.3 *E*	2.9 *U*	--	**30,000**	--	--	2,500 *U*
MW-09	2/15/1991	**760**	--	--	**130**	3.4 *J*	9.4 *U*	3.3 *J*	**100,000**	--	--	1,200 *U*
MW-09	5/7/1991	**178**	--	--	**77**	10 *U*	5 *U*	10 *U*	**21,717**	--	--	5,000 *U*
MW-09	8/6/1991	**426**	--	--	**85.5**	10 *U*	5 *U*	10 *J*	**81,200**	--	--	5,000 *U*
MW-09	12/19/1991	190 *U*	--	--	190 *U*	190 *U*	--	190 *U*	**13,000**	--	--	250 *U*
MW-09	2/17/1992	**670** *E*	--	--	190 *U*	190 *U*	--	190 *U*	**200,000** *D*	--	--	2,500 *U*
MW-09	5/6/1992	**210**	--	--	**86**	9.5 *U*	--	9.5 *U*	**56,000**	--	--	1,000 *U*
MW-09	8/20/1992	**310**	--	--	**120**	10 *U*	10 *U*	10 *U*	**62,000**	--	--	2,000 *U*
MW-09	10/28/1992	**96**	--	--	**59**	9.5 *U*	9.5 *U*	9.5 *U*	**23,000**	--	--	47
MW-09	2/17/1993	**99**	--	--	**60**	9.7 *U*	9.7 *U*	9.7 *U*	**7,900**	--	--	250 *U*
MW-09	5/26/1993	**73.4**	--	--	**38** *F*	--	NR *U*	--	**8,360**	--	--	NR *U*

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-09	8/26/1993	**82.9**	--	**45** *F*	--	1.14	0.597 *U*	0.883 *U*	**16,700**	--	--	39.5
MW-09	2/9/1994	**114**	--	**93.2** *F*	--	1.42	0.818 *U*	1.54	**14,500**	--	--	49
MW-09	8/24/1994	**43.7**	--	**25.9** *F*	--	0.91	0.981 *U*	0.673 *U*	**1,440**	--	--	26.6
MW-09	2/21/1995	**81.8**	--	**64** *F*	--	1.09	0.976 *U*	0.67 *U*	**14,700**	--	--	110 *U*
MW-09	8/15/1995	**41.1**	--	**44.4** *F*	--	1.5 *J*	0.547 *U*	2.52	**3,180**	23.1	1.2	--
MW-09	2/13/1996	**33.9**	--	**18.7** *FJ*	--	1.51 *J*	0.255 *U*	0.366 *U*	**2,860**	21.0	1.71	--
MW-09	8/28/1996	**51.8** *J*	--	**40.5** *J*	--	0.859 *J*	0.476 *UJ*	--	**3,090** *J*	22.4 *J*	0.98 *UJ*	--
MW-09	2/19/1997	**65.8**	--	**37.5** *FJ*	--	2.84 *J*	0.907 *U*	0.638 *U*	**3,280**	68.8 *U*	49 *U*	--
MW-09	8/7/1997	**21**	--	**33.8** *J*	--	1.05	0.451 *U*	3.8	**1,660**	21.3	0.884	--
MW-09	4/7/1998	**26.1**	--	**15.9** *J*	--	1.11	0.185 *U*	2.5	**2,090**	--	--	36.12
MW-09	10/6/1998	**29.9**	--	**68.4** *J*	--	1.23	0.185 *U*	3.38	**1,960** *J*	--	--	15.9
MW-09	4/29/1999	**22.7**	--	**15.6**	--	0.363 *U*	0.292 *U*	2.69	**1,320**	17.7	4.04 *U*	--
MW-09	10/27/1999	9	--	10 *U*	--	5 *U*	5 *U*	5 *U*	120	--	--	39
MW-09	4/12/2000	5 *U*	--	10 *U*	--	5 *U*	5 *U*	5 *U*	20	--	--	14
MW-09	10/31/2000	5 *UR*	--	10 *UR*	--	5 *U*	5 *U*	5 *UR*	180	23	1 *U*	--
MW-09	4/25/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	44	8.8	0.27	9.1
MW-09	7/19/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	18	7.6	0.21 *J*	7.8
MW-09 (dup)	7/19/2001	5.0 *UJ*	--	10 *UJ*	--	5.0 *UJ*	5.0 *UJ*	5.0 *UJ*	17	7.1	0.20 *J*	7.3
MW-09	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	3.6 *U*	27	0.25 *J*	28
MW-09	4/30/2002	4.8 *U*	--	9.7 *U*	--	4.8 *U*	4.8 *U*	4.8 *U*	0.66 *J*	7.8	1 *U*	7.8
MW-09	7/16/2002	--	--	--	--	--	--	--	1.2	6.1 *J*	1.0 *U*	--
MW-09	10/23/2002	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	0.55 *J*	1.8 *J*	1.0 *U*	--
MW-09	2/4/2003	5.2 *U*	--	--	5.2 *U*	5.2 *U*	5.2 *U*	5.2 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-09	4/16/2003	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-09	7/8/2003	5.3 *UJ*	--	--	5.3 *UJ*	5.3 *UJ*	5.3 *UJ*	5.3 *UJ*	1.0 *U*	2.0	1.0 *U*	--
MW-09	10/8/2003	5.4 *U*	--	--	5.4 *U*	5.4 *U*	5.4 *U*	5.4 *U*	1.0 *U*	16	1.0 *U*	--
MW-09	4/6/2004	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	5.1	1.0 *U*	--
MW-10	3/15/1989	--	--	--	--	10 *U*	--	10 *U*	5 *U*	--	--	--
MW-10	8/29/1990	5.0 *U*	--	5.0 *U*	--	1.6 *U*	2.9 *U*	2.5	9.5	--	--	5.0 *U*
MW-10	8/6/1991	--	--	--	--	--	--	--	5 *U*	--	--	5 *U*
MW-10	8/19/1992	9.5 *U*	--	9.5 *U*	--	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-10	8/26/1993	0.352 *U*	--	0.522 *U*	--	0.543 *U*	0.678 *U*	1.00 *U*	0.706 *U*	--	--	1.65 *U*
MW-10	8/23/1994	0.548 *U*	--	0.818 *U*	--	0.789 *U*	0.981 *U*	0.673 *U*	0.805 *U*	--	--	2.54 *U*
MW-10	8/15/1995	0.476 *U*	--	0.529 *U*	--	1.49 *U*	0.542 *U*	0.411 *U*	0.409 *U*	0.509 *U*	0.402 *U*	--
MW-10	8/27/1996	0.657 *U*	--	0.534 *U*	--	2.90 *U*	0.924 *U*	0.650 *U*	0.410	0.0688 *U*	0.0490 *U*	--
MW-10	8/6/1997	0.342 *U*	--	0.440 *U*	--	0.397 *U*	0.443 *U*	1.49 *U*	0.276	0.190 *U*	0.0970 *U*	--
MW-10	10/6/1998	0.200 *UJ*	--	0.213 *UJ*	--	0.375 *UJ*	0.179 *UJ*	0.226 *UJ*	0.394 *U*	--	--	0.115 *U*

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-10	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-10	10/31/2000	5 *U*	--	10 *U*	--	5 *U*	5 *U*	5 *U*	1 *U*	2 *U*	1 *U*	--
MW-10	10/3/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-10	10/23/2002	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	0.37 *J*	2.0 *UJ*	1.0 *U*	--
MW-10	10/8/2003	5.3 *U*	--	--	5.3 *U*	5.3 *U*	5.3 *U*	5.3 *U*	1.5	2.0 *U*	1.0 *U*	--
MW-15	8/5/1991	10.1 *U*	--	--	10.1 *U*	10.1 *U*	5.05 *U*	10.1 *U*	70.5	--	--	5.0 *U*
MW-15	12/19/1991	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-15	2/16/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-16	12/19/1991	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-16	2/16/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-17	6/30/1989	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-18	5/26/1993	--	--	--	--	--	--	--	NR *J*	--	--	NR *J*
MW-18	2/8/1994	--	--	--	--	--	--	--	0.245 *U*	--	--	0.63 *U*
MW-20	6/30/1989	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-21	6/30/1989	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-21	5/26/1993	--	--	--	--	--	--	--	NR *J*	--	--	--
MW-21	4/7/1998	0.2 *U*	--	0.213 *U*	--	0.375 *U*	0.179 *U*	0.226 *U*	0.0522 *U*	--	--	0.115 *U*
MW-21	10/6/1998	0.204 *UJ*	--	0.217 *UJ*	--	0.382 *UJ*	0.183 *UJ*	0.23 *UJ*	0.394 *U*	--	--	0.115 *U*
MW-21	4/29/1999	0.375 *U*	--	0.349 *U*	--	0.363 *U*	0.292 *U*	0.602 *U*	0.0766 *U*	0.164 *U*	0.0807 *U*	--
MW-21	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-21	4/12/2000	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-21	10/31/2000	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-21	4/25/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.4	2.0 *U*	1.0 *U*	3.0 *U*
MW-21	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-21	4/30/2002	4.8 *U*	--	9.6 *U*	--	4.8 *U*	4.8 *U*	4.8 *U*	1 *U*	2 *U*	1 *U*	3 *U*
MW-21	10/23/2002	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *UJ*	1.0 *U*	--
MW-21	4/15/2003	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-21	10/8/2003	5.4 *U*	--	--	5.4 *U*	5.4 *U*	5.4 *U*	5.4 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-21	4/7/2004	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-22	6/30/1989	--	--	--	--	--	--	--	5 *U*	--	--	5 *U*
MW-22	2/16/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	**4,000**	--	--	100 *U*
MW-22	5/26/1993	--	--	--	--	--	--	--	5.69	--	--	31.8

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-23	6/30/1989	--	--	--	--	--	--	--	370	--	--	5 *U*
MW-23	8/27/1990	5.0 *U*	--	--	5.0 *U*	1.6 *U*	2.9 *U*	2.6 *U*	10 *E*	--	--	5 *U*
MW-23	8/5/1991	10 *U*	--	--	10 *U*	10 *U*	5.0 *U*	10 *U*	428	--	--	5 *U*
MW-23	8/19/1992	9.7 *U*	--	--	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	5 *U*	--	--	5 *U*
MW-23	8/25/1993	0.344 *U*	--	0.51 *U*	--	0.531 *U*	0.663 *U*	0.981 *U*	0.879 *U*	--	--	1.7
MW-23	8/23/1994	0.537 *U*	--	0.803 *U*	--	0.774 *U*	0.963 *U*	0.661 *U*	0.805 *U*	--	--	2.54 *U*
MW-23	8/14/1995	0.476 *U*	--	0.529 *U*	--	1.49 *U*	0.542 *U*	0.411 *U*	0.409 *U*	0.509 *U*	0.402 *U*	--
MW-23	8/27/1996	0.636 *U*	--	0.485 *U*	--	0.502 *U*	0.476 *U*	--	0.0492 *U*	0.0688 *U*	0.049 *U*	--
MW-23	8/6/1997	0.349 *U*	--	0.449 *U*	--	0.405 *U*	0.451 *U*	1.51 *U*	0.0581 *U*	0.19 *U*	0.097 *U*	--
MW-23	4/7/1998	0.202 *U*	--	0.215 *U*	--	0.378 *U*	0.181 *U*	0.228 *U*	0.0522 *U*	--	--	0.115 *U*
MW-23	10/6/1998	0.2 *UJ*	--	0.213 *UJ*	--	0.375 *UJ*	0.179 *UJ*	0.226 *UJ*	0.493 *U*	--	--	0.115 *U*
MW-23	4/29/1999	0.393 *U*	--	0.366 *U*	--	0.380 *U*	0.306 *U*	0.631 *U*	0.0766 *U*	0.164 *U*	0.0807 *U*	--
MW-23	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-23	4/11/2000	5.0 *UJ*	--	10 *UJ*	--	5.0 *U*	5.0 *U*	5.0 *UJ*	1.0 *U*	--	--	2.0 *U*
MW-23 (dup)	4/11/2000	5.0 *UJ*	--	10 *UJ*	--	5.0 *U*	5.0 *U*	5.0 *UJ*	1.0 *U*	--	--	2.0 *U*
MW-23	10/31/2000	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-23	4/24/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	8.0	1.1 *J*	1.0 *U*	1.6 *J*
MW-23	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.3 *U*	3.2	0.5 *J*	3.8
MW-23	4/30/2002	5 *U*	--	9.9 *U*	--	5 *U*	5 *U*	5 *U*	0.65 *J*	22	3.5	26
MW-23	10/23/2002	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.5	17 *J*	2.5	--
MW-23	4/16/2003	5.2 *UR*	--	--	5.2 *UR*	5.2 *U*	5.2 *U*	5.2 *UR*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-23	10/8/2003	5.4 *U*	--	--	5.4 *U*	5.4 *U*	5.4 *U*	5.4 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-23	4/7/2004	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-24	6/30/1989	--	--	--	--	--	--	--	15 *E*	--	--	5.0 *U*
MW-24	8/27/1990	5.0 *U*	--	--	5.0 *U*	1.6 *U*	2.9 *U*	1.1 *J*	64	--	--	5.0 *U*
MW-24	8/6/1991	11.1 *U*	--	--	11.1 *U*	11.1 *U*	5.55 *U*	11.1 *U*	--	--	--	--
MW-24	10/7/1991	--	--	--	--	--	--	--	5.0 *U*	--	--	5.0 *U*
MW-24	8/19/1992	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-24	2/16/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-24	8/25/1993	0.316 *U*	--	0.468 *U*	--	0.488 *U*	0.609 *U*	0.901 *U*	8.79 *UF*	--	--	14.7 *UF*
MW-24	8/23/1994	0.567 *U*	--	0.846 *U*	--	0.816 *U*	1.01 *U*	0.697 *U*	0.805 *U*	--	--	2.54 *U*
MW-24	8/14/1995	0.574 *U*	--	0.637 *U*	--	1.8 *U*	0.652 *U*	0.495 *U*	0.409 *U*	0.509 *U*	0.402 *U*	--
MW-24	8/28/1996	0.658 *U*	--	0.501 *U*	--	0.519 *U*	0.493 *U*	--	0.108	0.0688 *U*	0.049 *U*	--
MW-24	8/6/1997	0.349 *U*	--	0.449 *U*	--	0.405 *U*	0.451 *U*	1.51 *U*	0.0956	0.19 *U*	0.097 *U*	--
MW-25	6/30/1989	--	--	--	--	--	--	--	5 *U*	--	--	5 *U*
MW-25	4/7/1998	0.202 *U*	--	0.215 *U*	--	0.378 *U*	0.181 *U*	0.228 *U*	0.0522 *U*	--	--	0.115 *U*
MW-25	10/6/1998	0.206 *U*	--	0.219 *U*	--	0.386 *U*	0.185 *U*	0.233 *U*	1.37 *U*	--	--	0.115 *U*

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-25	4/29/1999	0.375 *U*	--	0.349 *U*	--	0.363 *U*	0.292 *U*	0.602 *U*	0.0766 *U*	0.164 *U*	0.0807 *U*	--
MW-25	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-25 (dup)	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-25	4/11/2000	5.0 *UJ*	--	10 *UJ*	--	5.0 *U*	5.0 *U*	5.0 *UJ*	1.0 *U*	--	--	2.0 *U*
MW-25	10/31/2000	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-25	4/24/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	3.1	2.0 *U*	1.0 *U*	3.0 *U*
MW-25	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-25	4/30/2002	5.1 *U*	--	10 *U*	--	5.1 *U*	5.1 *U*	5.1 *U*	1 *U*	2 *U*	1 *U*	3 *U*
MW-25	10/22/2002	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *UJ*	1.0 *U*	--
MW-25	4/16/2003	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-25	10/8/2003	5.5 *UJ*	--	--	5.5 *UJ*	5.5 *U*	5.5 *U*	5.5 *UJ*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-25	4/6/2004	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	2/15/1991	**29** *E*	--	--	**16** *E*	9.4 *U*	9.4 *U*	9.4 *U*	**1,400**	--	--	3.2 *J*
MW-31	5/7/1991	**29**	--	--	**12**	10 *U*	5.0 *U*	10 *U*	340	--	--	50 *U*
MW-31	8/6/1991	10.1 *U*	--	--	10.1 *U*	10.1 *U*	5.05 *U*	10.1 *U*	500 *J*	--	--	500 *U*
MW-31	12/19/1991	9.5 *U*	--	--	9.5 *U*	9.5 *U*	--	9.5 *U*	23 *E*	--	--	5.0 *U*
MW-31	2/17/1992	9.5 *U*	--	--	9.5 *U*	9.5 *U*	--	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-31	5/6/1992	9.5 *U*	--	--	9.5 *U*	9.5 *U*	--	9.5 *U*	200	--	--	5.0 *U*
MW-31	8/19/1992	9.7 *U*	--	--	9.7 *U*	9.7 *U*	9.7 *U*	9.7 *U*	5 *U*	--	--	5.0 *U*
MW-31	10/28/1992	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5.8 *E*	--	--	5.0 *U*
MW-31	4/7/1998	0.202 *U*	--	0.215 *U*	--	0.378 *U*	0.181 *U*	0.228 *U*	0.0522 *UJ*	--	--	0.115 *UJ*
MW-31	10/6/1998	0.206 *U*	--	0.219 *U*	--	0.386 *U*	0.185 *U*	0.233 *U*	1.42 *UJ*	--	--	0.115 *UJ*
MW-31	4/29/1999	0.375 *U*	--	0.349 *U*	--	0.363 *U*	0.292 *U*	0.602 *U*	0.0766 *U*	0.164 *U*	0.0807 *U*	--
MW-31	10/27/1999	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0	--	--	2.0 *U*
MW-31	4/11/2000	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	--	--	2.0 *U*
MW-31	10/31/2000	5.0 *UR*	--	10 *UR*	--	5.0 *U*	5.0 *U*	5.0 *UR*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	4/25/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-31	7/19/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-31	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-31	4/30/2002	5 *U*	--	10 *U*	--	5 *U*	5 *U*	5 *U*	1 *U*	2 *U*	1 *U*	3 *U*
MW-31	7/16/2002	--	--	--	--	--	--	--	1.4	2.0 *U*	1.0 *U*	--
MW-31	10/23/2002	5.2 *U*	--	--	5.2 *U*	5.2 *U*	5.2 *U*	5.2 *U*	0.72 *J*	2.0 *UJ*	1.0 *U*	--
MW-31	2/4/2003	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	4/15/2003	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	7/8/2003	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	10/7/2003	5.5 *U*	--	--	5.5 *U*	5.5 *U*	5.5 *U*	5.5 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-31	4/6/2004	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
MW-32	2/16/1993	9.5 *U*	--	9.5 *U*	--	9.5 *U*	9.5 *U*	9.5 *U*	5.0 *U*	--	--	5.0 *U*
MW-33	2/15/1993	9.5 *U*	--	--	9.5 *U*	9.5 *U*	9.5 *U*	9.5 *U*	5 *U*	--	--	5 *U*
MW-34	10/31/2000	5 *U*	--	10 *U*	--	5 *U*	5 *U*	5 *U*	2	1 *J*	0.6 *J*	--
MW-34	4/25/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	3.8	0.60	4.3
MW-34	7/19/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.1	1.7 *J*	0.57 *J*	2.2 *J*
MW-34	10/2/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	3.0 *U*
MW-34	4/30/2002	5.2 *U*	--	10 *U*	--	5.2 *U*	5.2 *U*	5.2 *U*	0.64 *J*	2 *U*	0.36 *J*	3 *U*
MW-34 (dup)	4/30/2002	5.3 *U*	--	10 *U*	--	5.3 *U*	5.3 *U*	5.3 *U*	0.62 *J*	2 *U*	0.38 *J*	3 *U*
MW-34	7/16/2002	--	--	--	--	--	--	--	1.2	2.0 *U*	1.0 *U*	--
MW-34 (dup)	7/16/2002	--	--	--	--	--	--	--	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34	10/23/2002	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	0.37 *J*	2.0 *UJ*	1.0 *U*	--
MW-34	2/4/2003	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34 (dup)	2/4/2003	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34	4/15/2003	5.3 *U*	--	--	5.3 *U*	5.3 *U*	5.3 *U*	5.3 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34 (dup)	4/15/2003	5.2 *U*	--	--	5.2 *U*	5.2 *U*	5.2 *U*	5.2 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34	7/8/2003	5.2 *UJ*	--	--	5.2 *UJ*	5.2 *UJ*	5.2 *UJ*	5.2 *UJ*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34 (dup)	7/8/2003	5.2 *UJ*	--	--	5.2 *UJ*	5.2 *UJ*	5.2 *UJ*	5.2 *UJ*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34	10/7/2003	5.5 *U*	--	--	5.5 *U*	5.5 *U*	5.5 *U*	5.5 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34 (dup)	10/7/2003	5.5 *U*	--	--	5.5 *U*	5.5 *U*	5.5 *U*	5.5 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
MW-34	4/6/2004	5.0 *U*	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*	1.0 *U*	2.0 *U*	1.0 *U*	--
POC-01	4/7/1998	**318**	--	**189** *J*	--	8.7 *J*	0.183 *U*	6.32 *J*	**125,000**	115 *U*	41.4 *U*	--
POC-01	10/6/1998	**190**	--	**92.5** *J*	--	4.74	0.185 *U*	0.922	**52,800**	--	--	117.2 *J*
POC-01	4/29/1999	**28.9**	--	**13.6** *J*	--	1.54	0.292 *U*	0.602 *U*	977	29.5	2.73 *J*	--
POC-01	10/26/1999	**220**	--	**58**	--	5.0	5.0 *U*	5.0 *U*	**72,000**	--	--	230
POC-01	4/11/2000	**94**	--	**46**	--	10 *U*	10 *U*	10 *U*	**55,000**	--	--	130
POC-01	10/31/2000	**14**	--	**14**	--	5.0 *U*	5.0 *U*	5.0 *U*	550	28	1.0	--
POC-01 (dup)	10/31/2000	**10**	--	**10**	--	5.0 *U*	5.0 *U*	5.0 *U*	480	25	1.0	--
POC-01	4/24/2001	**43**	--	**12**	--	10 *U*	10 *U*	10 *U*	**40,000**	100 *J*	17 *J*	120 *J*
POC-01 (dup)	4/24/2001	**49**	--	**13**	--	5.0 *U*	5.0 *U*	5.0 *U*	**30,000**	72 *J*	11 *J*	83 *J*
POC-01	10/3/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	**3,200**	85	7.8	93
POC-01 (dup)	10/3/2001	5.0 *U*	--	10 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*	**5,300**	99	10	110
POC-01	4/29/2002	5 *U*	--	9.9 *U*	--	5 *U*	5 *U*	5 *U*	6.4	4.1	1.4	5.6
POC-01	10/23/2002	5.2 *U*	--	--	5.2 *U*	5.2 *U*	5.2 *U*	5.2 *U*	610 *J*	17 *J*	2.7 *J*	--
POC-01 (dup)	10/23/2002	5.1 *U*	--	--	5.1 *U*	5.1 *U*	5.1 *U*	5.1 *U*	**2,300** *J*	29 *J*	4.1 *J*	--
POC-01	4/16/2003	**10**	--	--	6.0	5.1 *U*	5.1 *U*	5.1 *U*	**21,000**	84	14	--
POC-01	10/8/2003	5.5 *U*	--	--	5.5 *U*	5.5 *U*	5.5 *U*	5.5 *U*	300	4.4	1.0 *U*	--

Table 8. (cont.)

Well ID	Date	2-Methyl phenol (µg/L)	3-Methyl phenol (µg/L)	3- and 4-Methylphenol (µg/L)	4-Methyl phenol (µg/L)	Naphthalene (µg/L)	N-Nitroso-piperidine (µg/L)	Phenol (µg/L)	Toluene (µg/L)	m,p-Xylenes (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)
GW Protection Standard		10	10	10	10	21	10	300	1,000	--	--	530
POC-01	4/7/2004	**17**	--	--	**14**	5.1 *U*	5.1 *U*	5.1 *U*	**63,000**	220	40	--
POC-01 (dup)	4/7/2004	9.1	--	--	9.9	5.0 *U*	5.0 *U*	5.0 *U*	**45,000**	210	39	--

Note: Due to mislabeling of the well information plate at MW-22, it is possible that some data reported for MW-23 was collected from MW-22.
This disparity was noted and corrected in April 2003.
Bold values equal or exceed the groundwater protection standard.
-- – not applicable or not available
* – value unclear on original report
D – dilution required for this analyte
E – estimated (estimated result less than 5 times detection limit)
F – not defined
J – for dates prior to 1998, detected at less than detection limit
for dates 1998 or after, estimated
NR – value not reported
R – unusable data or rejected data
U – undetected