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1.0 INTRODUCTION

This report contains the findings of the August 2009 semi-annual groundwater monitoring event conducted as part of a groundwater remediation project at the Chemical Handling Area (L-Area) at the International Paper (IP) Riegelwood, North Carolina Mill (site). A site location map is included as Figure 1. URS Corporation – North Carolina (URS) conducted this monitoring event in August 2009 in accordance with the approved Corrective Action Plan (CAP) for the site. Monitoring events and corresponding monitoring reports prior to March 2009 were conducted and submitted by MACTEC Engineering and Consulting, Inc. (MACTEC).

The report is organized as follows:

- **Section 1.0** of this report provides a description of historical and current groundwater monitoring and remediation at the site.
- **Section 2.0** presents data collection methods.
- **Section 3.0** presents results and interpretation of physical and chemical data collected during the monitoring event.
- **Section 4.0** presents a description of ongoing remedial efforts at the site.
- **Section 5.0** provides a summary and presents conclusions based on current and historical data at the site.

1.1 General Background Information

1.1.1 Groundwater Monitoring

Semi-annual groundwater monitoring was previously conducted in May and November of each year as part of the CAP to accumulate information on groundwater flow and chemistry. In March 2004, IP requested and received approval from the North Carolina Department of Environment and Natural Resources (NCDENR) Groundwater Section to change the semi-annual sampling schedule to March and September.

On May 22, 2001, MACTEC submitted a request for *"Reduction of Ground-Water Monitoring,"* to the NCDENR on behalf of IP. This document presented a historical summary of the detected constituents for the L-Area and an evaluation of the current status of the site with respect to the NCDENR requirements and groundwater standards under Title 15A of the North Carolina Administrative Code, Chapter 2, Subchapter 2L (15A NCAC 2L). On the basis of the evaluation, MACTEC recommended a reduction of sample collection from 13 monitoring wells to six

monitoring wells and the reduction of operating recovery wells from nine to five for corrective action. The reduction was based on reduced groundwater contaminant concentrations over time and a review of the health risks associated with specific compounds remaining at these locations. The NCDENR approved the reduction request in a letter dated July 2, 2001. The NCDENR later modified the reduction request in a letter dated August 22, 2001, requesting that well PMW-10 remain in the monitoring regimen. Therefore, the current sampling schedule consists of utilizing seven groundwater wells for collection of groundwater samples.

1.1.2 Remediation Activities

Groundwater Extraction

- From May 1994 to August 2001, the groundwater extraction system at the site consisted of nine recovery wells, which pumped groundwater into a surge tank for collection prior to discharging into the onsite process water treatment system.
- In August 2001, the extraction system was modified to include only five groundwater recovery wells. The request for modification was presented in the May 22, 2001 MACTEC report and was approved by the NCDENR in a July 2, 2001 letter. The recovery wells utilized following the NCDENR approval included RW-2, RW-3, RW-6, RW-7 and RW-8. The effluent from each of these wells is discharged into the onsite storm/industrial wastewater drainage system. The groundwater effluent mixes with the facility wastewater stream for treatment, which is regulated by the NCDENR under a NPDES Permit.
- In July 2005, recovery well RW-3R was installed to replace RW-3 and was activated.
- In June 2006, recovery well RW-10 was installed to augment groundwater recovery near the Huron building. The well was operational beginning in July 2006.
- Beginning in late 2006, MACTEC systematically replaced the recovery well pneumatic recovery pumps with diaphragm pumps as the older pumps continued to shut down due to worn out parts and other maintenance issues. Since the diaphragm pumps are capable of higher flow rates than the pneumatic pumps, the recovery rates from several of the wells were dramatically increased from previous years.

LNAPL Recovery

- In May 1999, Light Non-Aqueous Phase Liquid (LNAPL) was measured in well PMW-12. The discovery of this material was reported to the NCDENR. Subsequent remedial measures included bailing and oil absorbent sock application. After initial

bailing and oil absorbent sock application, the LNAPL in well PMW-12 was not encountered again until May 2002.

- During the May 2002 sampling event, approximately 0.01 feet of LNAPL was encountered in PMW-12. MACTEC again implemented remedial measures to remove the LNAPL, including bailing and oil absorbent sock application. Subsequent measurements from October 2002 to December 2004 did not indicate the presence of LNAPL. The oil sorbent material was removed and weekly gauging was discontinued in December 2004.
- During the March 2005 gauging event, approximately 0.13 feet of LNAPL was again encountered in PMW-12. The LNAPL was bailed out and weekly gauging of the well resumed. Oil absorbent socks were installed in the well in April 2005. No LNAPL was detected in the well between March 21, 2005 and March 2008.
- LNAPL was again detected in PMW-12 during the March 2008 sampling event at a thickness of 0.06 feet. The LNAPL was removed by a disposable bailer and an oil absorbent sock was placed in the well. The well was then checked for LNAPL on March 27, 2008 and only sheen was observed. Well PMW-12 was not sampled during this event.
- During the September 2008 sampling event, LNAPL was again detected in PMW-12. LNAPL thickness was measured to be approximately l/8th of an inch thick. The LNAPL was removed with a disposable bailer and an oil absorbent sock was placed in the well. Well PMW-12 was not sampled during this event.
- LNAPL was not detected in PMW-12 during the August 2009 groundwater sampling event.

1.2 Semi-Annual Groundwater Monitoring Scope of Work.

The August 2009 sampling activities included:

- Measurement of water levels in six recovery wells and 18 of the site groundwater monitoring wells; and,
- Collection of groundwater samples from seven monitoring wells and six active recovery wells for analysis of organic and inorganic parameters.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

On August 13, 2009, depth to groundwater was measured in 24 wells within the site. Water levels and calculated elevations are presented in Table 1.

URS personnel performed the following groundwater sampling activities:

- Seven monitoring wells (PMW-2R, PMW-7R, PMW-10, PMW-11, PMW-12, PMW-14R2 and PMW-17) were purged and sampled on August 13, 2009 by removing groundwater with pre-cleaned, dedicated polyethylene disposable tubing and a peristaltic pump. The wells were purged following United States Environmental Protection Agency (USEPA) Low Flow sampling protocols. Each monitoring well was purged using a peristaltic pump, and groundwater parameters were collected using a multi-meter encased in a flow-through cell. Purging continued until groundwater parameters stabilized according to the following criteria:
    - pH +/- 0.1 standard units
    - Specific conductance +/- 3%
    - Temperature +/- 3%
    - Dissolved oxygen +/- 10%
    - Oxidation-reduction potential +/- 10 millivolts
- Six recovery well (RW-2, RW-3R, RW-6, RW-7, RW-8 and RW-10) pump effluent samples were collected on August 13, 2009.

Field measurements of temperature, pH, specific conductance, and turbidity were recorded at the end of each purge volume and after sample collection (see Table 1).

Samples were carefully poured into containers prepared by the laboratory, packaged into coolers with bagged ice, and delivered with appropriate requests for analysis and chain-of-custody records to Pace Analytical Services, Inc. of Huntersville, NC (a North Carolina certified laboratory). All samples were analyzed for volatile organic compounds (VOCs) utilizing EPA Method 8260B, and for pH, total dissolved solids (TDS), total suspended solids (TSS), sulfate, hardness (as $CaCO_3$), iron, sodium, and chromium utilizing various methods (see Table 2).

3.0 RESULTS

The following sections provide the results of the August 2009 sampling event and a summarized historical review of previous sampling events.

3.1 Groundwater Flow Map

Groundwater elevations obtained from the monitoring and recovery wells during the August 2009 sampling event are provided in Table 1. The groundwater elevations for wells in the surficial aquifer at the site have been contoured using the August 2009 data and are presented on Figure 2. As with past events, the groundwater elevation contour map indicates an elevated mound of groundwater in the central portion of the study area in the vicinity of PMW-10. Based on the interpreted configuration presented in Figure 2, groundwater flow is primarily to the north, east, and south of this mound. Drawdown of groundwater is also observed in all six recovery wells as shown on Figure 2. This condition is considered a result of the on-going groundwater recovery operations currently conducted.

The calculated lateral hydraulic gradient is 0.045 between PMW-10 and PMW-8 and is 0.014 between PMW-8 and PMW-11.

3.2 Groundwater Chemistry

The results of field analyses of pH, temperature and specific conductance collected at the time of sampling are provided in Table 1. The analytical laboratory results for the samples collected in August 2009 have been summarized in Table 2, and a summary of the groundwater analytical results for seven of the monitoring wells over the last 27 sampling events is provided in Table 3. Copies of the original laboratory report and chain-of-custody record for the August 2009 sampling event are provided in Appendix A. Concentration-versus-time graphs for TDS, sulfate, iron, chromium, and chloroform in select monitoring wells are provided in Appendix B.

3.2.1 Inorganic Parameters

pH

The 15A NCAC 2L Groundwater Standard (2L Standard) for pH ranges from 6.5 to 8.5 standard units (s.u.). As shown in Table 1, the pH readings collected in the field indicated four of 13 wells sampled were outside the 2L Standard pH range. Three samples had a pH measurement of less than 6.5 s.u. and one sample had a pH measurement of greater than 8.5 s.u. The low pH

measurements ranged from 4.69 s.u. in PMW-7R to 6.11 s.u. in PMW-8. The PMW-14R2 pH measurement was above the 2L Standard and was 11.04 s.u.

As shown in Table 2, the pH results for the laboratory analytical data indicated that eight of the 13 samples were below and that one sample was above the 2L Standard. The analytical pH results were similar to the field measurements in each of the wells sampled. The pH results that were below the 2L Standard ranged from 3.1 s.u. in PMW-7R to 6.4 s.u. in PMW-11. The pH result for PMW-14R2 (measured above the 2L standard) was 9.6 s.u.

The historical pH data indicates generally similar pH conditions for the majority of wells tested. The difference in pH tested in the former PMW-14R monitoring well and the current PMW-14R2 monitoring well, however, indicate pH concentrations have moved from acidic conditions to relatively basic conditions.

TDS

The total dissolved solids (TDS) results indicated that 12 of the 13 samples were found to exceed the 2L groundwater standard of 500 milligrams per liter (mg/L). TDS concentrations ranged from 288 mg/L in PMW-10 to 40,000 mg/L in PMW-11 (See Table 2).

Historical TDS data for each monitoring well is presented in Table 3. The distribution of TDS in groundwater during the August 2009 sampling event is illustrated on Figure 3. The TDS concentration-versus-time graphs presented in Appendix B illustrate the general trends for select monitoring wells. As shown in Table 3 and on the graphs, TDS concentrations are generally similar to historical results. The majority of TDS concentrations observed continue to fluctuate with time or show a slight decreasing concentration trend. One exception to this trend is groundwater from well PMW-17, which has indicated a general increase of TDS concentration over time.

TSS

Total suspended solids (TSS) results indicated a range of 4.8 mg/L in RW-6 to 7260 mg/L in PMW-12. Currently, no standard for TSS has been promulgated under the 2L Standards.

Sulfate

The sulfate results indicated that 11 of the 13 samples collected were found to exceed the 2L Standard of 250 mg/L (see Table 2). The 11 sulfate concentrations in excess of the 2L Standard ranged from 46 mg/L in PMW-10 to 3,060 mg/L in PMW-7R. Historical data shown on Table 3 and detailed in Appendix B indicates that sulfate concentrations have fluctuated in the majority

of wells over time. Well PMW-14R2 was below the 2L Standard in September 2007 and March 2008, was above the 2L Standard since September 2008.

Iron

The iron analytical results indicated that 12 of 13 samples collected were found to exceed the 2L Standard of 0.3 mg/L. Concentrations in excess of the 2L Standard ranged from 1.14 mg/L in RW-6 to 63.8 mg/L in RW-7. As illustrated in Table 3 and Appendix B, the iron concentrations detected during this event are similar to previous events and indicate generally fluctuating concentrations with a slight net decrease over time. It should be noted that the natural background concentrations of iron in shallow groundwater are locally known to be in excess of the 2L standard of 0.3 mg/L.

Sodium

Concentrations of sodium in the 13 samples ranged from below the detection limit in PMW-17 to 900 mg/L in PMW-7R. Currently, no standard for sodium has been promulgated under the 2L Standards.

Chromium

The total chromium analytical results indicated that five of the 13 samples collected were found to exceed the 2L Standard of 0.05 mg/L. The chromium concentrations in excess of the 2L Standard ranged from 0.0543 mg/L in PMW-11 to 0.26 mg/L in RW-8. As illustrated in Table 3 and Appendix B, chromium concentrations detected during this event are similar to previous events and indicate generally fluctuating concentrations with a net decrease over time. A significant increase in chromium concentration in PMW-7R occurred between the March and August 2009 events following a historical decrease (see Appendix B). The distribution of chromium in groundwater during the August 2009 sampling event is illustrated on Figure 4.

Hardness

Concentrations of hardness (as $CaCO_3$) in the 13 samples ranged from below the method detection limit in PMW-17 to 564 mg/L in RW-8. Currently, no standard for hardness is available under the 2L Standards.

3.2.2 Volatile Organic Compounds

As shown on Table 2, the VOCs detected above 2L Standards during the August 2009 groundwater sampling event include bromodichloromethane, naphthalene, dibromochloromethane, chloroform, 1,4-dichlorobenzene, and trichloroethene. All of the compounds in exceedance of the 2L Standard have been detected above the 2L Standard during previous sampling events. Table 3 provides a historical review of these compounds.

As shown on Table 2, all of the VOCs identified above except for dibromochloromethane and naphthalene were detected above the 2L standard in the PMW-7R sample. Bromodichloromethane was also detected above the 2L standard in PMW-10, 11, and 17 and dibromochloromethane, naphthalene, and chloroform were detected in PMW-10, PMW14R2, and PMW-17, respectively. Exceedences of the 2L standard were detected in three of the six recovery wells.

Chloroform (trichloromethane), bromodichloromenthane, and dibromocholormethane are in the family of trihalomethanes used in public drinking water. Laboratory results for chloroform indicated that four of the 13 groundwater samples were above the 2L Standard of 70 ug/1. Exceedences for bromodichloromethane, and dibromocholormethane generally occurred where chloroform was elevated. The chloroform concentrations in excess of the 2L Standard ranged from 116 ug/l in PMW-17 to 576 ug/l in RW-8. Historical data indicates a general decrease in chloroform concentrations over time for the groundwater monitoring wells (See Table 3 and Appendix B). The distribution of chloroform in groundwater at the site during the August 2009 sampling event is illustrated on Figure 5.

4.0 REMEDIATION ACTIVITIES

4.1 Operational Status

Six recovery wells are currently operational at the site as part of corrective action activities. Only one recovery well, RW-6, continues to contain a pneumatic submersible pump. Recovery wells RW-2, RW-3R, RW-7, RW-8 and RW-10 contain pneumatic double diaphragm pumps. The diaphragm pumps were installed to replace the pneumatic pumps between mid-2006 and 2007 due to continual bacterial fouling problems and pump maintenance problems. MACTEC reported a rise in overall flow rates for the system following the change.

Table 4 presents the recovery well flow measurements and flow totalizer meter readings recorded during operations and maintenance (O&M) site visits. Table 4 also presents the calculated total gallons removed from each recovery well and the average recovery flow from each well during the reporting period. Between September 24, 2008 and April 9, 2009, the total amount of groundwater that is estimated to have been recovered was 329,610 gallons, or approximately 2,258 gallons per day (gpd). A summary of the historical gallons of groundwater recovered between 1994 and 2009 and the average calculated flow rate in gpd for each reporting period is presented on Table 5.

4.2 Planned O&M Activities

Planned remediation system O&M activities will include continued maintenance of recovery well pumps including required repairs and replacements. Flow measurements and available flow totalizer meter readings will continue to be recorded during O&M site visits. O&M visits will be conducted as necessary on an approximately monthly basis.

5.0 SUMMARY AND CONCLUSIONS

The conclusions presented in this section are based on the results of the monitoring and remediation activities conducted since the start-up of the groundwater extraction system located at the site. Conclusions based on available data are as follows:

- The groundwater contours in the vicinity of PMW -10 continue to indicate an area of raised elevation. A depressed groundwater table was observed in several of the active recovery wells during O&M site visits and indicates that the groundwater withdraw in their respective areas creates a localized capture zone of groundwater. The general groundwater flow across the site is interpreted to be towards the northeast.
- The results of analysis for inorganic compounds from the August 2009 monitoring event indicate four constituents are present at concentrations which exceed the 2L groundwater standards. These constituents include TDS, sulfate, iron and chromium. TDS and iron continue to indicate fluctuations of concentrations over time. Chromium was present in groundwater above the 2L Standards in wells PMW-11 and PMW-14R2, as well as recovery wells RW-7, RW-8 and RW-10. These results are generally consistent with previous events.
- The field and laboratory pH results were generally similar. The majority of groundwater samples were found to be below the 2L Standard (6.5 s.u.) based on the laboratory results. The laboratory pH result for PMW-14R2 was 9.6 s.u. which is above the 8.5 s.u. 2L Standard. This result is anomalous to previous samples collected from the former PMW-14R well, where the pH generally ranged from 2.8 s.u. to 3.7 s.u.
- VOCs detected above the 2L standards during the August 2009 sampling event included bromodichloromethane, naphthalene, dibromochloromethane, chloroform, 1,4-dichlorobenzene, and trichloroethene. The detected VOCs have all been detected during previous sampling events.
- Laboratory results for chloroform indicated that four of the 13 groundwater samples were above the 2L Standard of 70 ug/1. The chloroform concentrations in excess of the 2L Standard ranged from 116 ug/l in PMW-17 to 576 ug/l in RW-8. Historical data indicates a general decrease in chloroform concentrations over time.
- LNAPL was not detected in PMW-12 during the August 2009 sampling event. LNAPL has previously been detected in PMW-12 and has been removed with a bailer and oil absorbent socks.

- The current remedial system consists of six groundwater recovery wells (RW-2, RW-3R RW-6, RW-7, RW-8 and RW-10). The total for groundwater recovered during the last six months was approximately 329,610 gallons with an average recovery flow rate for the six wells of 2,258 gpd. This data is indicates lower flows than recent groundwater recovery rates. This is likely due to improved flow rate measurements since March 2009.

TABLES

TABLE 1
GROUNDWATER MONITORING DATA
AUGUST 13, 2009
INTERNATIONAL PAPER, RIEGELWOOD, NC

WELL ID	WELL TOC ELEVATION (feet)	DEPTH TO GROUND-WATER (feet)	GROUND-WATER ELEVATION (feet)	TEMP. (°C)	pH	COND. (umhos/cm)	TURB. (NTU)
RW-1	45.64	NM	NM	NS	NS	NS	NS
RW-2	47.36	5.99	41.37	22.64	6.88	8,186	38.0
RW-3R	49.36	10.63	38.73	27.11	6.99	2,893	82.0
RW-4	50.14	6.79	43.35	NS	NS	NS	NS
RW-5	50.85	NM	NM	NS	NS	NS	NS
RW-6	45.20	12.70	32.50	25.15	7.49	2,884	22.0
RW-7	50.00	11.88	38.12	25.18	5.87	4,972	66.0
RW-8	42.57	8.43	34.14	22.50	6.11	11,130	29.0
RW-10	49.02	14.84	34.18	25.65	7.24	8,115	291.0
PMW-2R	51.43	9.04	42.39	24.78	8.31	1,622	10.0
PMW-3R	51.79	8.11	43.68	NS	NS	NS	NS
PMW-4	54.87	11.40	43.47	NS	NS	NS	NS
PMW-5	46.25	Buried	Buried	NS	NS	NS	NS
PMW-6	43.21	4.76	38.45	NS	NS	NS	NS
PMW-7R	52.49	11.51	40.98	25.02	4.69	8,772	9.8
PMW-8	49.34	8.70	40.64	NS	NS	NS	NS
PMW-9	51.54	9.72	41.82	NS	NS	NS	NS
PMW-9D	51.64	10.23	41.41	NS	NS	NS	NS
PMW-10	49.31	2.60	46.71	26.25	8.43	406	30.0
PMW-11	43.76	5.00	38.76	23.62	7.73	32,730	145.0
PMW-12	51.89	10.19	41.70	30.44	7.47	1,213	320.0
PMW-13	53.47	10.01	43.46	NS	NS	NS	NS
PMW-14R2	50.20	5.55	44.65	23.84	11.04	5,118	80.0
PMW-15	48.27	7.96	40.31	NS	NS	NS	NS
PMW-16	45.93	8.29	37.64	NS	NS	NS	NS
PMW-17	44.35	6.50	37.85	22.47	7.89	39,900	10.0
FPB-2A	50.98	11.84	39.14	NS	NS	NS	NS
FPB-2B	52.83	12.06	40.77	NS	NS	NS	NS

NOTES:

Top of Casing (TOC) elevations are referenced to mean sea level (MSL)

Top of Casing was used as the measuring point to obtain water levels

Top of Casing elevations provided by International Paper

NS- Not Sampled

NM- Not Measured

Temperature, pH, specific conductance, and turbidity are field measurements collected at time of sampling

Table 2
Summary of Groundwater Results
IP-Riegelwood, Chemical Area (L-Area)
Riegelwood, NC

Sample Identification:	NC 2L GW Quality Stds	Method	Unit	PMW-02R	PMW-07R	PMW-10	PMW-11	PMW-12	PMW-14R2	PMW-17	RW-02	RW-03R	RW-06	RW-07	RW-08	RW-10
Sample Date:				08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09	08/13/09
				Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
VOC																
Acetone	700	SW-846 8260B	ug/l	2.2 U	10.8 U	2.2 U	5.4 J	2.2 U	2.2 U	4.3 J	4.4 J	2.2 U	2.2 U	8.2 J	22.5 J	29.2
Benzene	1	SW-846 8260B	ug/l	0.25 U	1.2 U	0.25 U	0.25 U	0.25 U	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.29 J	0.25 U
Bromodichloromethane	0.56	SW-846 8260B	ug/l	0.18 U	6.1	4.3	0.7 J	0.18 U	0.18 U	0.58 J	0.18 U	0.18 U	0.18 U	0.39 J	2.8	18.2
Bromoform	4.43	SW-846 8260B	ug/l	0.26 U	1.4 J	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	1.1
2-Butanone (MEK)	4200	SW-846 8260B	ug/l	0.96 U	4.8 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	1.8 J	6.1	7.5
Carbon disulfide	700	SW-846 8260B	ug/l	1.2 U	5.8 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	4.4	6.1
Chlorobenzene	50	SW-846 8260B	ug/l	0.23 U	8.6	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.47 J	0.23 U	1.1	0.74 J	1.7
Chloroform	70	SW-846 8260B	ug/l	0.68 J	375	24.4	53.1	0.14 U	0.14 U	116	32.9	4.1	3.6	49.5	576	235
Dibromochloromethane	0.41*	SW-846 8260B	ug/l	0.21 U	1 U	0.83 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	2.1
1,2-Dichlorobenzene	24	SW-846 8260B	ug/l	0.3 U	1.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.36 J	0.79 J
1,3-Dichlorobenzene	170	SW-846 8260B	ug/l	0.24 U	1.3 J	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,4-Dichlorobenzene	1.4	SW-846 8260B	ug/l	0.33 U	3.7 J	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.44 J	0.33 U	0.62 J	0.33 U	0.93 J
cis-1,2-Dichloroethene	70	SW-846 8260B	ug/l	0.58 J	44.4	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	1.5	0.19 U	0.19 U	0.63 J	2.5
trans-1,2-Dichloroethene	100	SW-846 8260B	ug/l	0.49 U	3.5 J	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
Ethylbenzene	550	SW-846 8260B	ug/l	0.3 U	1.5 U	0.3 U	0.3 U	0.3 U	2.8	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Isopropyl benzene	70	SW-846 8260B	ug/l	0.4 U	2 U	0.4 U	0.4 U	0.4 U	0.41 J	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
4-Methyl-2-pentanone	NE	SW-846 8260B	ug/l	0.33 U	1.6 U	0.33 U	0.33 U	0.33 U	2.2 J	0.33 U	0.33 U	0.33 U	0.33 U	0.61 J	0.86 J	0.69 J
Naphthalene	21	SW-846 8260B	ug/l	0.24 U	1.2 U	0.24 U	0.24 U	0.24 U	31.3	0.24 U	0.24 U	0.24 U	0.24 U	11.7	0.24 U	6.2
Tetrachloroethene	0.7	SW-846 8260B	ug/l	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.52 J
Toluene	1000	SW-846 8260B	ug/l	0.26 U	1.3 U	0.26 U	0.26 U	0.26 U	0.81 J	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,2,4-Trichlorobenzene	NE	SW-846 8260B	ug/l	0.35 U	19.9	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Trichloroethene	2.8	SW-846 8260B	ug/l	1.2	29.2	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	3.7	0.47 U	0.47 U	1.2	4.1
Trichlorofluoromethane	2100	SW-846 8260B	ug/l	0.2 U	1 U	0.2 U	0.22 J	0.2 U	0.2 U	0.2 U	0.7 J	0.2 U	0.2 U	0.2 U	0.2 U	0.24 J
Xylenes (Total)	530	SW-846 8260B	ug/l	0.66 U	3.3 U	0.66 U	0.66 U	0.66 U	12.3	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
Metals																
Chromium	50	SW-846 6010B	ug/l	7.4	26.8 J	29.1	54.3	9	152	0.4 U	8.7	1.1 J	11.6	64.1	260	159
Iron	300	SW-846 6010B	ug/l	7,260	22,700	2,190	6,230	39,400	12,100	14 U	1,320	7,320	1,140	63,800	4,760	7,670
Sodium	NE	SW-846 6010B	ug/l	354,000	900,000	30,400	746,000	81,900	41,800	2.5 U	17,900	423,000	99,700	46,500	796,000	12,500
Miscellaneous																
Hardness (as CaCO3)	NE	SM 2340B	mg/l	63.3	418	110	416	182	22.5	0.65 U	430	152	364	156	564	179
pH	6.5-8.5	SW-846 9040	s.u.	7 J	3.1 J	7.1 J	6.4 J	6.6 J	9.6 J	6 J	6 J	6 J	6.6 J	4.2 J	4.5 J	4.7 J
Sulfate	250	ASTM D516-90	mg/l	282	3,060	46	247	1,430	543	1,790	2,280	1,330	477	1,980	1,670	945
Total Dissolved Solids	500	SM 2540C	mg/l	1,350	7,000	288	40,000	714	4,020	39,900	6,400	1,790	2,050	4,110	9,780	3,980
Total Suspended Solids	NE	SM 2540C	mg/l	40	95.1	34.3	276	7,260	29.3	57.2	263	61.6	4.8	168	143	342

Table 2
Summary of Groundwater Results
IP-Riegelwood, Chemical Area (L-Area)
Riegelwood, NC

Notes:

Result exceeds NC Groundwater quality standard for the protection of the groundwater, 15A NCAC 2L .0200

<# U - Not present above associated level; blank contamination exists
* - Result exceeds Interim Maximum Allowable Concentration established under 15A NCAC 2L .0202
J - Estimated value
U - Not detected above the method detection limit
Duplicate - Field duplicate sample ID is PMW-27R
NE - Not established
s.u. - Standard units
mg/L - Milligrams per liter
ug/L - Micrograms per liter
VOC - Volatile organic compounds

This table presents the results of all analytes detected. Sample results have been qualified by URS based on the results of the data review process, which is modeled after the *Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review* (EPA, October 1999 and 2004).

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC	PMW-2R																											NCAC
PARAMETERS (ug/L)	11/96	6/97	11/97	5/98	11/98	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08	9/08	3/09	8/09	STD
BENZENE	NS	ND	NS	**2.49**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25 J	0.25 U	**1**
BROMODICHLOROMETHANE	NS	ND	NS	ND	3.04	ND	ND	ND	ND	ND	ND	ND	ND	**2.5**	**1.7**	**1.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18 U	0.18 U	**0.56**
CHLOROBENZENE	NS	ND	NS	ND	ND	ND	4	ND	ND	ND	ND	ND	ND	4.7	5.3	2.8	ND	1.6	ND	1.7	1.4	ND	ND	ND	ND	0.23 U	0.23 U	**50**
CHLOROFORM	NS	32.8	NS	11.9	**235**	**181**	**79**	**240**	**100**	**120**	**340**	**88**	66	**130**	**160**	**110**	27	45	23	57	23	11	14	ND	ND	< 0.42 U	0.68 J	**70**
cis-1,2-DICHLOROETHENE	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	25	4	6	NR	18	10	3	6.5	3.6	7.1	4.6	1.5	2.6	ND	ND	0.28 J	0.58 J	**70**
1,3-DICHLOROBENZENE	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24 U	0.24 U	**170**
1,4-DICHLOROBENZENE	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.8**	**3.5**	**1.6**	ND	1.3	ND	1.1	1.2	ND	ND	ND	ND	0.33 U	0.33 U	**1.4**
ETHYLBENZENE	NS	ND	NS	8.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3 U	0.3 U	**550**
TRANS-1,2-DICHLOROETHENE	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49 U	0.49 U	**100**
TRICHLOROETHENE	NS	**7.21**	NS	ND	ND	**30.1**	**32**	**43**	**23**	**25**	**100**	**36**	**35**	**57**	**65**	**36**	**7.3**	**22**	**9.9**	**25**	**12**	**4.9**	**6.9**	ND	1.7	0.47 U	1.2	**2.8**
XYLENES	NS	ND	NS	9.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89 U	0.66 U	**530**
VINYL CHLORIDE	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62 U	0.62 U	**0.015**
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																												
pH (standard units)	NS	**6.2**	NS	**6.1**	**5.9**	**5.9**	**5.7**	**5.7**	**6.1**	**5.8**	**5.2**	**5.94**	**6.08**	**5.2**	**5.7**	**5.9**	**5.8**	**6**	**6.3**	**6.1**	**6.4**	**6.4**	**6.2**	**6.5**	6.6	7.8 J	7 J	**6.5-8.5**
TDS	NS	**5100**	NS	**3530**	**6110**	**2640**	**2833**	**3400**	**5440**	**2627**	**5420**	**2927**	**2527**	**4000**	**5600**	**5,400**	**3,400**	**3200**	**2200**	**2800**	**1400**	**1700**	**1500**	**1200**	**1200**	**1,560**	**1,350**	**500**
TSS	NS	322	NS	275	346	674	348	582	148	228	384	8.5	40	57	32	8.8	5	4.4	8	3	1.5	10	3.4	8	12	20	40	**NStd**
SULFATE	NS	**1360**	NS	**1150**	**1400**	**949**	103	111	**522**	**1300**	**1300**	**660**	**830**	**880**	**1700**	**1,600**	**850**	**1000**	**390**	**710**	**340**	**520**	**280**	**280**	**470**	**615**	**282**	**250**
HARDNESS	NS	350	NS	588	557	386	285	934	489	333	853.3	334.8	292	520	1100	1,600	450	590	320	420	150	270	180	100	150	56.2	63.3	**NStd**
IRON	NS	**9.51**	NS	**0.527**	**1.73**	**25**	**0.295**	**0.540**	**0.542**	**0.509**	**2.870**	0.291	**0.395**	**2.2**	**1.8**	**1.1**	**2.1**	**0.9**	**0.83**	0.29	**1.2**	**2**	**3.1**	**3.8**	**3.4**	**5.14**	**7.26**	**0.3**
SODIUM	NS	1460	NS	958	1160	927	956	2140	1190	550	2060	743	883	1200	1300	1,000	990	1100	900	800	470	410	500	420	440	114	354	**NStd**
CHROMIUM	NS	ND	NS	ND	ND	**0.0542**	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0248	0.0074	**0.05**

NOTES:

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Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

< # U = The analyte is not present above the associated level; blank contamination exists
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
mg/L = Milligrams per Liter
NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L
ND = Below quantitation limit
NR = Results were not reported
NS = Not Sampled
NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters).
U = The analyte was analyzed for, but was not detected above the method detection limit.
ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC	PMW-7				Abandoned		PMW-7R																								NCAC
PARAMETERS (ug/L)	10/95	05/96	11/96	6/97	11/97	5/98	3/99	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08	9/08	3/09	3/09 (Dup)	8/09	STD
ACETONE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	88	ND	ND	ND	ND	3.4 J	10.8 U	10.8 U	700
BENZENE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND	1.2	ND	ND	ND	1.1	ND	ND	1.1	ND	ND	0.64 J	1.2 U	1.2 U	1
BROMODICHLOROMETHANE	31	ND	ND	ND	NS	NS	2.49	38.60	22	14	ND	ND	ND	ND	ND	23	27	21	24	14	21	23	18	12	18	12	12	8.8 J	5.9	6.1	0.56
BROMOFORM	ND	ND	ND	ND	NS	NS	1.15	6.16	4	ND	ND	ND	ND	ND	ND	ND	ND	2.4	3.1	ND	2	2.2	4.2	3.4	2.4	1.8	ND	1.2 J	1.3 U	1.4 J	4.43
CARBON TETRACHLORIDE	ND	ND	ND	ND	NS	NS	2.24	2.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25 U	1.2 U	1.2 U	0.269
CHLOROBENZENE	ND	ND	ND	ND	NS	NS	3.41	6.73	12	6	ND	ND	ND	ND	ND	3.2	5.1	6.0	4.4	9.2	7.5	6.1	6.4	11	14	5.8	6.9	7.9 J	7.3	8.6	50
2-CHLOROETHYLVINYL ETHER	ND	ND	ND	ND	NS	NS	1.11	1.42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NST
CHLOROFORM	400	189	7.53	86.6	NS	NS	1380	1710	1300	1800	1900	2400	1600	1300	1300	1000	920	900	940	610	880	760	660	430	660	470	700	346 J	345	375	70
CHLOROMETHANE	ND	ND	ND	ND	NS	NS	5.15	ND	ND	4	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	2.2	2.3	ND	1.3	2	ND	ND	0.11 U	0.55 U	0.55 U	2.6
DIBROMOCHLOROMETHANE (aka Chlorodibromomethane)	ND	ND	ND	ND	NS	NS	2.62	7.25	7	2	ND	ND	ND	ND	ND	2.5	ND	2.5	3.1	ND	3.1	3	3.3	2.8	2.6	1.4	1.2	0.93 J	1 U	1 U	0.41*
1,2-DICHLOROBENZENE	ND	ND	ND	ND	NS	NS	ND	3.08	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34 J	1.5 U	1.5 U	24
1,3-DICHLOROBENZENE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	1	1	1.3 J	1.3 J	1.3 J	170
1,4 DICHLOROBENZENE	ND	ND	ND	ND	NS	NS	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	2.4	2.1	1.6	1.9	4.1	5.2	ND	3	4 J	3.6 J	3.7 J	1.4
1,1-DICHLOROETHANE	ND	ND	ND	ND	NS	NS	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	1.1	ND	ND	ND	ND	ND	0.56 J	1.6 U	1.6 U	70
1,2-DICHLOROETHANE	ND	ND	ND	ND	NS	NS	ND	1.01	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12 U	0.6 U	0.6 U	0.38
cis-1,2-DICHLOROETHENE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	2.1	39	9.5	2.2	1.6	54	46	28	49	43.4 J	33 J	44.4	70
trans-1,2-DICHLOROETHENE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	5.3	2.8	5.1	3.6 J	3.3 J	3.5 J	100
1,2-DICHLOROPROPANE	ND	ND	ND	ND	NS	NS	1.27	1.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3 J	1.4 U	1.4 U	0.51
cis-1,3-DICHLOROPROPENE	ND	ND	ND	ND	NS	NS	ND	1.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13 U	0.65 U	0.65 U	0.19
METHYLENE CHLORIDE	ND	ND	ND	ND	NS	NS	16.40	15.60	17	25	ND	ND	ND	ND	ND	18	ND	17	14	5.8	8.6	8.6	6.9	7.2	8.6	5.6	6.9	3.3 J	4.8 U	4.8 U	4.6
METHYL TERT-BUTYL ETHER	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21 U	1 U	1 U	200
TETRACHLOROETHYLENE	1.1	1.2	ND	ND	NS	NS	1.29	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	1.2	ND	ND	1.2	1.4	ND	ND	0.86 J	2.3 U	2.3 U	0.7
TOLUENE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	2	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26 U	1.3 U	1.3 U	1000
TRICHLOROETHENE	ND	ND	ND	ND	NS	NS	1.99	1.88	5	ND	ND	ND	ND	ND	ND	2.3	ND	6.2	4.4	44	12	3.6	2.7	46	30	22	30	30.2 J	24.8	29.2	2.8
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	0.36 J	1 U	1 U	2100
VINYL CHLORIDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	ND	ND	4.6	3.1	1.7	4.4	2.4 J	3.1 U	3.1 U	0.015
4-METHYL 2-PENTANONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 J	1.6 U	1.6 U	NStd
DICHLORODIFLUOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22 J	1 U	1 U	1400
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.35 U	1.8 U	19.9	NStd
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																															
pH (standard units)	8.60	10.51	8.9	7.2	NS	NS	2.7	2.8	2.7	2.6	2.6	2.6	2.47	2.44	2.39	2.5	2.6	2.6	2.6	2.8	2.6	2.5	2.4	2.7	2.6	2.8	2.6	2.8 J	2.8 J	3.1 J	6.5-8.5
TDS	4500	1230	2322	2130	NS	NS	17600	22400	14650	14667	18800	18393	8627	4267	18890	18000	14000	14,000	15,000	9,400	16,000	13,000	14000	7500	11000	8800	8500	7,280	7,310	7,000	500
TSS	13	36	192	130	NS	NS	2100	2010	1518	1670	276	320	1410	15	53	61	5	17	10	9.8	12	7.2	2.8	2.8	4.1	6.9	2.1	25.3 J	17.7 J	95.1	NStd
SULFATE	250	54.3	63.9	58.3	NS	NS	5490	146	125	153	5000	12000	4600	8600	7300	13000	13000	7,900	7,100	4,700	8,000	10,000	12,000	3,700	8800	5100	4000	2,960 J	3,830 J	3,060	250
HARDNESS	75	25.2	37.2	114	NS	NS	713	593	516	470	486	745	755	418.1	364	570	880	1,200	1,100	840	2,100	1,100	1500	1000	580	1200	920	383	385	418	NStd
IRON	0.88	9.05	19.6	9.00	NS	NS	79	25.10	21.7	44.4	24.2	32.4	15.7	53.9	36.4	44	12	27	15	42	23	24	37	48	16	8.3	19	14.4	14.1	22.7	0.3
SODIUM	1500	395	631	505	NS	NS	4060	6370	4260	3050	3180	212	5600	4800	4310	26	1500	1,900	1,000	2,400	3,200	2,400	2500	1500	1900	2000	1600	696	708	900	NStd
CHROMIUM	0.088	0.533	0.626	0.291	NS	NS	0.349	0.33	0.299	0.312	0.21	0.24	0.229	0.223	0.141	0.12	0.110	0.062	0.064	0.030	0.087	0.130	0.1	<0.05	0.056	0.052	ND	0.0458 J	0.0455 J	0.0268 J	0.05

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Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater

* Interim Maximum Allowable Concentratior

DUP = Field duplicate sample ID is PMW-27R

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/L = Milligrams per Liter

NA = Not Analyzed

NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L

ND = Below quantitation limit

NS = Not Sampled

NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters)

U = The analyte was analyzed for, but was not detected above the method detection limit

ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC PARAMETERS (ug/L)	PMW-10																										NCAC STD
	6/97	11/97	5/98	11/98	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08	9/08	3/09	8/09	
BROMODICHLOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3**	ND	ND	**1.5**	**8.5**	**4.4**	**12**	ND	**7.6**	**4.3**	ND	**9.9**	**1.8**	**4.3**	ND	0.18 U	**4.3**	**0.56**
CHLOROFORM	0.816	NS	ND	NS	ND	NS	6	NS	24	7	ND	5	8.8	13	5.0	18.0	4.5	15.0	10	5.9	ND	7.2	19	ND	1.7	24.4	**70**
DIBROMOCHLOROMETHANE (aka Chlorodibromomethane)	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1**	ND	ND	ND	**3.0**	ND	**5.5**	ND	**2.0**	ND	ND	**3.8**	ND	ND	ND	0.21 U	**0.83 J**	**0.41***
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																											
pH (standard units)	7.2	NS	7.1	NS	7.1	NS	7.1	NS	7.6	7.2	7.77	6.79	7.7	7.6	8.3	7.6	7.6	7.9	8.3	6.8	7.6	7	7.7	7.8	6.8 J	7.1 J	**6.5-8.5**
TDS	**1180**	NS	**616**	NS	**554**	NS	**743**	NS	148	195	449	183	130	120	150	130	340	200	140	320	140	230	150	200	**1,570**	**288**	**500**
TSS	94	NS	110	NS	56	NS	64	NS	75	111	24	27	2	5	13	15	32	15	6.4	2.1	12	4.8	4	2.1	4.3	34.3	**NStd**
SULFATE	**453**	NS	46.9	NS	84	NS	77.3	NS	12	27	79	39	37	ND	25	33	200	27	28	100	31	56	29	28	**279**	46	**250**
HARDNESS	284	NS	353	NS	250	NS	283	NS	49.5	77.8	170.8	70.6	63	64	63	72	82	72	69	140	78	110	98	110	467	110	**NStd**
IRON	**2.9**	NS	**3.9**	NS	**10.9**	NS	0.276	NS	**1.06**	**3.32**	**0.704**	**0.642**	**0.45**	**0.390**	**0.62**	**1.70**	**2.00**	**2.50**	**0.33**	**0.45**	0.28	0.23	**0.45**	**0.36**	0.0818	**2.19**	**0.3**
SODIUM	235	NS	66.8	NS	65	NS	107	NS	13.4	26.4	35.7	12.7	8.9	9.100	13	13	82	24	14	27	12	42	18	19	112	30.4	**NStd**
CHROMIUM	0.032	NS	0.046	NS	**0.22**	NS	ND	NS	0.019	0.0376	ND	ND	ND	ND	0.018	0.011	ND	0.014	ND	ND	ND	ND	0.01	ND	0.0034 J	0.0291	**0.05**

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Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

* Interim Maximum Allowable Concentration

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
mg/L = Milligrams per Liter
NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L
ND = Below quantitation limit
NS = Not Sampled
NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters).
U = The analyte was analyzed for, but was not detected above the method detection limit.
ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC PARAMETERS (ug/L)	PMW-11																											NCAC STD
	11/96	6/97	11/97	5/98	11/98	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08	9/08	3/09	8/09	
BROMODICHLOROMETHANE	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND	ND	ND	2.2	ND	ND	**1.6**	ND	ND	**1.4**	ND	**1.1**	**1.1**	ND	ND	0.45 J	**0.7 J**	**0.56**
DIBROMOCHLOROMETHANE (aka Chlorodibromomethane)	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.9**	ND	ND	ND	0.21 U	0.21 U	**0.41***
CHLOROFORM	NS	55.9	NS	61.7	NS	51.6	NS	**120**	NS	**340**	**180**	**96**	**120**	**360**	**280**	**190**	47	24	21	19	12	30	59	**86**	43	38	53.1	**70**
ETHYLBENZENE	NS	ND	NS	6.38	NS	ND	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3 U	0.3 U	**550**
METHYLENE CHLORIDE	NS	ND	NS	NS	NS	ND	NS	ND	NS	ND	ND	ND	ND	**7.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.97 U	0.97 U	**4.6**
TOLUENE	NS	ND	NS	16.8	NS	ND	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26 U	0.26 U	**1000**
TRICHLOROFLUOROMETHANE	NS	1.38	NS	ND	NS	1.17	NS	ND	NS	ND	ND	ND	ND	3.8	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2 U	0.22 J	**2100**
XYLENES	NS	ND	NS	42.8	NS	ND	NS	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89 U	0.66 U	**530**
ACETONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	5.4 J	**700**
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																												
pH (standard units)	NS	**6.3**	NS	**6.1**	NS	**6.1**	NS	**5.9**	NS	**5.46**	**5.62**	**5.84**	**5.87**	**3.5**	**4.8**	**5.8**	**5.5**	**6.2**	**6.3**	**6.1**	**6.0**	**6.1**	**6.1**	**6.1**	**6.1**	**6.2 J**	**6.4 J**	**6.5-8.5**
TDS	NS	**7100**	NS	**9450**	NS	**19800**	NS	**14500**	NS	**11182**	**8495**	**617**	**7550**	**8400**	**6100**	**5,500**	**10,000**	**10,000**	**13,000**	**23000**	**42000**	**42000**	**70000**	**51000**	**52000**	**41,400**	**40,000**	**500**
TSS	NS	142	NS	156	NS	90	NS	168	NS	62	162	54	26	15	16	61	38	7.4	12	14	4.7	120	30	17	30	82.7	276	**NStd**
SULFATE	NS	**483**	NS	**475**	NS	**650**	NS	105	NS	**1700**	**710**	**620**	**590**	**2200**	**1000**	**620**	**500**	**360**	**380**	**340**	**500**	**500**	**510**	**620**	**510**	**296 J**	247	**250**
HARDNESS	NS	492	NS	515	NS	651	NS	410	NS	554	411	359.5	321	600	280	380	510	690	710	1200	1900	1000	1000	1000	1000	589	416	**NStd**
IRON	NS	**0.931**	NS	**0.528**	NS	**1.39**	NS	0.283	NS	**0.588**	0.167	0.205	0.146	**1.7**	**0.340**	**0.570**	**0.320**	0.100	0.110	0.2	<0.10	**0.37**	0.22	0.21	**0.31**	**0.376 J**	**6.23**	**0.3**
SODIUM	NS	1750	NS	2260	NS	4120	NS	3770	NS	2818	2990	1970	1770	2300	1200	1,100	1,500	2,500	3,200	5400	8600	6700	13000	11000	12000	1,000	746	**NStd**
CHROMIUM	NS	ND	NS	0.015	NS	0.01	NS	ND	NS	0.009	ND	0.011	ND	**0.072**	0.015	0.044	0.012	<1.0	0.019	<0.010	<0.010	0.017	0.016	ND	0.024	0.0188 J	**0.0543**	**0.05**

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Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater

* Interim Maximum Allowable Concentratior

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
mg/L = Milligrams per Liter
NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L
ND = Below quantitation limit
NS = Not Sampled
NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters)
U = The analyte was analyzed for, but was not detected above the method detection limit.
ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
GROUND-WATER ANALYSIS SUMMARY
INTERNATIONAL PAPER/RIEGELWOOD MILL

ORGANIC PARAMETERS (ug/L)	PMW-12																										NCAC STD
	11/96	6/97	11/97	5/98	11/98	5/99	10/99	5/00	11/00	5/01	11/01	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08**	9/08**	3/09	8/09	
BENZENE	NS	**1.48**	NS	**1.65**	NS	**1.64**	NS	**10**	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	0.25 U	0.25 U	**1**
CHLOROFORM	NS	ND	NS	1.57	NS	ND	NS	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	0.14 U	0.14 U	**70**
DIBROMOCHLOROMETHANE (aka Chlorodibromomethane)	NS	ND	NS	NS	NS	ND	NS	**9**	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	0.21 U	0.21 U	**0.41***
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																											
pH (standard units)	NS	6.7	NS	6.6	NS	6.9	NS	6.7	NS	NS	6.57	6.57	6.6	6.8	**6.4**	**6.3**	6.7	6.7	6.6	6.5	6.7	6.9	NS	NS	6.7 J	6.6 J	**6.5-8.5**
TDS	NS	**546**	NS	**520**	NS	**1470**	NS	**1221**	NS	NS	**873**	**733**	480	380	420	370	350	**530**	500	**560**	**520**	**710**	NS	NS	**554**	**714**	**500**
TSS	NS	728	NS	1640	NS	2790	NS	528	NS	NS	1596	72	17	14	41	100	110	14	43	49	73	57	NS	NS	50.7	7,260	**NStd**
SULFATE	NS	64	NS	43.6	NS	12	NS	20.4	NS	NS	44	55	ND	75	52	54	66	48	77	81	90	76	NS	NS	54.6	**1,430**	**250**
HARDNESS	NS	119	NS	132	NS	285	NS	204	NS	NS	167	97.2	110	110	110	99	130	86	130	160	150	200	NS	NS	199	182	**NStd**
IRON	NS	**25.20**	NS	**24.2**	NS	**32.20**	NS	**16.0**	NS	NS	**36.6**	**19.1**	**15**	**18**	**29**	**31**	**33**	**13**	**20**	**25**	**23**	**21**	NS	NS	**13.8**	**39.4**	**0.3**
SODIUM	NS	145	NS	133	NS	386	NS	56.0	NS	NS	201	132	140	88	100	100	100	100	150	160	120	190	NS	NS	81	81.9	**NStd**
CHROMIUM	NS	ND	NS	0.011	NS	0.02	NS	0.0115	NS	NS	ND	ND	ND	ND	0.012	0.061	ND	ND	ND	ND	ND	ND	NS	NS	0.0042 J	0.009	**0.05**

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Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

* Interim Maximum Allowable Concentration

**MW-12 was not sampled due to the presence of free product in the well.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

mg/L = Milligrams per Liter

NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L

ND = Below quantitation limit

NS = Not Sampled

NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters).

U = The analyte was analyzed for, but was not detected above the method detection limit.

ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC	PMW-14			Abandoned		PMW-14R															PMW-14R1	PMW-14R2							NCAC
PARAMETERS (ug/L)	05/96	11/96	6/97	11/97	5/98	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	12/06	5/07	6/07	9/07	3/08	9/08	3/09	8/09	STD
ACETONE	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130	ND	ND	ND	ND	ND	21.7 U	2.2 U	700
CHLOROBENZENE	ND	4.05	4.79	NS	NS	3.59	ND	ND	ND	ND	ND	ND	ND	5.6	ND	4.3	ND	5.9	4.4	4.8	ND	ND	ND	ND	ND	ND	2.3 U	0.23 U	50
CHLOROFORM	106	61	91.8	NS	NS	460	370	230	250	530	150	150	130	200	250	66	ND	160	83	170	24	ND	ND	ND	ND	ND	< 2.2 U	0.14 U	70
ETHYLBENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	ND	4.8 J	2.8	550
1,4-DICHLOROBENZENE	ND	ND	2.1	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6	ND	ND	2	1.8	ND	ND	ND	ND	ND	ND	3.3 U	0.33 U	1.4
p-ISOPROPYLTOLUENE	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2	ND	ND	ND	1.7	ND	NA	NA	NST
2-BUTANONE (MEK)	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	9.6 U	0.96 U	4200
METHYLENE CHLORIDE	ND	ND	ND	NS	NS	6.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.7 U	0.97 U	4.6
NAPHTHALENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	490	270	270	690	580	NA	31.3	21
TOLUENE	ND	ND	ND	NS	NS	ND	1	ND	ND	2	ND	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6 U	0.81 J	1000
1,2,4-TRIMETHYLBENZENE	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.1	ND	ND	ND	2.2	ND	NA	NA	350
1,3,5--TRIMETHYLBENZENE	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.5	ND	ND	ND	ND	ND	NA	NA	350
XYLENES (TOTAL)	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	6.9	ND	14.1 J	12.3	530
4-METHYL-2-PENTANONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.3 U	2.2 J	NST
BENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.5 U	1	1
ISOPROPYL BENZENE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4 U	0.41 J	70
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																													
pH (standard units)	3.3	3.3	3.4	NS	NS	3.7	3.5	3.0	3.3	2.8	2.82	2.85	2.86	3.2	3.0	3.4	3.2	3.0	3.3	3.1	9.3	7.7	NS	10.0	10.0	9.6	9.7 J	9.6 J	6.5-8.5
TDS	3920	3778	4110	NS	NS	6410	5910	5960	6480	7117	6127	6491	5800	6700	8,400	5,000	5,300	15,000	5,200	6400	2300	3100	NS	3000	1900	6900	3,680	4,020	500
TSS	925	536	750	NS	NS	1240	945	3837	1170	675	610	71	45	8.2	5.2	5.2	4.6	7.8	3	17	210	1200	NS	1300	660	410	32	29.3	NStd
SULFATE	2480	2130	2330	NS	NS	4130	148	136	3060	8400	3400	4300	3400	6100	14,000	3,600	3,800	7,900	3,700	5,700	570	410	NS	150	190	2000	840	543	250
HARDNESS	268	262	NS	NS	NS	653	543	455	392	486	460	476	367	580	770	460	420	2,000	700	560	80	490	NS	140	73	<150	21.5	22.5	NStd
IRON	147	111	123	NS	NS	164	134	92.7	94.6	175	88.8	66.1	72.9	110	220	110	120	730	160	150	37	86	NS	31	15	8	5.62	12.1	0.3
SODIUM	726	704	690	NS	NS	1230	1310	1310	1120	1316	1130	931	1130	1300	860	< 5	800	540	780	810	660	610	NS	740	670	2300	553	41.8	NStd
CHROMIUM	0.283	0.144	0.153	NS	NS	0.17	0.144	0.101	0.079	0.145	0.075	0.073	0.056	0.066	0.310	0.064	0.170	0.800	0.054	0.17	0.100	0.18	NS	0.16	0.07	0.083	0.0735	0.152	0.05

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*** PMW-14R was destroyed in April 06 and replaced on 12-1-06 with PMW-14R1
**** PMW-14R1 was damaged during construction work and was replaced with PMW-14R2 on April 26, 2007.
< # U = The analyte is not present above the associated level; blank contamination exists
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
mg/L = Milligrams per Liter
NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L
ND = Below quantitation limit
NS = Not Sampled
NA = Not Analyzed
NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters)
U = The analyte was analyzed for, but was not detected above the method detection limit.
ug/L = Micrograms per Liter

TABLE 3
HISTORICAL SUMMARY OF DETECTED CONSTITUENTS IN GROUND WATER
INTERNATIONAL PAPER/RIEGELWOOD MILL
CHEMICAL HANDLING AREA

ORGANIC PARAMETERS (ug/L)	PMW-17																											NCAC STD
	11/96	6/97	11/25	5/98	11/98	5/99	10/99	5/00	11/00	5/01	11/01	5/02	11/02	5/03	11/03	3/04	9/04	3/05	9/05	3/06	9/06	3/07	9/07	3/08	9/08	3/09	8/09	
CHLOROFORM	17.8	15.5	15.1	15.8	13.9	11.4	8	7	6	14	10	15	19	37	22	3.7	2.6	34	1.9	5.2	55	ND	46	46	**110**	**73.5**	**116**	**70**
TRICHLOROFLUOROMETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2 U	0.2 U	**2100**
BROMODICHLOROMETHANE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.39 J	**0.58 J**	**0.56**
ACETONE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	4.3 J	**700**
INORGANIC PARAMETERS (mg/L, unless indicated otherwise)																												
pH (standard units)	**5.6**	**6.0**	**6.1**	**5.9**	**5.8**	**5.8**	**5.8**	**5.7**	**5.7**	**5.6**	**5.5**	**5.4**	**5.41**	**5.8**	**5.3**	**5.4**	**5.3**	**5.6**	**5.7**	**5.7**	**5.7**	**6**	**6.1**	**5.9**	**6.4**	**5.8 J**	**6 J**	**6.5-8.5**
TDS	**2989**	**2890**	**2950**	**3020**	**3130**	**4020**	**4220**	**3220**	**3540**	375	**3769**	**4046**	**4100**	**14000**	**2,600**	**2,700**	**2,300**	**2,800**	**2,600**	**3400**	**3100**	**2400**	**17000**	**14000**	**32000**	**31,900**	**39,900**	**500**
TSS	43	35	112	19	93	39	30	51.5	18	16	14	5.3	12	31	12	3.6	4.5	4	3.8	1.8	8.7	1	2.9	5	9.8	39.7	57.2	NStd
SULFATE	**673**	**758**	ND	**706**	**660**	**791**	103	106.0	**575**	**1400**	**730**	**790**	**790**	**1200**	**620**	**580**	**620**	**610**	**620**	**600**	**1600**	**580**	**950**	**940**	**1200**	**1,210**	**1,790**	**250**
HARDNESS	433	454	522	500	466	558	456	412	379	609	546	584.8	496	1800	440	460	400	<1.0	480	590	2200	600	1100	1200	1500	1,470	0.65 U	NStd
IRON	**35.5**	**31.8**	**29.7**	**24.7**	**17.1**	**5.44**	**6.47**	**2.46**	**2.76**	**3.25**	**5.8**	**3.41**	**2.16**	**4.4**	**7.2**	**3.4**	**5.2**	**2**	**1.4**	**0.72**	**1.6**	**0.74**	**0.5**	**0.58**	**0.64**	**2.02**	0.014 U	**0.3**
SODIUM	895	777	827	794	803	1060	1120	875	815	889	1050	1120	920	3400	570	540	610	790	660	940	4700	550	4200	3400	6500	1,030	0.0025 U	NStd
CHROMIUM	0.016	ND	0.017	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.014	ND	0.025	0.013	ND	0.010	ND	ND	ND	ND	ND	ND	0.0173 J	0.0004 U	**0.05**

NOTES:

Data included on this table not generated by or on behalf of URS Corporation - North Carolina (URS) has been taken from documents prepared and submitted to the NCDENR by Others and is included only for ease of reference; URS does not assume or accept any responsibility or liability for the quality, accuracy, or completeness of the data included on this table that was not generated by or on behalf of URS.

Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
mg/L = Milligrams per Liter
NA = Not Available
NCAC STD = North Carolina Administrative Code for Ground-Water Standards (Class GA Waters), 15A NCAC 2L
ND = Below quantitation limit
NStd = Narrative standard applies (i.e., substances which are not naturally occurring and for which no standard is specified shall not be permitted in detectable concentrations in Class GA or Class GSA groundwaters).
U = The analyte was analyzed for, but was not detected above the method detection limit.
ug/L = Micrograms per Liter

Table 4
Recovery Well Pump Performance Data
International Paper, Riegelwood, NC

Well ID	Date	Pumping on Arrival (YES/NO)	Pumping on Departure (YES/NO)	DTW at Arrival (feet btoc)	DTW at Departure (feet btoc)	Measured Flow Rate (gpm)	Totalizer Meter Reading (gallons)	Period Between O&M Visits (Days)	Calculated Removal During Period Based on Flow Measurements (Gallons)	Calculated Removal During Period Based on Totalizer Readings (Gallons)	Field Notes	
RW-2	4/9/09	YES	YES	7.95	11.18	0.53	NM				slow discharge- replace intake	
	5/6/09	NO	NO	5.30	5.30	NM	NM	27	10,303	NC	pump down	
	7/9/09	NO	YES	5.04	7.20	0.26	NM	64	0	NC	pump with slow discharge, take apart and clear	
	8/13/09	YES	YES	5.99	6.83	0.10	NM	35	13,104	NC	pump down with slow discharge	
	9/2/09	NO	NO	5.54	5.54	NM	NM	20	1,440	NC	pump down	
								Total (gal)	24,847		Average Flow (gpm)	0.12
RW-3R	4/9/09	YES	YES	11.1	18.62	0.46	NM				slow discharge- replace intake	
	5/6/09	YES	YES	5.30	16.10	0.33	NM	27	17,976	NC	Slow discharge, replace intake tube	
	7/9/09	YES	YES	7.09	12.13	0.33	NM	64	30,413	NC	Slow discharge, replace intake tube	
	8/13/09	YES	YES	10.63	10.63	0.20	NM	35	16,632	NC		
	9/2/09	YES	YES	8.93	9.65	0.20	NM	20	5,760	NC	Slow discharge, replace intake tube	
								Total (gal)	70,781		Average Flow (gpm)	0.34
RW-6	4/9/09	YES	YES	12.68	12.71	0.09	217242					
	5/6/09	YES	YES	12.70	12.70	0.11	223557	27	3,424	6,315		
	7/9/09	YES	YES	12.71	12.70	0.13	235093	64	10,138	11,536		
	8/13/09	YES	YES	12.70	12.70	0.11	NM	35	6,552	included in 9/2/09		
	9/2/09	YES	YES	12.70	12.70	0.11	243671	20	3,168	8,578		
								Total (gal)	26,429		Average Flow (gpm)	0.13
RW-7	4/9/09	YES	YES	13.2	13.3	0.30	NM				pumping well	
	5/6/09	YES	YES	12.40	12.40	0.26	NM	27	11,556	NC		
	7/9/09	YES	YES	8.50	11.90	0.23	NM	64	23,962	NC	Slow discharge, replace intake tube	
	8/13/09	YES	YES	11.88	11.88	0.23	NM	35	11,592	NC		
	9/2/09	YES	YES	12.05	12.05	0.20	NM	20	6,624	NC		
								Total (gal)	53,734		Average Flow (gpm)	0.26

Table 4
Recovery Well Pump Performance Data
International Paper, Riegelwood, NC

Well ID	Date	Pumping on Arrival (YES/NO)	Pumping on Departure (YES/NO)	DTW at Arrival (feet btoc)	DTW at Departure (feet btoc)	Measured Flow Rate (gpm)	Totalizer Meter Reading (gallons)	Period Between O&M Visits (Days)	Calculated Removal During Period Based on Flow Measurements (Gallons)	Calculated Removal During Period Based on Totalizer Readings (Gallons)	Field Notes	
RW-8	4/9/09	YES	YES	5.12	8.2	0.92	NM				tube plugged. Install new intake tube.	
	5/6/09	YES	YES	10.35	11.35	0.79	NM	27	35,952	NC	replace intake	
	7/9/09	NO	YES	4.41	9.01	0.92	NM	64	36,403	NC	intake plugged, replace intake	
	8/13/09	YES	YES	8.43	9.52	0.66	NM	35	46,368	NC		
	9/2/09	NO	YES	4.58	8.75	1.06	NM	20	9,504	NC	intake plugged, replace intake	
								Total (gal)	128,228		Average Flow (gpm)	0.61
RW-10	4/9/09	YES	YES	17.7	17.8	0.05	NM				pumping but no recharge	
	5/6/09	YES	YES	17.20	17.20	0.09	NM	27	2,054	NC		
	7/9/09	NO	YES	8.15	17.70	0.33	NM	91	5,897	NC	increase pressure supply to pump	
	8/13/09	YES	YES	14.84	14.84	0.07	NM	35	16,632	NC		
	9/2/09	NO	YES	17.40	17.40	0.10	NM	20	1,008	NC		
								Total (gal)	25,591		Average Flow (gpm)	0.12

First Day of Reporting Period	Last Day of Reporting Period	Estimated Total Gallons Removed	Days in Reporting Period	Average Gallons Removed per Day (GPD)
4/9/2009	9/2/2009	329,610	146	2,258

Notes

-ND = No data available -NM = Not Measured or No Totalizer Meter

-NG = Not Gauged -NC = Not Calculated

-gpm = gallons per minute

-Flow rates are measured in the field during each O&M visit based on the timed accumulation of pumped water in a liquid volume measuring device.

-Total gallons for periods between O&M events calculated as last measured flow rate multiplied by time in period if pump was operating (except for RW-6). If pump was not operating upon arrival, pump was assumed to be operating for half of the period. If pump was not operating at all between O&M visits, gallons removed is 0 gallons for the period.

-RW-6 gallons removed based on flow totalizer meter readings.

-Average flow for each well calculated as total volume removed from the well during the reporting period divided by the length of the reporting period.

Table 5
Historical Summary of Recovery Well Data
International Paper, Riegelwood, NC

Dates Recorded	# of Days	Amount Recovered	GPD
May 6, 1994 to November 9, 1995	553	254,701 gallons	461
November 9, 1995 to October 6, 1996	332	System was shut-down*	-----
October 6, 1996 to November 18, 1996	43	156,438 gallons	3,600
November 18, 1996 to May 31, 1997	195	337,043 gallons	1,728
May 31, 1997 to May 31, 1998	365	231,587 gallons	634
May 31, 1998 to November 4, 1998	158	25,414 gallons	161
November 4, 1998 to May 6, 1999	197	57,960 gallons	294
May 20, 1999 to November 30, 1999	192	93,758 gallons	488
November 30, 1999 to May 18, 2000	170	186,476 gallons	1,097
May 19, 2000 to November 30, 2000	195	189,332 gallons	971
December 1, 2000 to May 16, 2001	168	44,688 gallons	266
May 17, 2001 to August 6, 2001	82	28,649 gallons	349
August 7, 2001 to November 28, 2001	113	134,695 gallons* *	1,192
November 29, 2001 to May 29, 2002	181	641,909 gallons * *	3,546
May 30, 2002 to November 14, 2002	168	193,460 gallons * *	1,152
November 15, 2002 to June 6, 2003	203	170,294 gallons * *	839
June 7, 2003 to December 9, 2003	186	238,800 gallons * *	1,284
December 10, 2003 to April 15, 2004	127	203,368 gallons * *	1,601
April 16, 2004 to October 11, 2004	179	210,550 gallons * *	1,123
October 12, 2004 to April 19, 2005	190	129,600 gallons * *	564
April 20, 2005 to October 11, 2005	175	464,892 gallons * *	2,657
October 21, 2005 to March 1, 2006	131	270,770 gallons * *	2,067
March 9, 2006 to September 29, 2006	204	443,866 gallons * *	2,176
September 29, 2006 to March 23, 2007	175	903,000 gallons * *	5,161
March 24, 2007 to September 14, 2007	175	979,618 gallons * *	5,598
September 21, 2007 to March 27, 2008	188	1,015,138 gallons * *	5,400
April 2, 2008 to September 24, 2008	175	963,749 gallons* *	5,507
September 24, 2008 to April 9, 2009	197	965,352 gallons* *	4,733
April 9, 2009 to September 2, 2009	146	329,610 gallons**	2,258

Notes:

GPD - gallons per day is a calculated average of the recovered gallons over the time recorded.

* - System shutdown was due to maintenance work. Start-up of the system resumed on October 6, 1996.

**- Total gallons recovered from recovery wells RW-2, RW-3R, RW-6, RW-7, RW-8 and RW-I0.

-Recovery well pump data collected prior to January 28, 2009 was provided to URS by MACTEC Engineering.

APPENDIX B

HISTORICAL ANALYTICAL RESULTS

HISTORICAL SUMMARY OF TDS
FOR SELECT MONITORING WELLS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

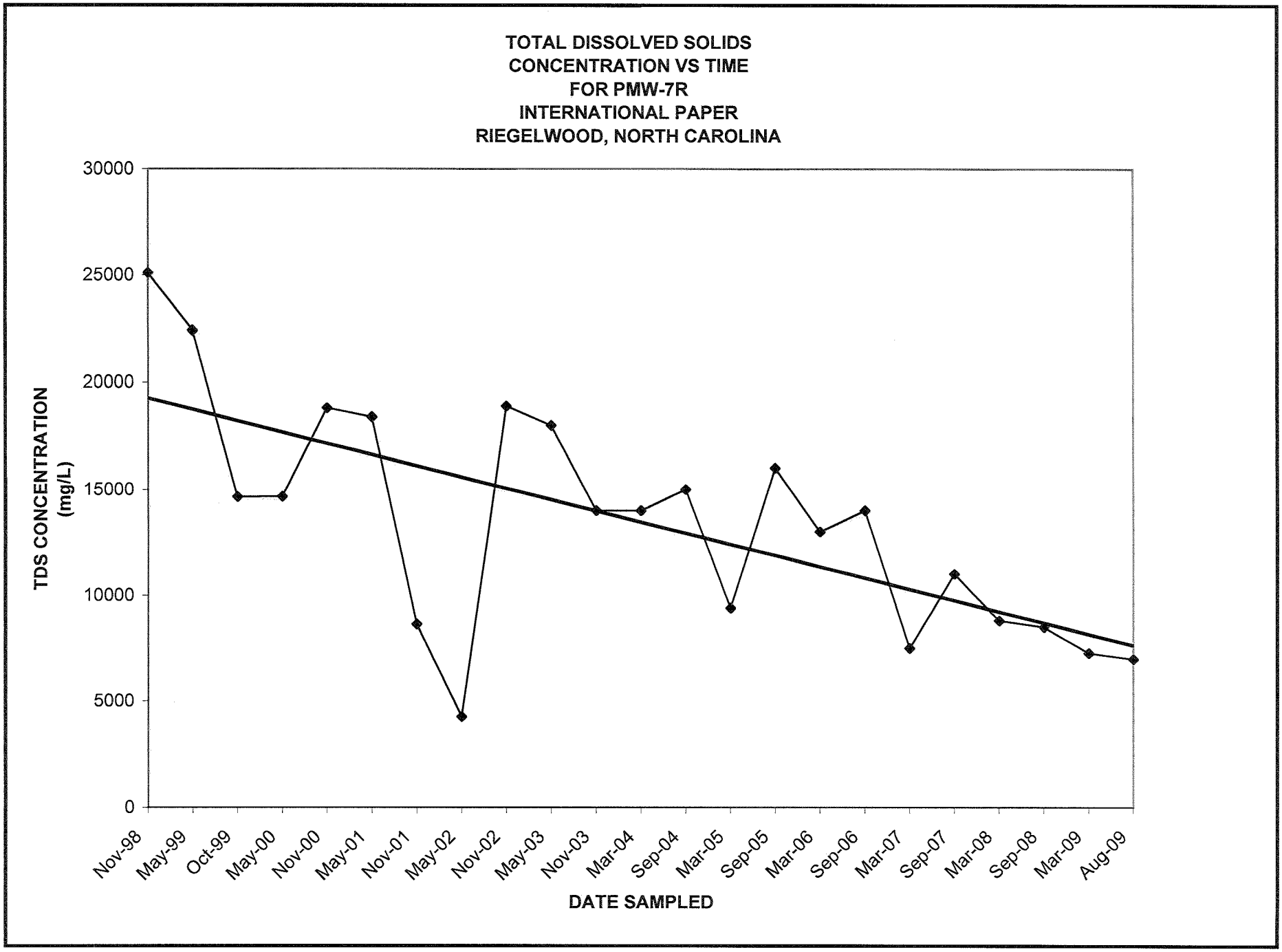
WELL	TDS																															
ID	Nov-94	May-95	Oct-95	May-96	Nov-96	May-97	Nov-97	May-98	Nov-98	May-99	Oct-99	May-00	Nov-00	May-01	Nov-01	May-02	Nov-02	May-03	Nov-03	Mar-04	Sep-04	Mar-05	Sep-05	Mar-06	Sep-06	Dec-06	Mar-07	Sep-07	Mar-08	Sep-08	Mar-09	Aug-09
PMW-7/7R	8667	4490	4500	1230	2322	2130	NS	NS	25100	22400	14650	14667	18800	18393	8627	4267	18890	18000	14000	14000	15000	9400	16000	13000	14000	NS	7500	11000	8800	8500	7280	7000
PMW-14/14R/14R1/14R2	NS	3850	4400	3920	3778	4110	NS	NS	6340	6410	5910	5960	6480	7117	6127	6491	5800	6700	8400	5000	5300	15000	5200	6400	NS	2300	3100	3000	1900	6900	3680	4020
PMW-17	6932	2810	5600	11300	2989	2890	2950	3020	3130	4020	4220	3220	3540	375	3769	4046	4100	14000	2600	2700	2300	2800	2600	3400	3100	NS	2400	17000	14000	32000	31900	39900

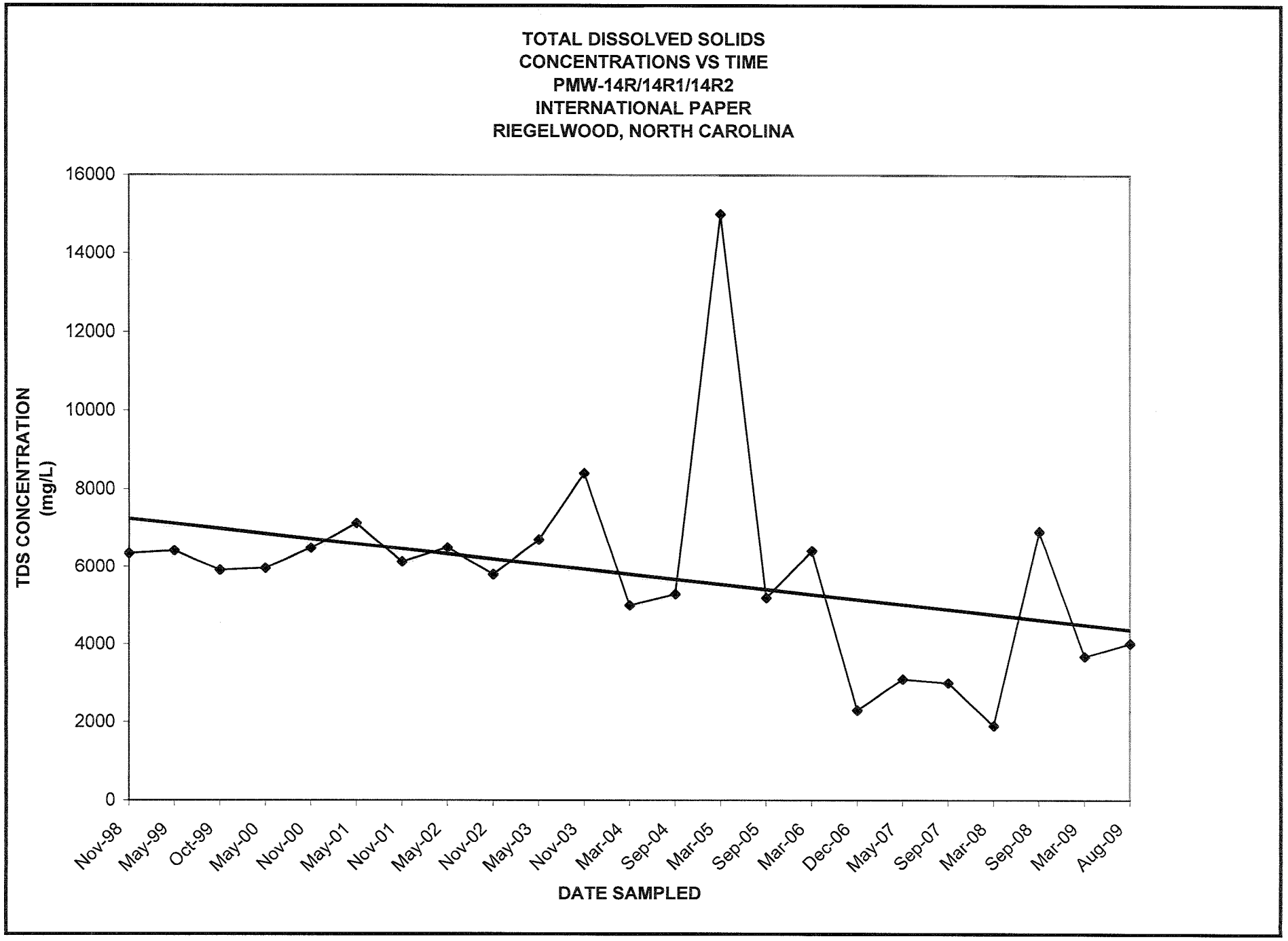
NOTES:

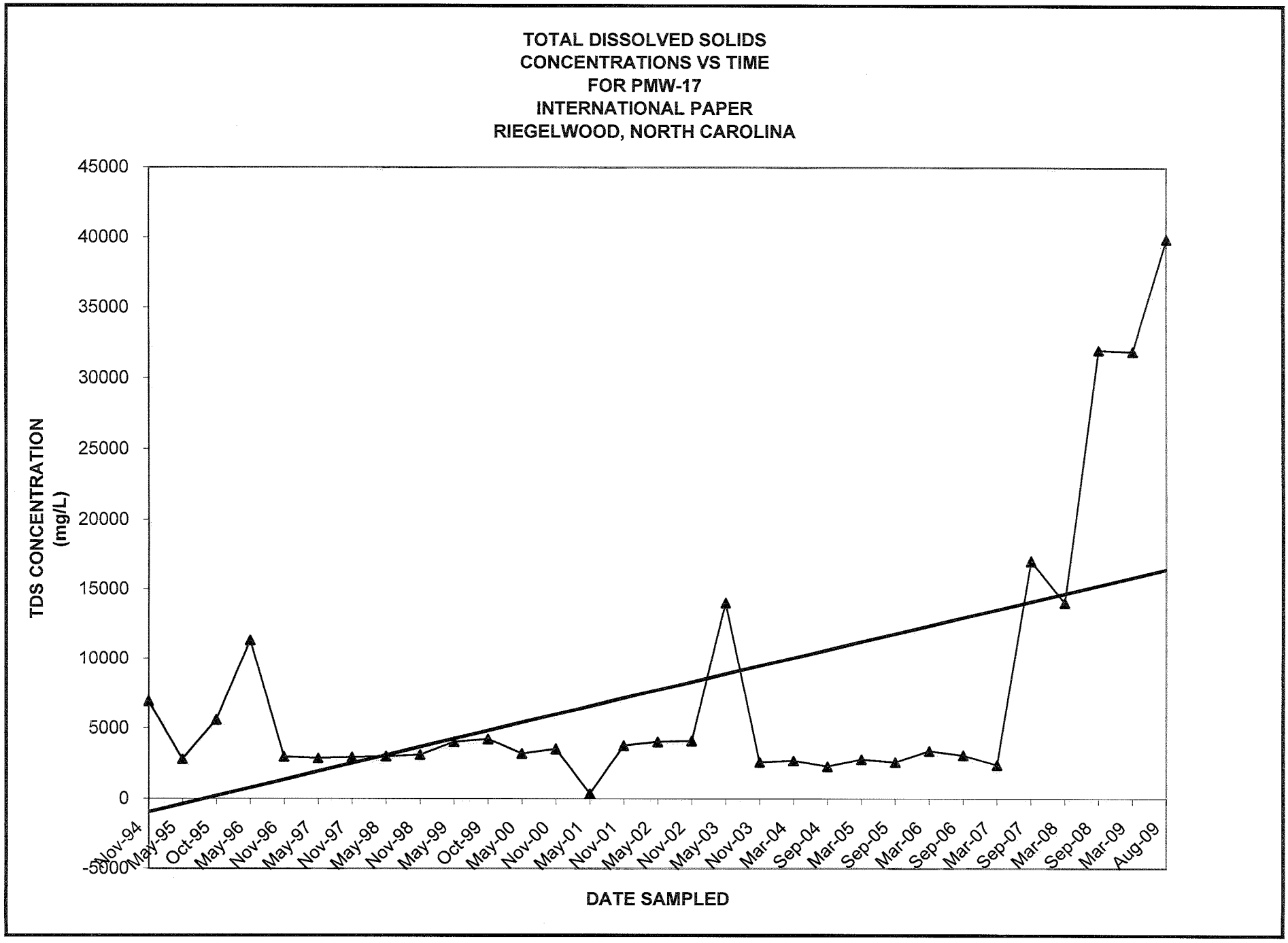
TDS IS PRESENTED IN mg/L

NS - NOT SAMPLED

*PMW-14R2 was sampled in May 2007


TOTAL DISSOLVED SOLIDS
CONCENTRATION VS TIME
FOR PMW-7R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
TDS CONCENTRATION (mg/L)
30000
25000
20000
15000
10000
5000
0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


TOTAL DISSOLVED SOLIDS
CONCENTRATIONS VS TIME
PMW-14R/14R1/14R2
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
TDS CONCENTRATION
(mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Dec-06
May-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


TOTAL DISSOLVED SOLIDS
CONCENTRATIONS VS TIME
FOR PMW-17
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
TDS CONCENTRATION
(mg/L)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
-5000
Nov-94
May-95
Oct-95
May-96
Nov-96
May-97
Nov-97
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED

HISTORICAL SUMMARY OF SULFATE
FOR SELECT MONITORING WELLS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

WELL ID	SULFATE																																
	May-94	Nov-94	May-95	Oct-95	May-96	Nov-96	May-97	Nov-97	May-98	Nov-98	May-99	Oct-99	May-00	Nov-00	May-01	Nov-01	May-02	Nov-02	May-03	Nov-03	Mar-04	Sep-04	Mar-05	Sep-05	Mar-06	Sep-06	Dec-06	Mar-07	Sep-07	Mar-08	Sep-08	Mar-09	Aug-09
PMW-7/7R	380	3400	200	250	54.3	63.9	58.3	--	--	5680.0	146.0	125	153	5000	12000	4600	8600	7300	13000	13000	7900	7100	4700	8000	10000	12000	NS	3700	8800	5100	4000	2960	3060
PMW-14/14R//14R1/14R2	4200	NS	1900	3700	2480	2130	2330	--	--	3960	4130	148	136	3060	8400	3400	4300	3400	6100	14000	3600	3800	7900	3700	5700	NS	570	410*	150	190	2000	840	543
PMW-17	1100	1000	590	1500	3410	673	758	ND	706	660	791	103	106	575	1400	730	790	790	1200	620	580	620	610	620	600	1600	NS	580	950	940	1200	1210	1790

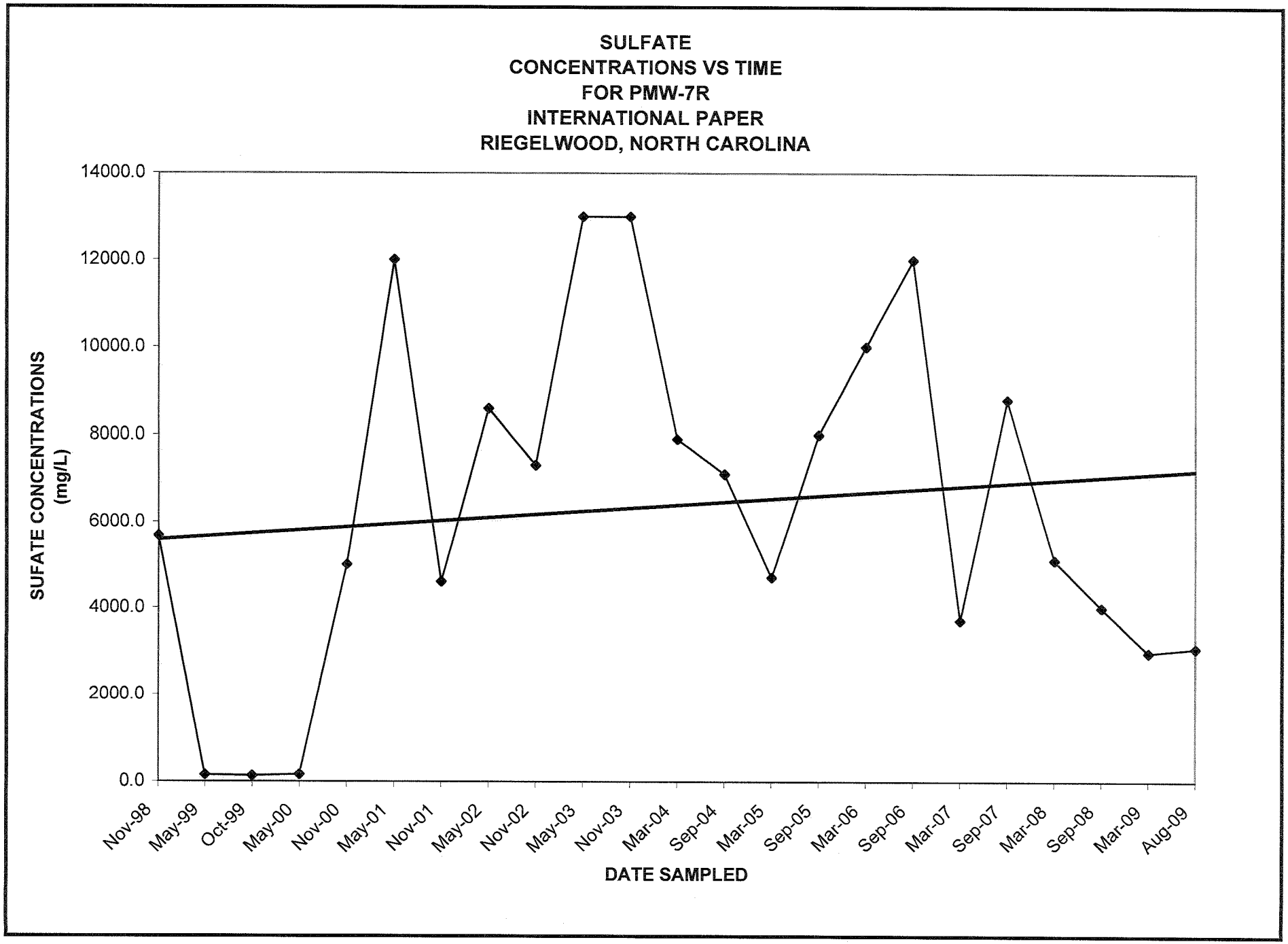
NOTES:

SULFATE IS PRESENTED IN mg/L

ND- Not Detected

NS - Not Sampled

*PMW-14R2 was sampled in May 2007


SULFATE
CONCENTRATIONS VS TIME
FOR PMW-7R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
SUFATE CONCENTRATIONS
(mg/L)
14000.0
12000.0
10000.0
8000.0
6000.0
4000.0
2000.0
0.0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
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Mar-07
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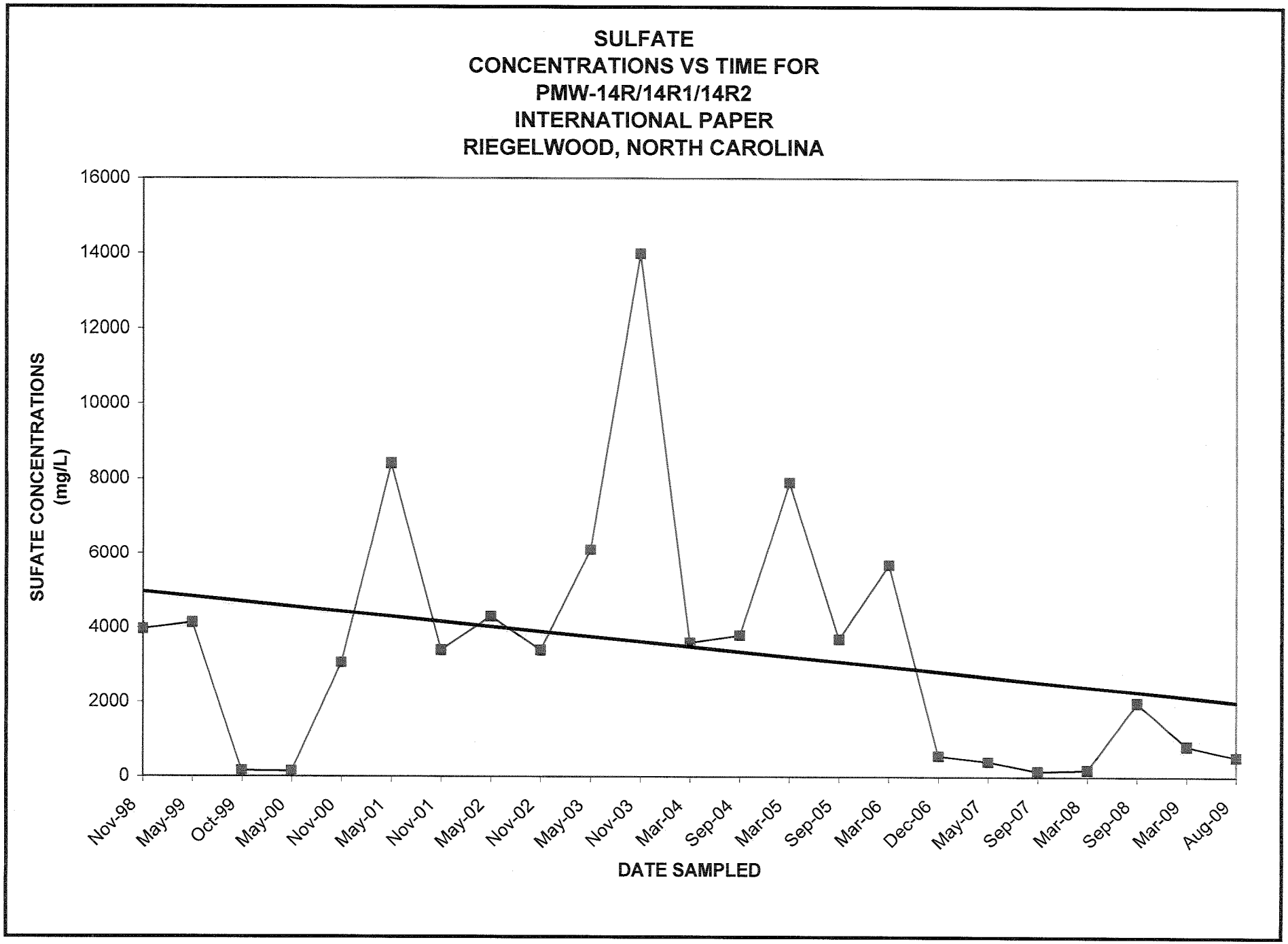
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


SULFATE
CONCENTRATIONS VS TIME FOR
PMW-14R/14R1/14R2
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
SUFATE CONCENTRATIONS (mg/L)
16000
14000
12000
10000
8000
6000
4000
2000
0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Dec-06
May-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
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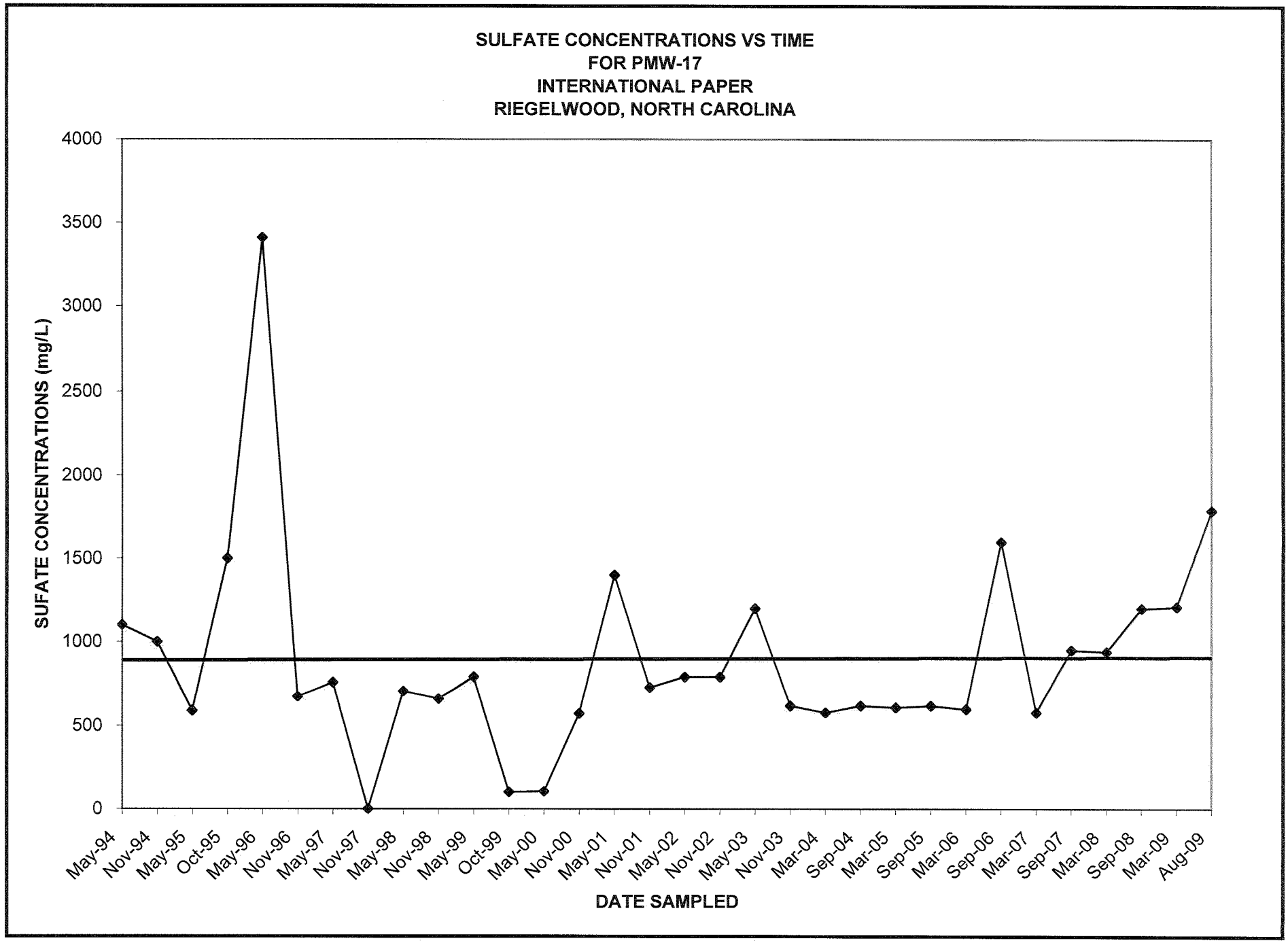

SULFATE CONCENTRATIONS VS TIME
FOR PMW-17
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
SUFATE CONCENTRATIONS (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
May-94
Nov-94
May-95
Oct-95
May-96
Nov-96
May-97
Nov-97
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED

HISTORICAL SUMMARY OF IRON
FOR SELECT MONITORING WELLS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

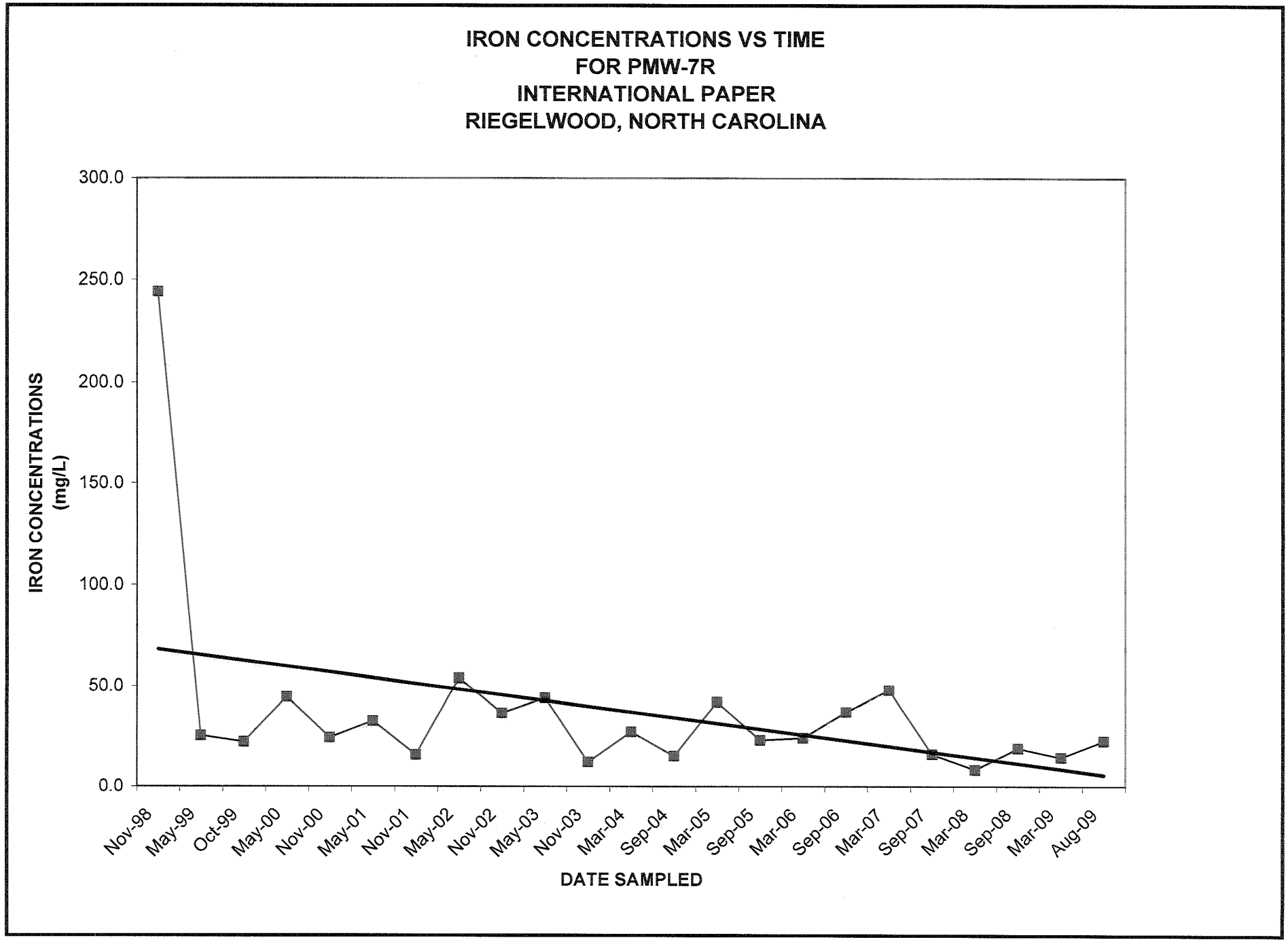
WELL	IRON																															
ID	Nov-94	May-95	Oct-95	May-96	Nov-96	May-97	Nov-97	May-98	Nov-98	May-99	Oct-99	May-00	Nov-00	May-01	Nov-01	May-02	Nov-02	May-03	Nov-03	Mar-04	Sep-04	Mar-05	Sep-05	Mar-06	Sep-06	Dec-06	Mar-07	Sep-07	Mar-08	Sep-08	Mar-09	Aug-09
PMW-7/7R	10	0.54	0.88	9.05	19.6	9.0	NS	NS	244.0	25.1	22	44.4	24.2	32.4	15.7	53.9	36.4	44.0	12	27	15	42	23	24	37	NS	48	16	8.3	19	14.4	22.7
PMW-14/14R/14R1/14R2	NS	97	160	147	111	123	NS	NS	237	164	134	92.7	94.6	175.0	88.8	66.1	72.9	110.0	220	110	120	730	160	150	NS	37	86*	31	15	8	5.62	12.1
PMW-17	810	30	28	113	35.5	31.8	29.7	24.7	17	5.44	6.47	2.46	2.8	3.3	5.8	3.4	2.2	4.4	7.2	3.4	5.2	2.0	1.4	0.72	1.60	NS	0.74	0..5	0.58	0.64	2.02	0.014 U

NOTES:

IRON IS PRESENTED IN mg/L

NS - Not Sampled

*PMW-14R2 was sampled in May 2007


IRON CONCENTRATIONS VS TIME
FOR PMW-7R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
IRON CONCENTRATIONS
(mg/L)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
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Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
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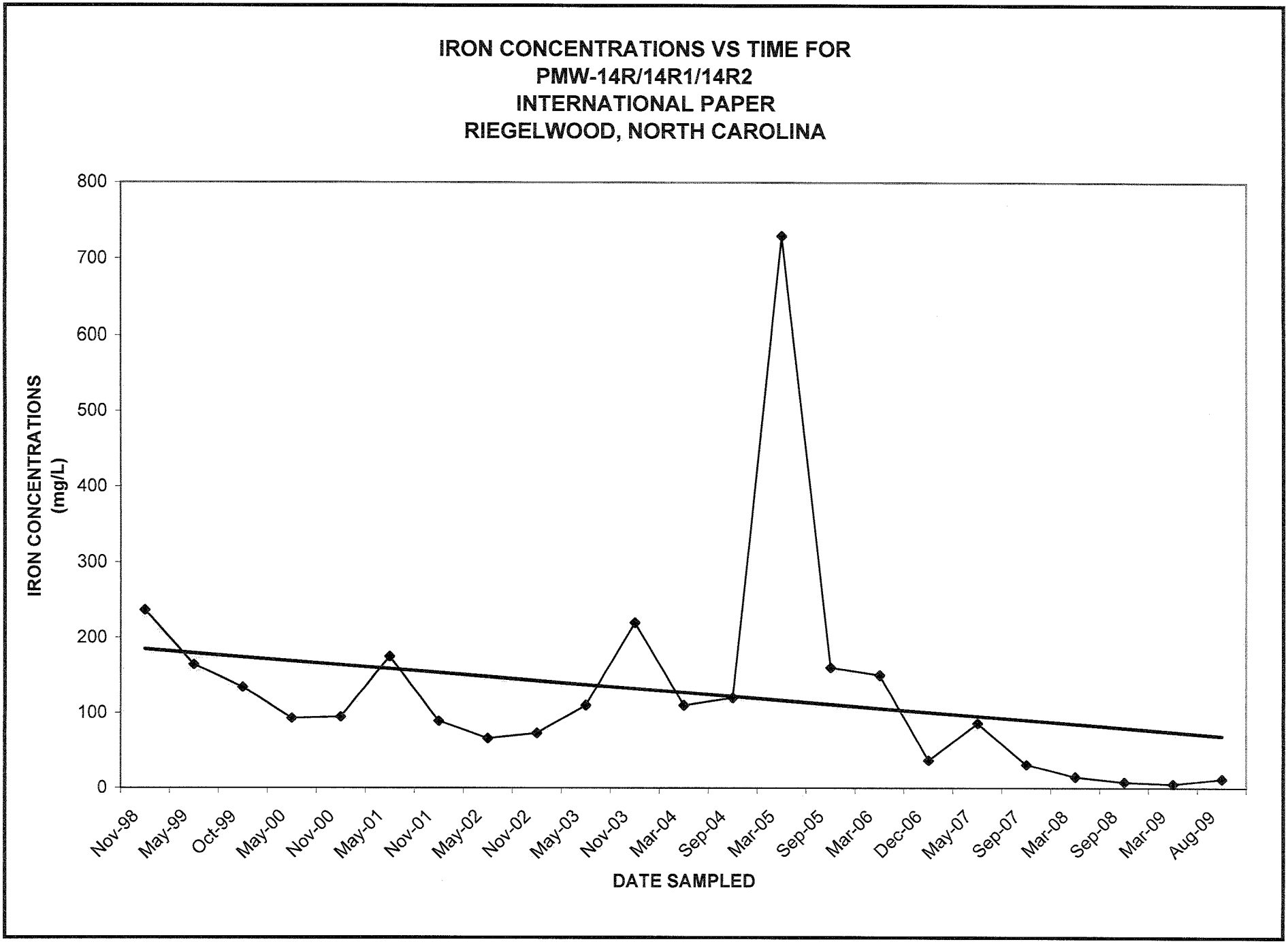
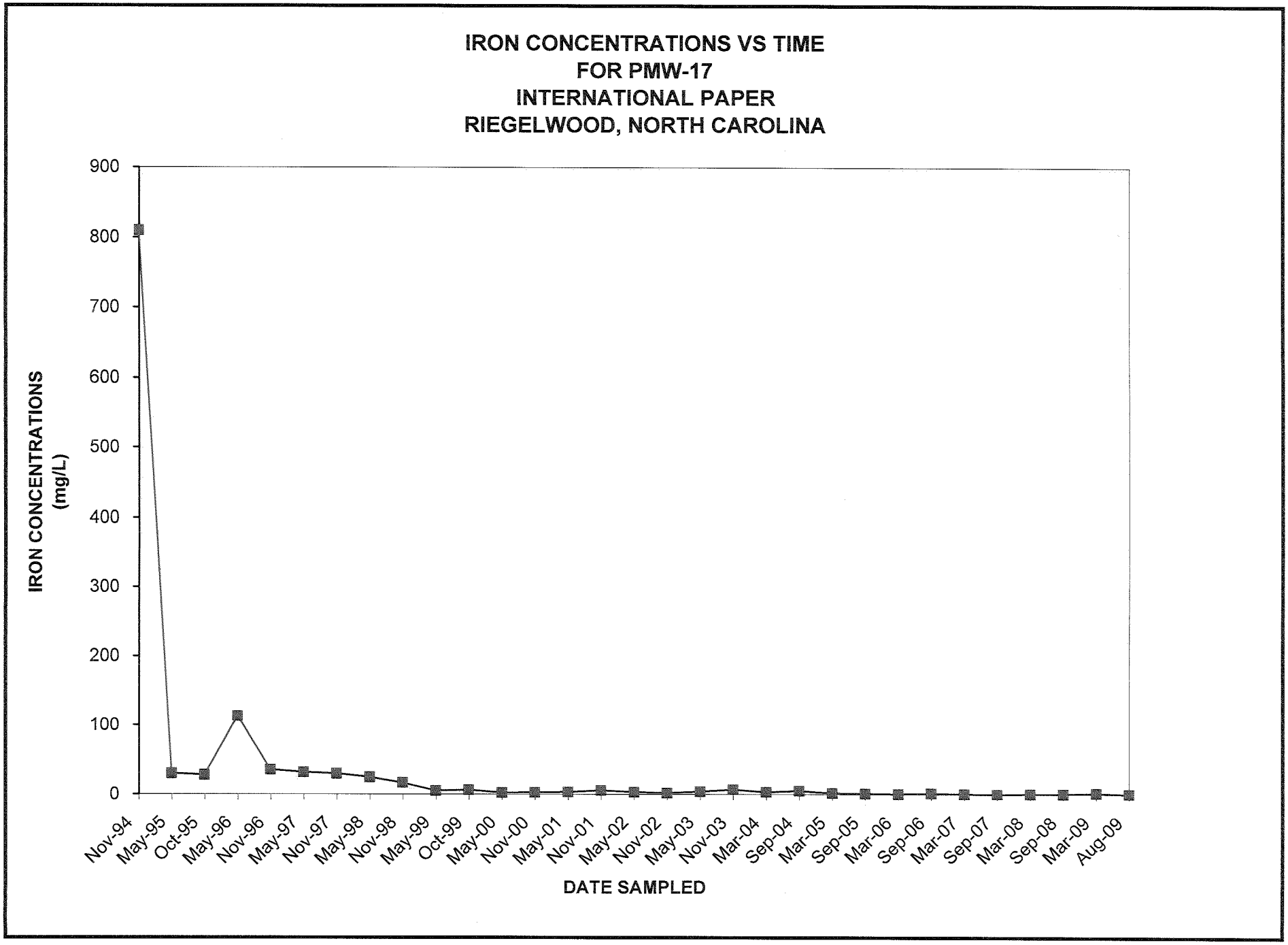

IRON CONCENTRATIONS VS TIME FOR
PMW-14R/14R1/14R2
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
IRON CONCENTRATIONS (mg/L)
800
700
600
500
400
300
200
100
0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Dec-06
May-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


IRON CONCENTRATIONS VS TIME
FOR PMW-17
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
IRON CONCENTRATIONS
(mg/L)
900
800
700
600
500
400
300
200
100
0
Nov-94
May-95
Oct-95
May-96
Nov-96
May-97
Nov-97
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED

HISTORICAL SUMMARY OF CHROMIUM
FOR SELECT MONITORING WELLS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

WELL ID	CHROMIUM																															
	Nov-94	May-95	Oct-95	May-96	Nov-96	May-97	Nov-97	May-98	Nov-98	May-99	Oct-99	May-00	Nov-00	May-01	Nov-01	May-02	Nov-02	May-03	Nov-03	Mar-04	Sep-04	Mar-05	Sep-05	Mar-06	Sep-06	Dec-06	Mar-07	Sep-07	Mar-08	Sep-08	Mar-09	Aug-09
PMW-7/7R	1.1	0.36	0.09	0.53	0.626	0.29	--	--	0.412	0.334	0.299	0.31	0.214	0.24	0.229	0.223	0.141	0.12	0.110	0.062	0.064	0.032	0.087	0.130	0.100	NS	ND	0.056	0.052	0.000	0.0458 j	0.0268 j
PMW-14/14R//14R1/14R2	NS	0.02	0.4	0.283	0.14	0.15	--	--	0.11	0.17	0.14	0.1	0.08	0.15	0.07	0.073	0.056	0.066	0.310	0.064	0.170	0.800	0.054	0.180	NS	0.1	0.18*	0.160	0.072	0.083	0.074	0.152

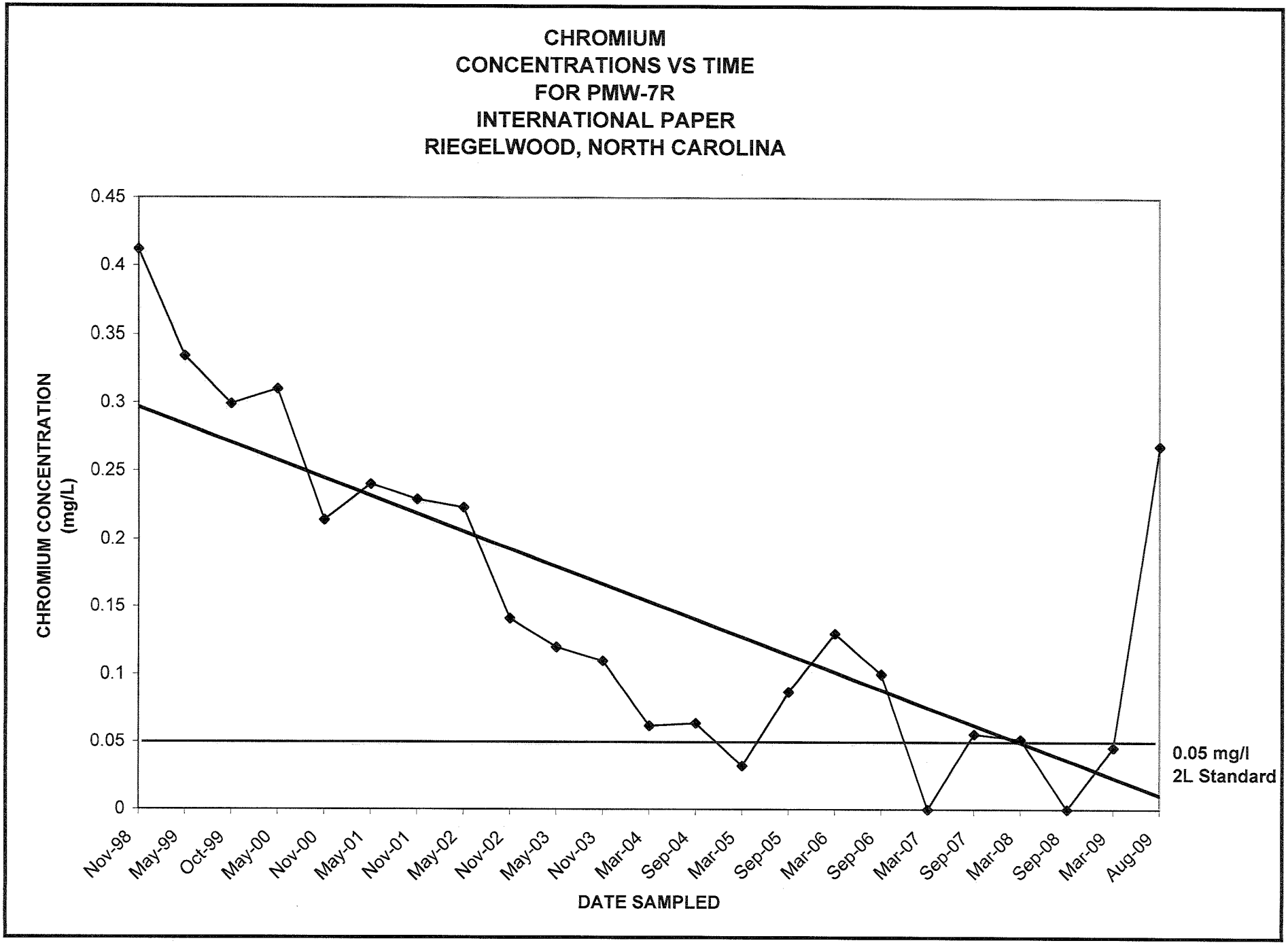
NOTES:

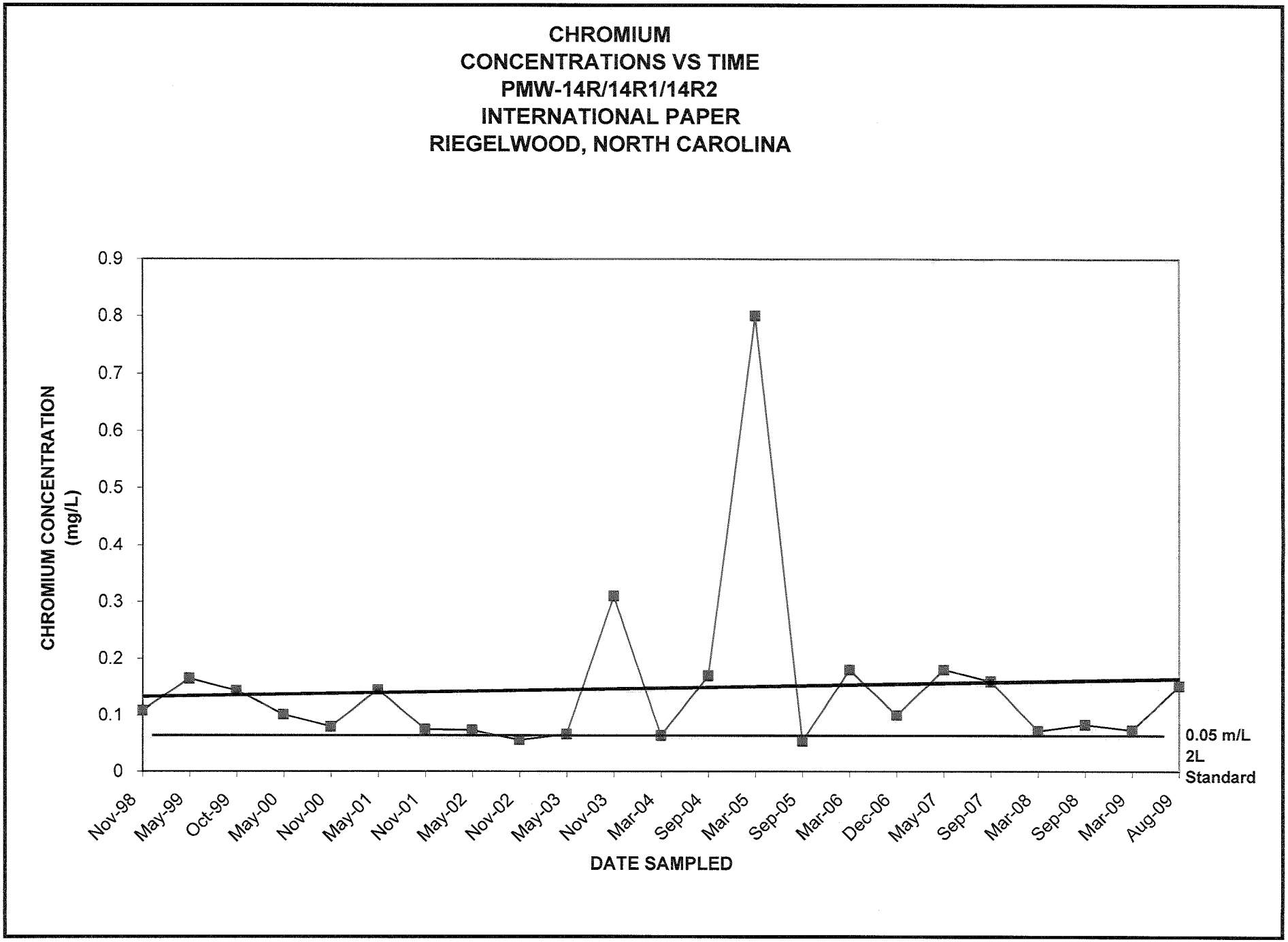
CHROMIUM IS PRESENTED IN mg/L

NS - Not Sampled

ND - Below Quantitation Limit

*PMW-14R2 was sampled in May 2007

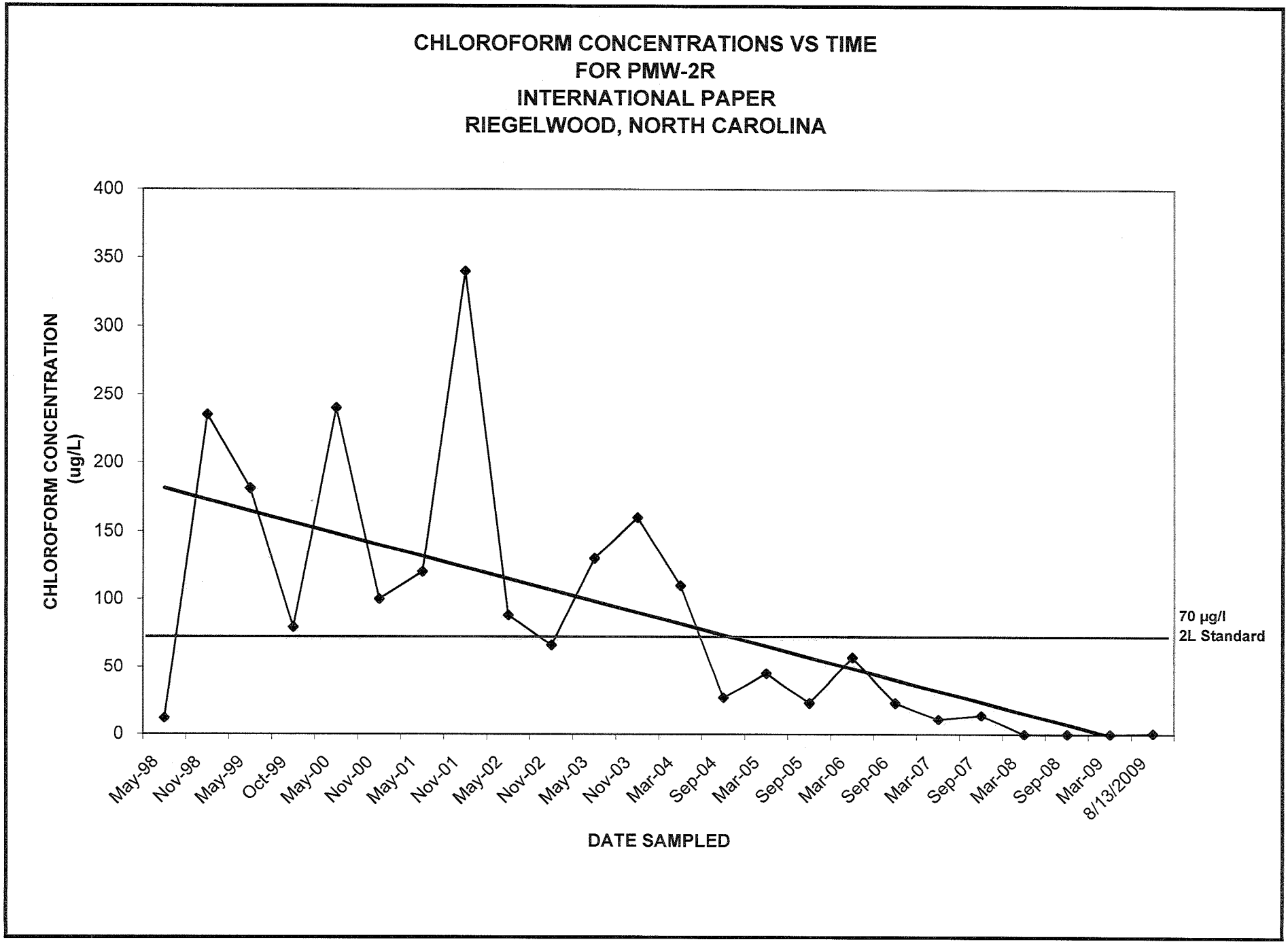

CHROMIUM
CONCENTRATIONS VS TIME
FOR PMW-7R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHROMIUM CONCENTRATION (mg/L)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED
0.05 mg/l
2L Standard


CHROMIUM
CONCENTRATIONS VS TIME
PMW-14R/14R1/14R2
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHROMIUM CONCENTRATION (mg/L)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.05 m/L
2L
Standard
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Dec-06
May-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED

HISTORICAL SUMMARY OF CHLOROFORM
FOR SELECT MONITORING WELLS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

WELL	CHLOROFORM																													
ID	May-95	Oct-95	May-96	Nov-96	May-97	Nov-97	May-98	Nov-98	May-99	Oct-99	May-00	Nov-00	May-01	Nov-01	May-02	Nov-02	May-03	Nov-03	Mar-04	Sep-04	Mar-05	Sep-05	Mar-06	Sep-06	Mar-07	Sep-07	Mar-08	Sep-08	Mar-09	Aug-09
PMW-2R	10	NS	73.2	NS	32.8	NS	11.9	235	181	79	240	100	120	340	88	66	130	160	110	27	45	23	57	23	11	14	ND	ND	ND	0.68 J
PMW-7/7R	650	400	189	7.53	86	NS	NS	2350	1710	1300	1800	1900	2400	1600	1300	1300	1000	920	900	940	610	880	760	660	430	660	470	700	346 J	375
PMW-10	NS	2.6	NS	NS	0.816	NS	ND	NS	ND	NS	6	NS	24	7	ND	5	8.8	13	5	18	4.5	15	10	5.9	33	7.2	19	ND	1.7	24.4
PMW-11	15	NS	156	NS	55.9	NS	61.7	NS	51.6	NS	120	NS	340	180	96	120	360	280	190	47	24	21	19	12	30	59	86	43	38	53.1
PMW-12	NS	NS	ND	NS	ND	NS	1.57	NS	ND	NS	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	ND	ND
PMW-14/14R/14R1/14R2	77	78	106	61	91.8	NS	NS	373	460	370	230	250	530	150	150	130	200	250	66	<1.0	160	83	170	24(1)	ND(2)	ND	ND	ND	ND	ND
PMW-17	15	110	234	17.8	15.5	15.8	15.5	13.9	11.4	8	7	6	14	10	15	19	37	22	3.7	2.6	34	1.9	5.2	55	ND	46	46	110	73.5	116

NOTES:
CHLOROFORM CONCENTRATIONS ARE PRESENTED IN ug/L
ND - Below Quantitation Limit
NS - Not Sampled
(1) PMW-14R1 sample collected 12/06
(2) PMW-14R2 sample collected 5/07


CHLOROFORM CONCENTRATIONS VS TIME
FOR PMW-2R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHLOROFORM CONCENTRATION (ug/L)
400
350
300
250
200
150
100
50
0
70 µg/l
2L Standard
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
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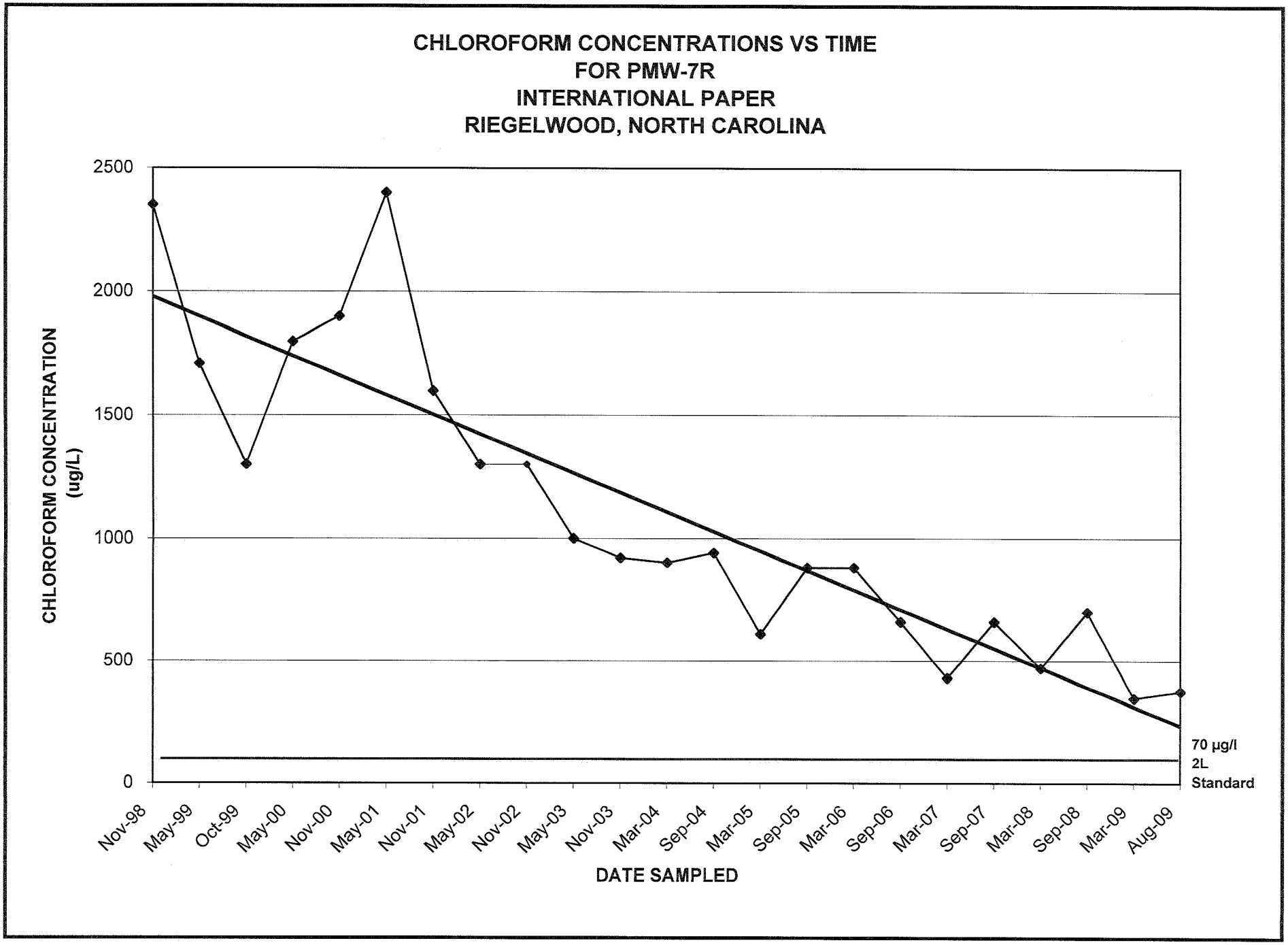
Sep-08
Mar-09
8/13/2009
DATE SAMPLED


CHLOROFORM CONCENTRATIONS VS TIME
FOR PMW-7R
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHLOROFORM CONCENTRATION (ug/L)
2500
2000
1500
1000
500
0
70 µg/l
2L
Standard
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
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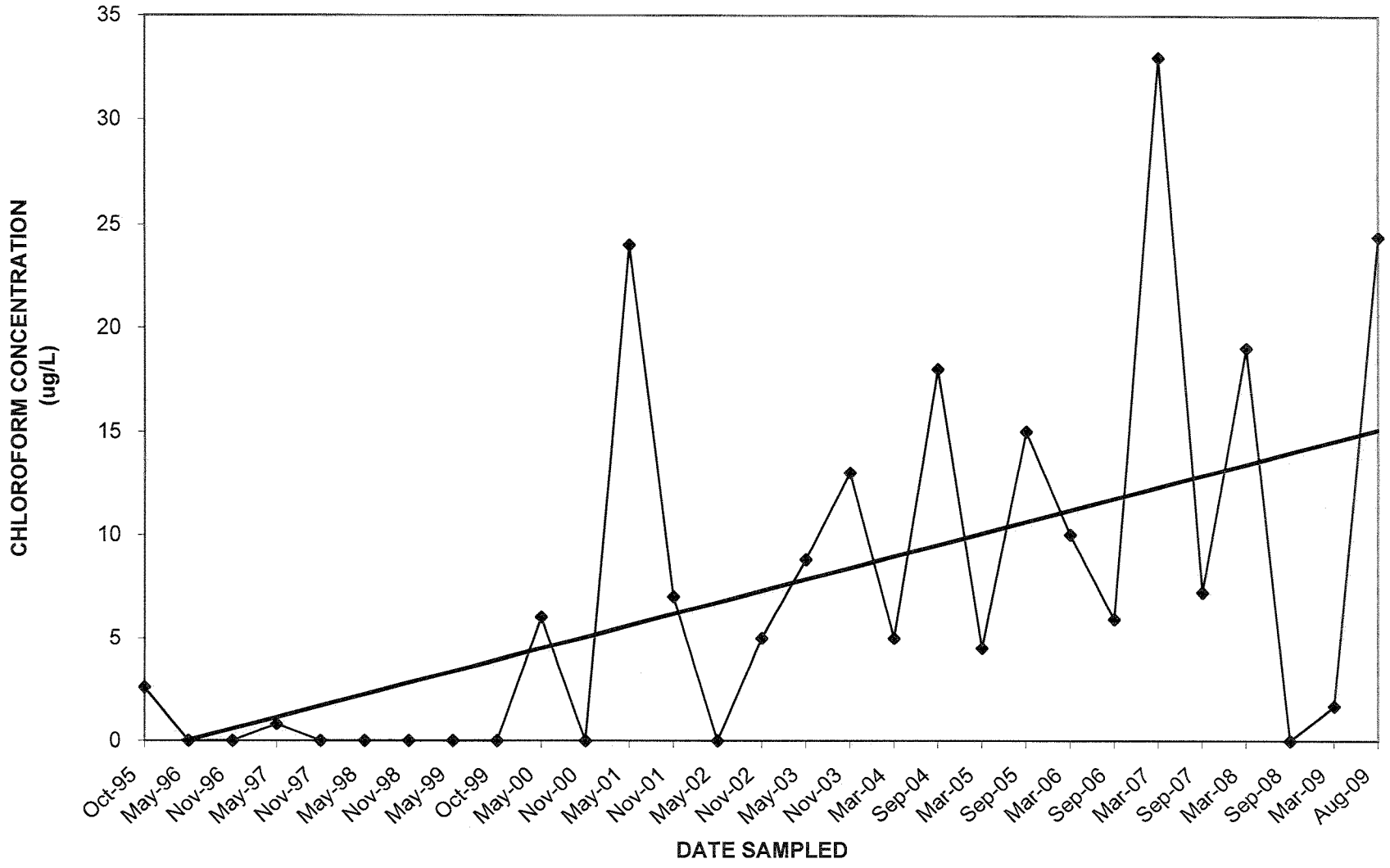
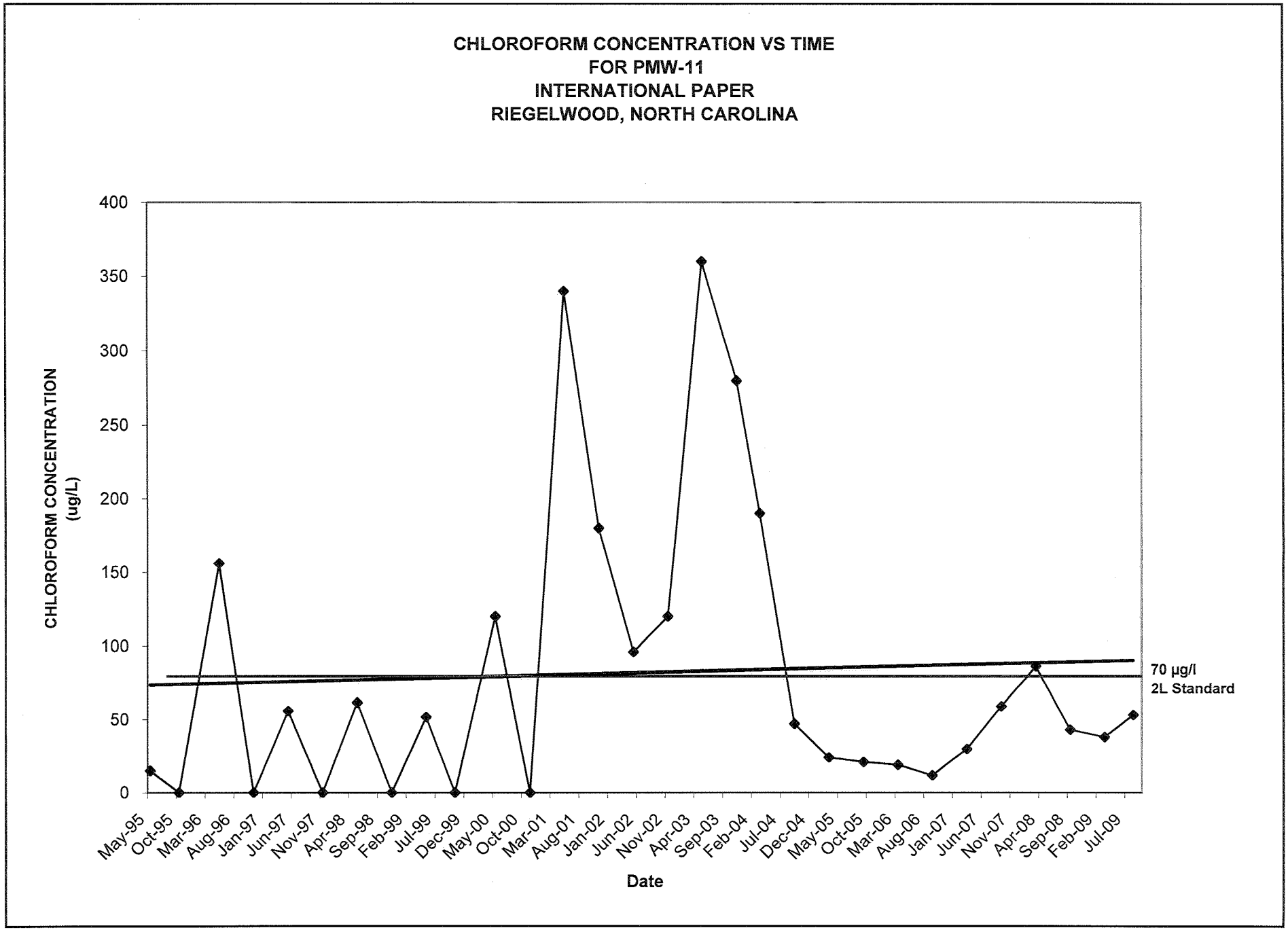
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


CHLOROFORM CONCENTRATIONS VS TIME
FOR PMW-10
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHLOROFORM CONCENTRATION
(ug/L)
35
30
25
20
15
10
5
0
Oct-95
May-96
Nov-96
May-97
Nov-97
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
Sep-04
Mar-05
Sep-05
Mar-06
Sep-06
Mar-07
Sep-07
Mar-08
Sep-08
Mar-09
Aug-09
DATE SAMPLED


CHLOROFORM CONCENTRATION VS TIME
FOR PMW-11
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHLOROFORM CONCENTRATION (ug/L)
400
350
300
250
200
150
100
50
0
70 µg/l
2L Standard
May-95
Oct-95
Mar-96
Aug-96
Jan-97
Jun-97
Nov-97
Apr-98
Sep-98
Feb-99
Jul-99
Dec-99
May-00
Oct-00
Mar-01
Aug-01
Jan-02
Jun-02
Nov-02
Apr-03
Sep-03
Feb-04
Jul-04
Dec-04
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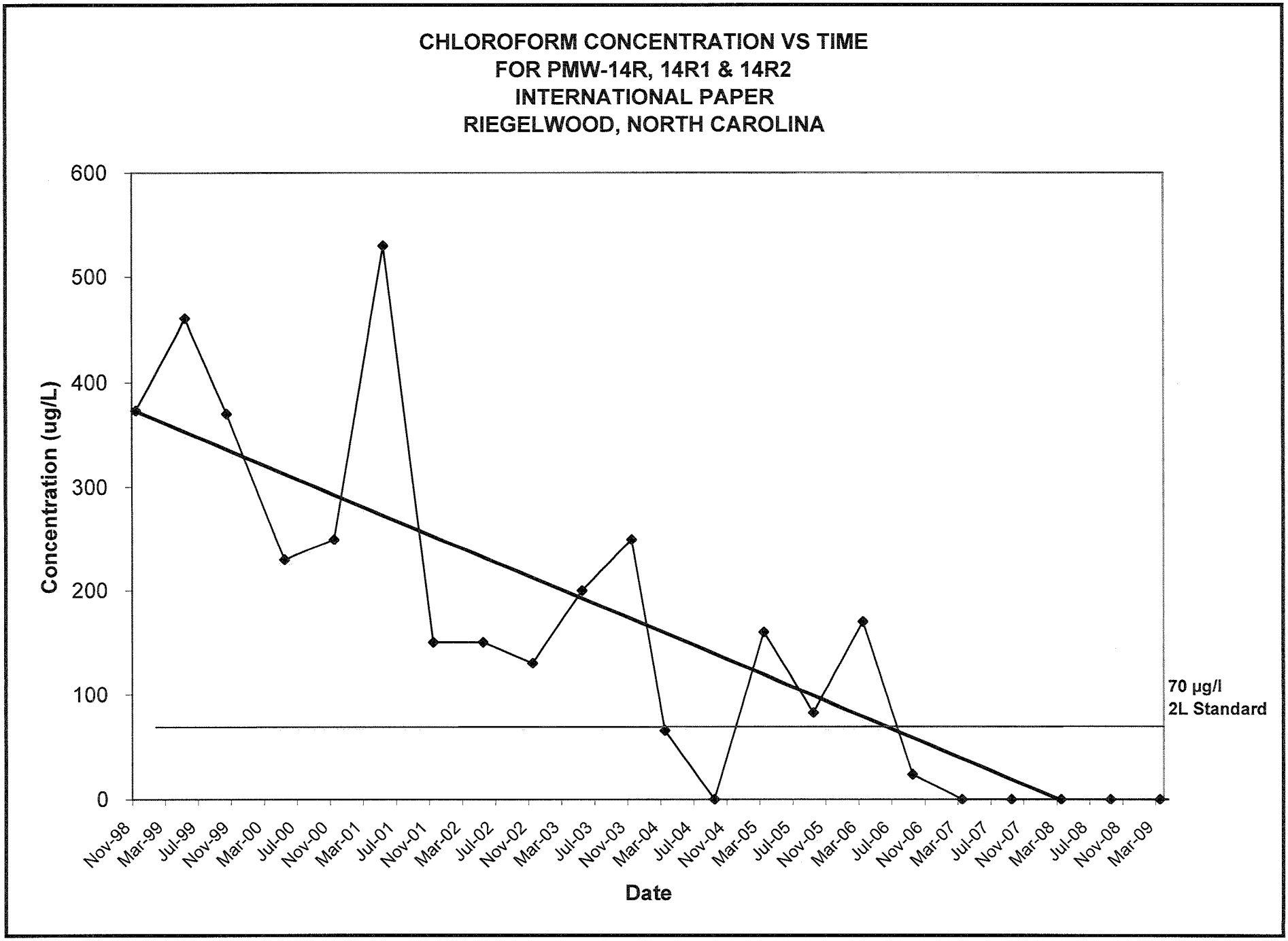
Jan-07
Jun-07
Nov-07
Apr-08
Sep-08
Feb-09
Jul-09
Date


CHLOROFORM CONCENTRATION VS TIME
FOR PMW-14R, 14R1 & 14R2
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
Concentration (ug/L)
600
500
400
300
200
100
0
70 µg/l
2L Standard
Nov-98
Mar-99
Jul-99
Nov-99
Mar-00
Jul-00
Nov-00
Mar-01
Jul-01
Nov-01
Mar-02
Jul-02
Nov-02
Mar-03
Jul-03
Nov-03
Mar-04
Jul-04
Nov-04
Mar-05
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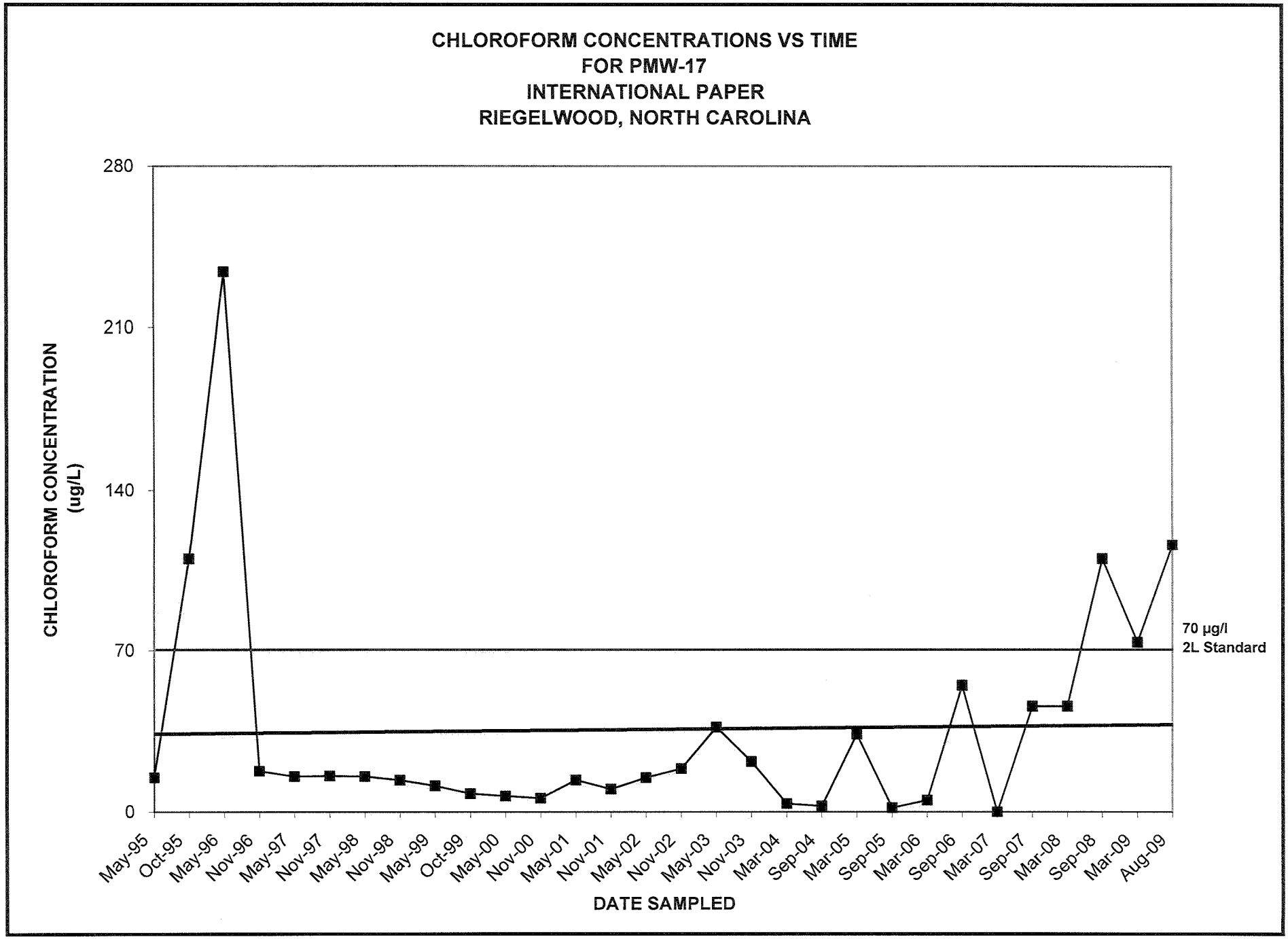
Jul-08
Nov-08
Mar-09
Date


CHLOROFORM CONCENTRATIONS VS TIME
FOR PMW-17
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
CHLOROFORM CONCENTRATION
(ug/L)
280
210
140
70
0
70 µg/l
2L Standard
May-95
Oct-95
May-96
Nov-96
May-97
Nov-97
May-98
Nov-98
May-99
Oct-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
Mar-04
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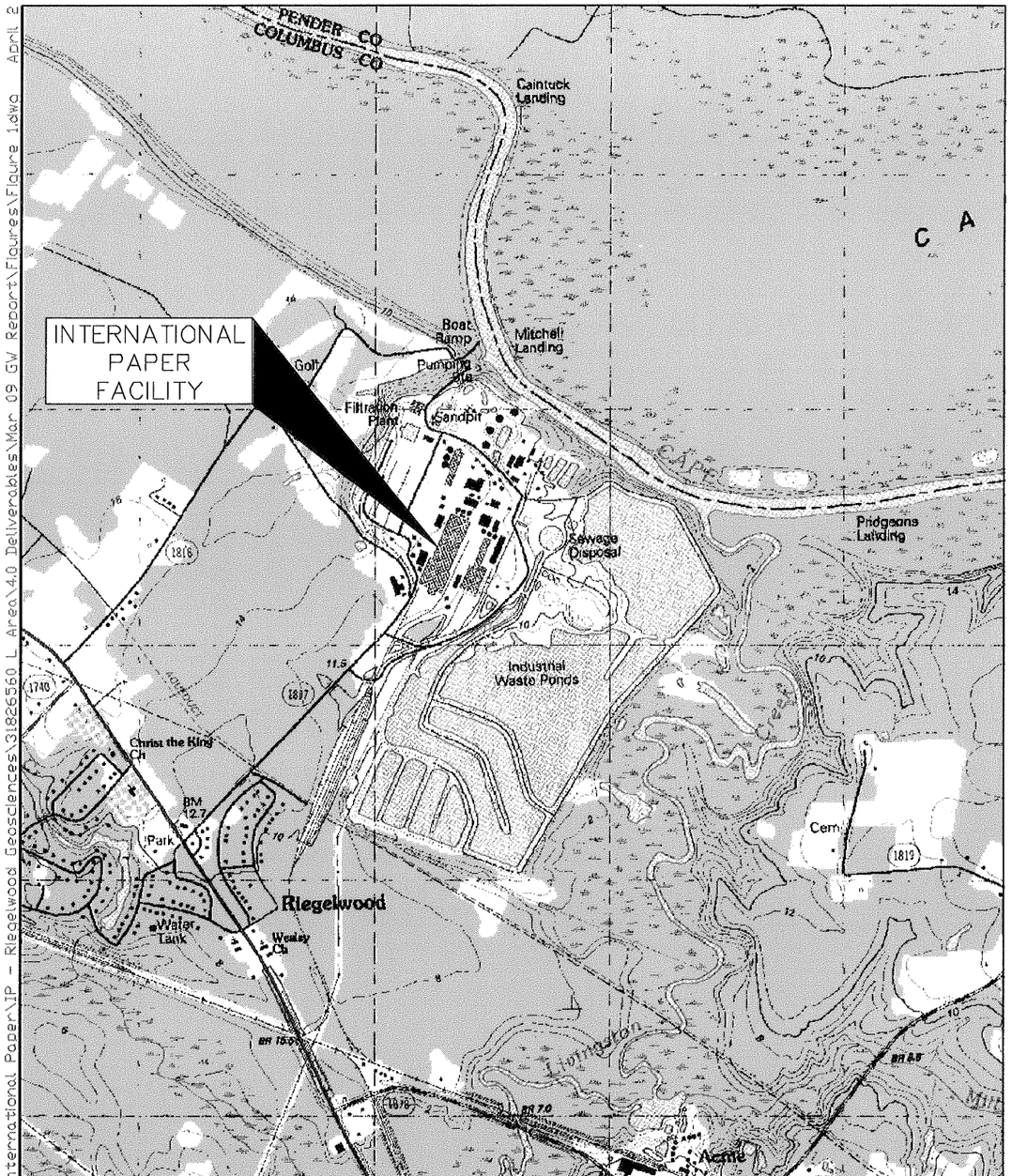
Sep-08
Mar-09
Aug-09
DATE SAMPLED



N.C.

QUADRANGLE LOCATION

SCALE IN FEET
0 2000

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
ACME, NC – DATED 1984

FIGURE 1. LOCATION MAP

INTERNATIONAL PAPER
RIEGELWOOD MILL
RIEGELWOOD, NORTH CAROLINA

Prepared for:
INTERNATIONAL PAPER

URS
RDU, NORTH CAROLINA 27580

DRAWN BY: TSH
DATE: 04/07/09
PROJECT NO.

Fig. 1

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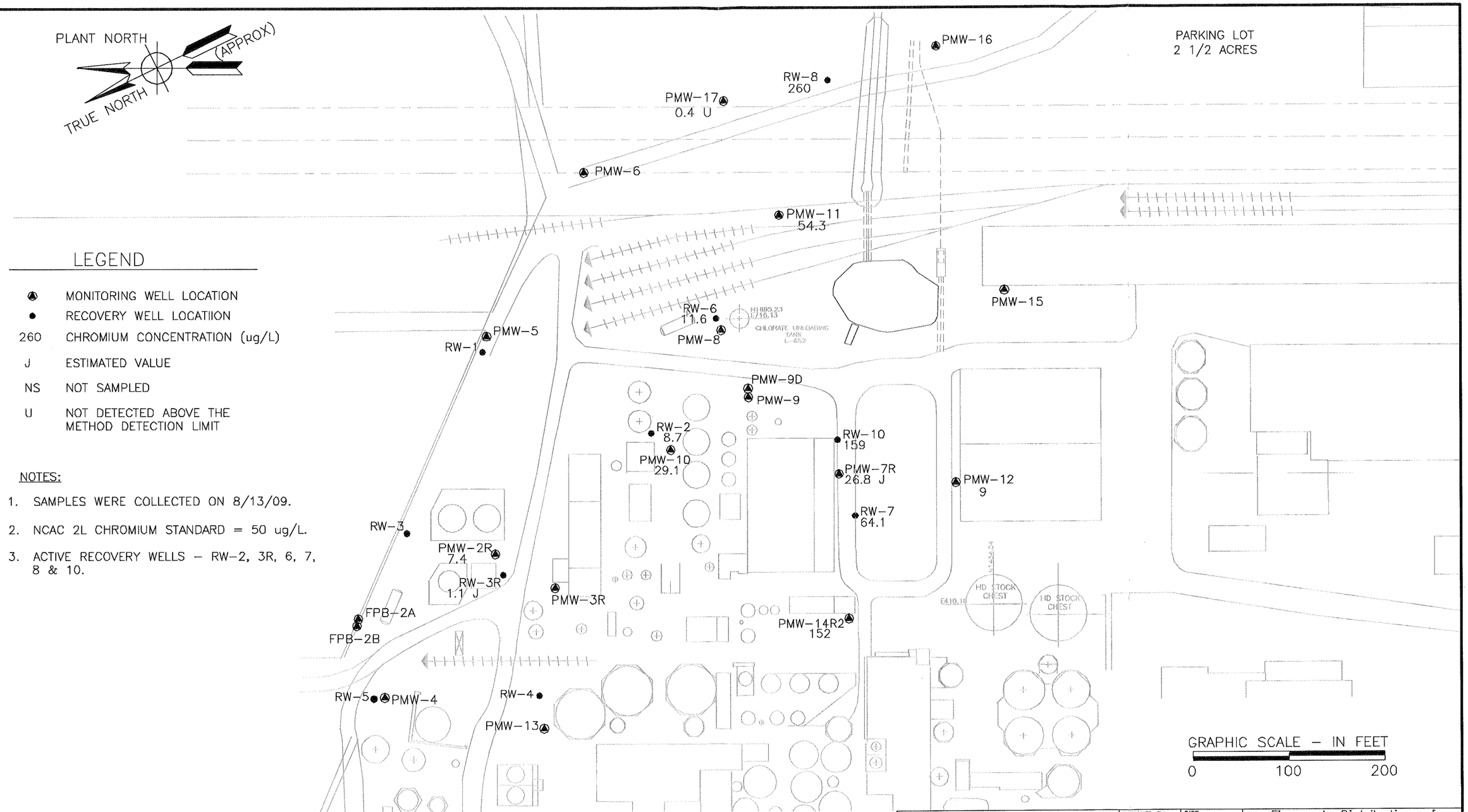

LEGEND

▲	MONITORING WELL LOCATION
●	RECOVERY WELL LOCATIION
260	CHROMIUM CONCENTRATION (ug/L)
J	ESTIMATED VALUE
NS	NOT SAMPLED
U	NOT DETECTED ABOVE THE METHOD DETECTION LIMIT

NOTES:

1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L CHROMIUM STANDARD = 50 ug/L.
3. ACTIVE RECOVERY WELLS - RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE: AS SHOWN	DESIGNED BY	DATE	Figure 4. Distribution of Chromium in Groundwater International Paper Riegelwood Mill, NC
CONFIDENTIAL-ALL RIGHTS RESERVED-PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 21APR09	
	CHECKED BY CK	DATE 13OCT09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-4 / REV. 0
	APPROVED BY CK	DATE 13OCT09	

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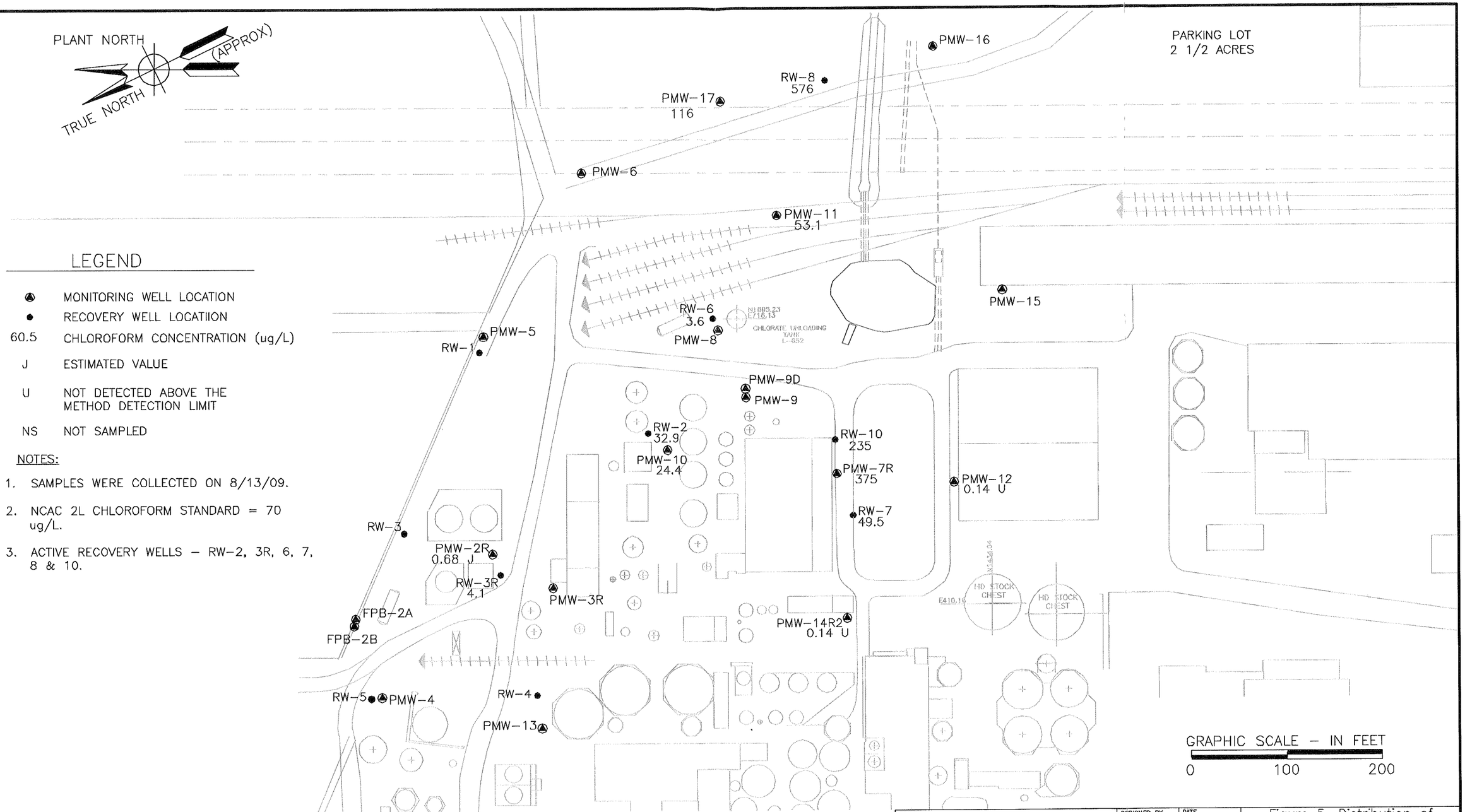
P:\Jobs4_Projects International Paper IP - Riegelwood Geosciences 31826560 L Area 4.0 Deliverables Sept 09 GW Report Figure 5.dwg October 14, 2009 - 3:41



LEGEND

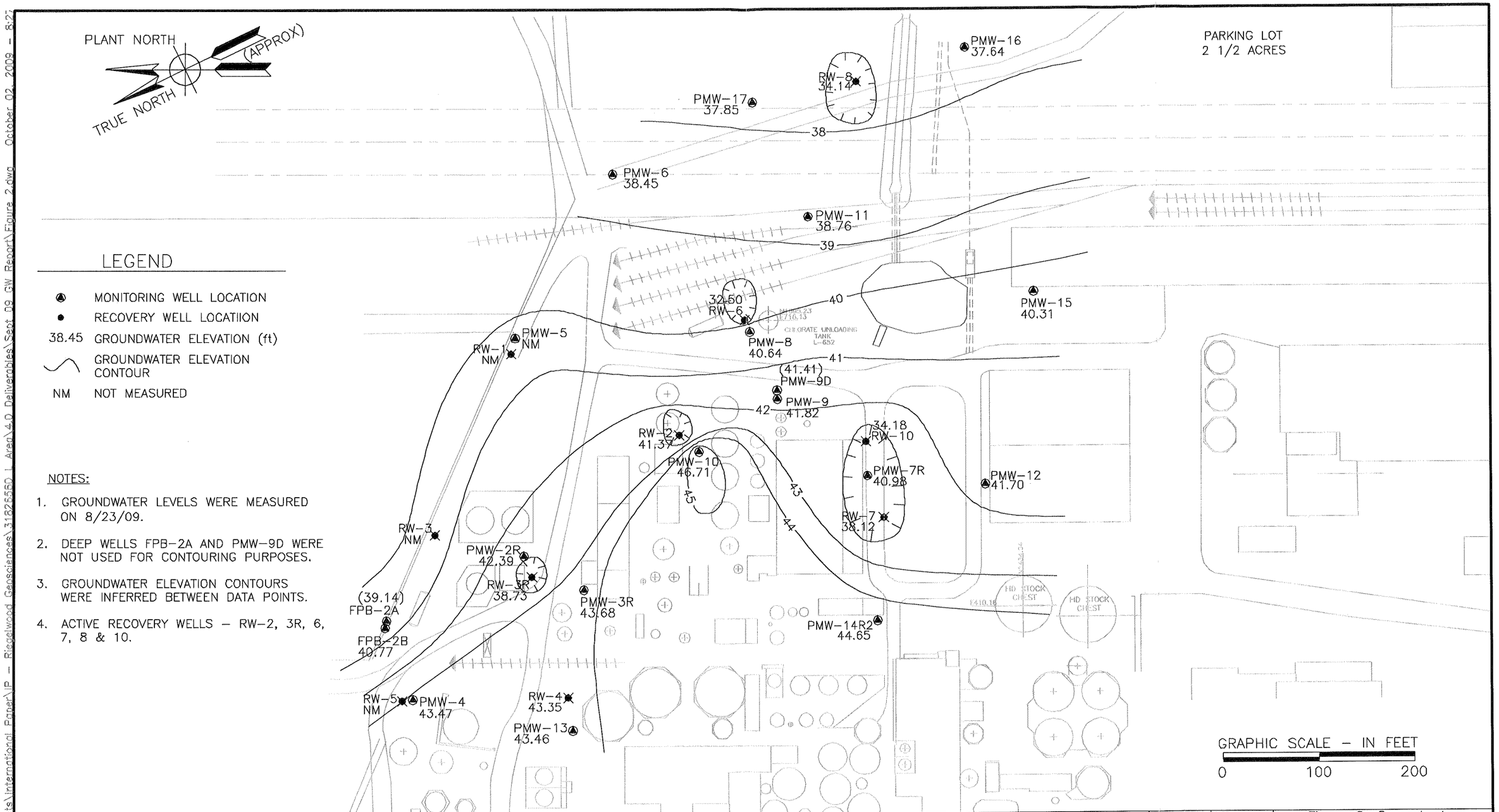
▲	MONITORING WELL LOCATION
●	RECOVERY WELL LOCATIION
60.5	CHLOROFORM CONCENTRATION (ug/L)
J	ESTIMATED VALUE
U	NOT DETECTED ABOVE THE METHOD DETECTION LIMIT
NS	NOT SAMPLED

NOTES:

1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L CHLOROFORM STANDARD = 70 ug/L.
3. ACTIVE RECOVERY WELLS - RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE: AS SHOWN	DESIGNED BY	DATE	Figure 5. Distribution of Chloroform in Groundwater International Paper Riegelwood Mill, NC
CONFIDENTIAL-ALL RIGHTS RESERVED-PROPERTY OF URS	DRAWN BY TSH	DATE 21APR09	
	CHECKED BY CK	DATE 13OCT09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-5 / REV. 0
ROU, NORTH CAROLINA 27560	APPROVED BY CK	DATE 13OCT09	



LEGEND

- MONITORING WELL LOCATION
- RECOVERY WELL LOCATIION
- 38.45 GROUNDWATER ELEVATION (ft)
- GROUNDWATER ELEVATION CONTOUR
- NM NOT MEASURED

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED ON 8/23/09.
2. DEEP WELLS FPB-2A AND PMW-9D WERE NOT USED FOR CONTOURING PURPOSES.
3. GROUNDWATER ELEVATION CONTOURS WERE INFERRED BETWEEN DATA POINTS.
4. ACTIVE RECOVERY WELLS - RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE: AS SHOWN	DESIGNED BY	DATE	Figure 2. Groundwater Elevation Contour Map International Paper Riegelwood Mill, NC
CONFIDENTIAL-ALL RIGHTS RESERVED-PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 30SEP09	
	CHECKED BY CK	DATE 30SEP09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-2 / REV. 0
	APPROVED BY CK	DATE 30SEP09	

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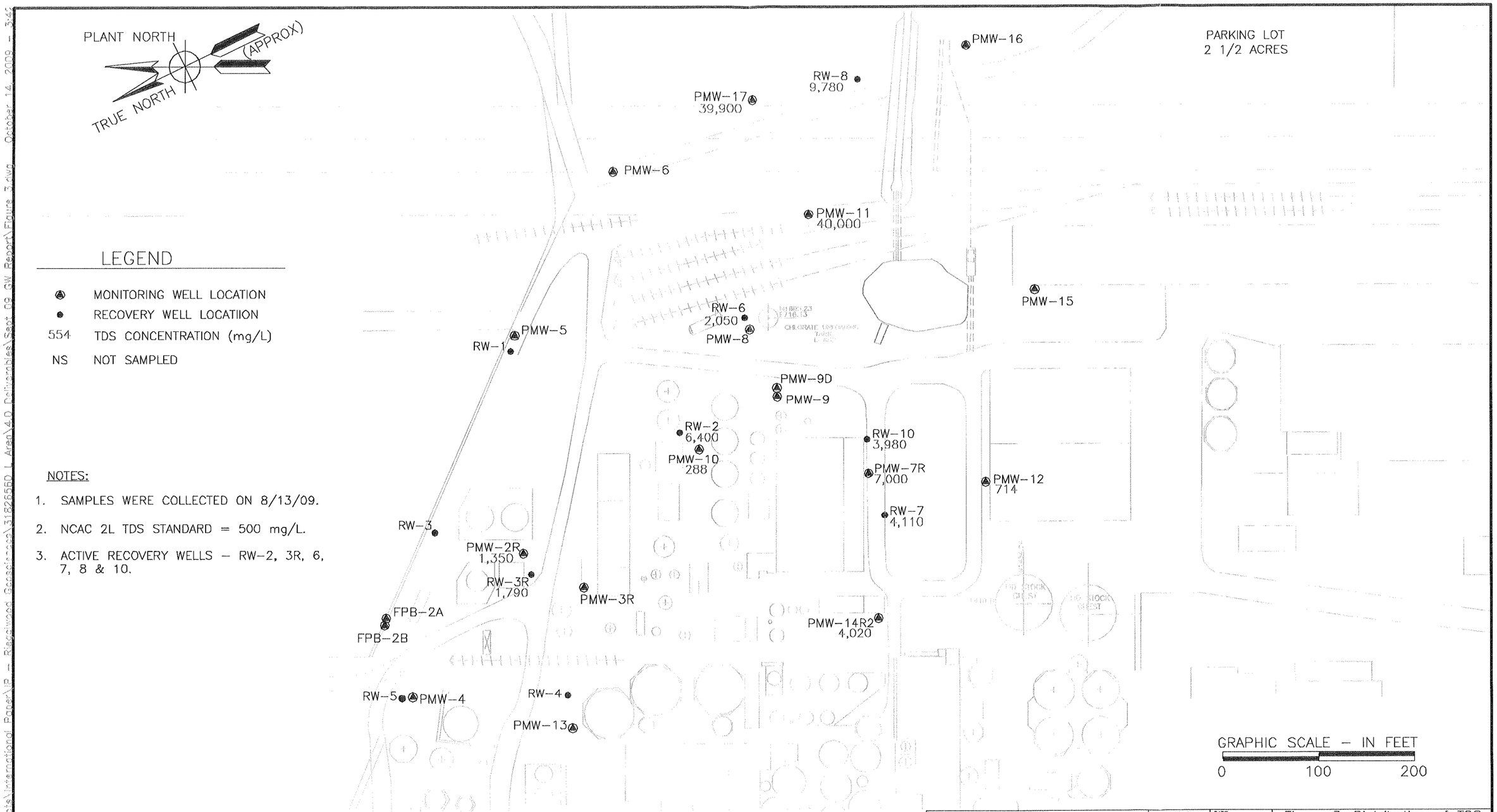

LEGEND

- MONITORING WELL LOCATION
- RECOVERY WELL LOCATIION
- 554 TDS CONCENTRATION (mg/L)
- NS NOT SAMPLED

NOTES:

1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L TDS STANDARD = 500 mg/L.
3. ACTIVE RECOVERY WELLS – RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE AS SHOWN	DESIGNED BY	DATE	Figure 3. Distribution of TDS in Groundwater International Paper Riegelwood Mill, NC
CONFIDENTIAL-ALL RIGHTS RESERVED-PROPERTY OF URS ROU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 21APR09	
	CHECKED BY CK	DATE 13OCT09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-3 / REV. 0
	APPROVED BY CK	DATE 13OCT09	

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APPENDIX A

LABORATORY REPORT

Data Validation Checklist
Organic and Inorganic Analyses

Project:	IP – Riegelwood, NC (L-Area)	Project No:	31826560.00001
Work Order:	9250932	Methods:	SW-846 8260B (VOC), 6010B (Total Chromium, Iron and Sodium), 9040 (pH), SM 2340B (Hardness), SM 2540D (Total Suspended Solids), SM 2540C (Total Dissolved Solids), and ASTM D516-90 (Sulfate)
Laboratory:	Pace Analytical Services	Associated Sample IDs:	RW-2, RW-3R, RW-6, RW-7, RW-8, RW-10, PMW-14R2, PMW-2R, PMW-7R, PMW-10, PMW-11, PMW-12, PMW-17, and Trip Blank
Sample Matrix:	Water	Date(s) Sampled:	08/13/09
Reviewer:	Nicole Lancaster	Date:	10/05/09
Concurrence:	Martha Meyers-Lee	Date:	10/07/09

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?		✓		• SW-846 8260B: ≤14 days • SW-846 6010B: ≤180 days • EPA 9040: ASAP. Samples were analyzed more than 15 minutes after sample collection. J-flag positive results. • SM 2540D: ≤7 days • SM 2540C: ≤7 days • SM 2340B: ≤180 days • ASTM D516-90: ≤28 days	J
2. Were sample storage and preservation requirements met?	✓			• Temperatures of sample containers upon receipt were 3.7, 3.2, & 3.9°C (≤6°C). • The laboratory verified that the samples were properly preserved in the field.	
3. Was a method blank analyzed with each batch?		✓		• SW-846 8260B: 325697, 324856, 324849, & 324821 • SW-846 6010B: 323233 • EPA 9040: None • SM 2540D: 325084 & 324482 • SM 2540C: 324672 & 323761 • ASTM D516-90: 327943	
4. Were target analytes reported in the method blank above the Detection Limit (DL)?	✓			• SW-846 8260B: ○ 1,2-Dichloroethane @ 0.35 J µg/L (324856) (RL=1)	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				○ Methylene Chloride @ 3.2 & 1.7 Jµg/L (324856 & 324849, respectively) (RL=2)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field, or equipment~~) above the DL?		✓			
6. Were contaminants detected in samples below the blank contamination action level?				Blank contamination action levels: • 1,2-Dichloroethane @ 1.75 µg/L (0.35 x 5) • Methylene chloride @ 32 µg/L (3.2 x 10)	U
7. Was a field duplicate analyzed?		✓			
8. Was precision deemed acceptable as defined by the project plans and/or DV Guidelines?			✓		
9. Was a LCS prepared/analyzed with each batch?	✓			• SW-846 8260B: 325698, 324857, 324850, & 324822 • SW-846 6010B: 323234 • EPA 9040: None • SM 2540D: 325085 & 324483 • SM 2540C: 324673 & 323762 • ASTM D516-90: 327944	
10. Were LCS recoveries within lab/project[1] specifications?		✓		SW-846 8260B (324822): Acetone @142%R (50-146). No action warranted, high recovery indicative of a positive bias and associated sample is ND for acetone.	
11. Were LCS/LCSD RPD within lab specifications?			✓	LCS Only	
12. Was a MS/MSD pair analyzed with each batch?		✓		• SW-846 8260B: 9250931-003 (PMW-2R), 9250929-004 (RW-2), & 9250929-003 (PMW-12) • SW-846 6010B: 9250905-015 • EPA 9040: None • SM 2540D: None • SM 2540C: None • ASTM D516-90: 9251085-004 (batch) & 9250931-004 (PMW-17)	
13. Is the MS/MSD parent sample a project-specific sample?	✓	✓			
14. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		PMW-17, 9250931-004, ASTM D516-90: Sulfate @ -1626%R (75-125). No action warranted, native	

[1] LCS recovery is to be within 60-140% of the true value

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				sample concentration >4x spike concentration.	
15. Were laboratory criteria met for precision during the MS/MSD analysis? *Only QC results for project samples are evaluated.*	✓				
16. Was a serial dilution conducted on each inorganic batch?		✓			
17. Is the serial dilution parent sample a project-specific sample?			✓		
18. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
19. Was a post-digestion spike analysis conducted whenever the MS or serial dilution results did not meet QC limits?			✓		
20. Were laboratory/project specifications met during the PDS analysis? *Only QC results for project samples are evaluated.*			✓		
21. Was a laboratory duplicate analyzed with each batch?		✓		• SW-846 8260B: None • SW-846 6010B: 9250905-016 (batch) • EPA 9040: 9250932-002 (RMW-14R2) & 9250624-002 (batch) • SM 2540D: 9250929-002 (PMW-11) & 9250996-006 (batch) • SM 2540C: 9250932-005 (PMW-7R) & 9250785-002 (batch) • ASTM D516-90: 9251085-005 (batch) & 9250932-001 (RW-3R)	
22. Is the laboratory duplicate sample a project-specific sample?	✓	✓			
23. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*	✓				
24. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument?			✓	Data is not included in laboratory reports.	
25. Were these results within lab/project specifications?			✓		
26. Were surrogate recoveries within lab/project specifications?	✓				
27. Were internal standard results within lab specifications?			✓	Data is not included in laboratory reports.	
28. Were TIC reported and were reported results qualified as estimated concentrations?			✓		
29. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
30. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to attached Case Narratives.	

Comments: The laboratory failed to prepare samples for the metal analysis using SM 3030C. Sample results reported are for total metals and are biased high.

The data review process was modeled after the *USEPA Contract Laboratory Program National Functional Guideline for Organic and Inorganic Data Review* (USEPA, October 1999 and 2004). Sample results have been qualified based on the results of the data review process. In performing the data evaluation, the URS' data reviewer assumed that the data reported by the laboratory are complete, compliant, and an accurate representation of the raw data. Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.

DV Flag Definitions:

J Estimated value
R Unusable data
U Not present above the associated level; blank contamination exists
UJ Not detected and the detection limit is estimated

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October 09, 2009

Ms. Martha Meyers-Lee
URS Corporation
PO Box 203970
Austin, TX 78720

RE: Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Dear Ms. Meyers-Lee:
Enclosed are the analytical results for sample(s) received by the laboratory on August 14, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Charlotte Certification IDs

West Virginia Certification #: 357
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 990060001
South Carolina Drinking Water Cert. #: 990060003
Tennessee Certification #: 04010

Asheville Certification IDs

West Virginia Certification #: 356
Florida/NELAP Certification #: E87648
Louisiana/LELAP Certification #: 03095
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
Connecticut Certification #: PH-0106
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Tennessee Certification #: 2980
Virginia Certification #: 00072
North Carolina Drinking Water Certification #: 37712

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SAMPLE SUMMARY

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9250932001	**RW-3R**	Water	08/13/09 14:25	08/14/09 09:30
9250932002	**PMW-14R2**	Water	08/13/09 10:15	08/14/09 09:30
9250932003	**RW-7**	Water	08/13/09 10:50	08/14/09 09:30
9250932004	**RW-10**	Water	08/13/09 11:15	08/14/09 09:30
9250932005	**PMW-7R**	Water	08/13/09 11:45	08/14/09 09:30
9250929001	**PMW-10**	Water	08/13/09 16:00	08/14/09 09:30
9250929002	**PMW-11**	Water	08/13/09 17:00	08/14/09 09:30
9250929003	**PMW-12**	Water	08/13/09 15:15	08/14/09 09:30
9250929004	**RW-2**	Water	08/13/09 15:15	08/14/09 09:30
9250931001	**RW-8**	Water	08/13/09 13:15	08/14/09 09:30
9250931002	**RW-6**	Water	08/13/09 14:20	08/14/09 09:30
9250931003	**PMW-2R**	Water	08/13/09 14:15	08/14/09 09:30
9250931004	**PMW-17**	Water	08/13/09 13:00	08/14/09 09:30
9250931005	**TRIP BLANK**	Water	08/13/09 00:00	08/14/09 09:30

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SAMPLE ANALYTE COUNT

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9250932001	RW-3R	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250932002	PMW-14R2	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250932003	RW-7	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250932004	RW-10	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250932005	PMW-7R	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250929001	PMW-10	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	MCK	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250929002	**PMW-11**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	MCK	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250929003	**PMW-12**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	MCK	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250929004	**RW-2**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	MCK	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250931001	**RW-8**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250931002	**RW-6**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250931003	**PMW-2R**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250931004	**PMW-17**	ASTM D516-90	LEP	1	PASI-A
		EPA 6010	SHB	3	PASI-A
		EPA 8260	AW	54	PASI-C
		EPA 9040	DMN	1	PASI-A
		SM 2340B	SHB	1	PASI-A
		SM 2540C	TEE	1	PASI-A
		SM 2540D	TEE	1	PASI-A
9250931005	**TRIP BLANK**	EPA 8260	AW	54	PASI-C

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **EPA 6010**
Description: 6010 MET ICP
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **SM 2340B**
Description: 2340B Hardness, Total (Calc.)
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for SM 2340B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **EPA 8260**
Description: 8260 MSV Low Level
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
14 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MSV/8019

C9: Common Laboratory Contaminant.

- BLANK (Lab ID: 324856)
  - Methylene Chloride

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **EPA 9040**
Description: 9040 pH
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for EPA 9040. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.
- PMW-14R2 (Lab ID: 9250932002)
- PMW-17 (Lab ID: 9250931004)
- PMW-2R (Lab ID: 9250931003)
- PMW-7R (Lab ID: 9250932005)
- RW-10 (Lab ID: 9250932004)
- RW-3R (Lab ID: 9250932001)
- RW-6 (Lab ID: 9250931002)
- RW-7 (Lab ID: 9250932003)
- RW-8 (Lab ID: 9250931001)

H6: Analysis initiated more than 15 minutes after sample collection.
- PMW-10 (Lab ID: 9250929001)
- PMW-11 (Lab ID: 9250929002)
- PMW-12 (Lab ID: 9250929003)
- PMW-14R2 (Lab ID: 9250932002)
- PMW-17 (Lab ID: 9250931004)
- PMW-2R (Lab ID: 9250931003)
- PMW-7R (Lab ID: 9250932005)
- RW-10 (Lab ID: 9250932004)
- RW-2 (Lab ID: 9250929004)
- RW-3R (Lab ID: 9250932001)
- RW-6 (Lab ID: 9250931002)
- RW-7 (Lab ID: 9250932003)
- RW-8 (Lab ID: 9250931001)

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **SM 2540D**
Description: 2540D Total Suspended Solids
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Method: **ASTM D516-90**
Description: ASTM D516-90 Sulfate Water
Client: URS - Morrisville, NC
Date: October 09, 2009

General Information:
13 samples were analyzed for ASTM D516-90. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/5746

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9250931004,9251085004

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 327945)
  - Sulfate
- MS (Lab ID: 327950)
  - Sulfate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-3R **Lab ID: 9250932001** Collected: 08/13/09 14:25 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**152**	mg/L	0.65	0.65	1		08/20/09 20:43		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1.1J**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 20:43	7440-47-3	
Iron	**7320**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 20:43	7439-89-6	
Sodium	**423000**	ug/L	50000	25.0	10	08/18/09 09:50	08/21/09 13:00	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/21/09 20:18	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 20:18	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 20:18	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 20:18	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 20:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 20:18	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 20:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 20:18	56-23-5	
Chlorobenzene	**0.47J**	ug/L	1.0	0.23	1		08/21/09 20:18	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 20:18	75-00-3	
Chloroform	**4.1**	ug/L	1.0	0.14	1		08/21/09 20:18	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 20:18	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 20:18	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 20:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 20:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 20:18	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 20:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 20:18	541-73-1	
1,4-Dichlorobenzene	**0.44J**	ug/L	1.0	0.33	1		08/21/09 20:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 20:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 20:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 20:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 20:18	75-35-4	
cis-1,2-Dichloroethene	**1.5**	ug/L	1.0	0.19	1		08/21/09 20:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 20:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 20:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 20:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 20:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 20:18	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 20:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 20:18	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 20:18	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 20:18	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 20:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 20:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 20:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 20:18	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 20:18	100-42-5	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-3R **Lab ID: 9250932001** Collected: 08/13/09 14:25 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 20:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 20:18	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 20:18	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 20:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 20:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 20:18	79-00-5	
Trichloroethene	**3.7**	ug/L	1.0	0.47	1		08/21/09 20:18	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 20:18	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 20:18	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 20:18	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 20:18	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 20:18	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 20:18	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		1		08/21/09 20:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120		1		08/21/09 20:18	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		08/21/09 20:18	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1790**	mg/L	20.0	20.0	1		08/18/09 17:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**61.6**	mg/L	3.3		1		08/20/09 18:43		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**1330**	mg/L	250	250	50		08/27/09 11:38	14808-79-8	

Sample: PMW-14R2 **Lab ID: 9250932002** Collected: 08/13/09 10:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**22.5**	mg/L	0.65	0.65	1		08/20/09 20:47		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**152**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 20:47	7440-47-3	
Iron	**12100**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 20:47	7439-89-6	
Sodium	**41800**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 20:47	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/21/09 20:42	67-64-1	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-14R2 **Lab ID: 9250932002** Collected: 08/13/09 10:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Benzene	**1.0**	ug/L	1.0	0.25	1		08/21/09 20:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 20:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 20:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 20:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 20:42	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 20:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 20:42	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 20:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 20:42	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		08/21/09 20:42	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 20:42	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 20:42	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 20:42	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 20:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 20:42	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 20:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 20:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 20:42	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 20:42	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 20:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 20:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 20:42	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 20:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 20:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 20:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 20:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 20:42	10061-02-6	
Ethylbenzene	**2.8**	ug/L	1.0	0.30	1		08/21/09 20:42	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 20:42	591-78-6	
Isopropylbenzene (Cumene)	**0.41J**	ug/L	1.0	0.40	1		08/21/09 20:42	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 20:42	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 20:42	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 20:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2.2J**	ug/L	5.0	0.33	1		08/21/09 20:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 20:42	1634-04-4	
Naphthalene	**31.3**	ug/L	1.0	0.24	1		08/21/09 20:42	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 20:42	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 20:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 20:42	127-18-4	
Toluene	**0.81J**	ug/L	1.0	0.26	1		08/21/09 20:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 20:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 20:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 20:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 20:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 20:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 20:42	76-13-1	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-14R2 **Lab ID: 9250932002** Collected: 08/13/09 10:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 20:42	75-01-4	
m&p-Xylene	**7.9**	ug/L	2.0	0.66	1		08/21/09 20:42	1330-20-7	
o-Xylene	**4.4**	ug/L	1.0	0.23	1		08/21/09 20:42	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		08/21/09 20:42	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		08/21/09 20:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		08/21/09 20:42	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		08/21/09 20:42	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**4020**	mg/L	40.0	40.0	2		08/18/09 17:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**29.3**	mg/L	5.6		1		08/20/09 18:43		
9040 pH	Analytical Method: EPA 9040								
pH	**9.6**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**543**	mg/L	250	250	50		08/27/09 11:39	14808-79-8	

Sample: RW-7 **Lab ID: 9250932003** Collected: 08/13/09 10:50 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**156**	mg/L	0.65	0.65	1		08/20/09 20:52		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**64.1**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 20:52	7440-47-3	
Iron	**63800**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 20:52	7439-89-6	
Sodium	**46500**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 20:52	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**8.2J**	ug/L	25.0	2.2	1		08/21/09 21:06	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 21:06	71-43-2	
Bromodichloromethane	**0.39J**	ug/L	1.0	0.18	1		08/21/09 21:06	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 21:06	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 21:06	74-83-9	
2-Butanone (MEK)	**1.8J**	ug/L	5.0	0.96	1		08/21/09 21:06	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 21:06	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 21:06	56-23-5	
Chlorobenzene	**1.1**	ug/L	1.0	0.23	1		08/21/09 21:06	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 21:06	75-00-3	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-7 **Lab ID: 9250932003** Collected: 08/13/09 10:50 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Chloroform	**49.5**	ug/L	1.0	0.14	1		08/21/09 21:06	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 21:06	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 21:06	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 21:06	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 21:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 21:06	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 21:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 21:06	541-73-1	
1,4-Dichlorobenzene	**0.62J**	ug/L	1.0	0.33	1		08/21/09 21:06	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 21:06	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 21:06	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 21:06	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 21:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 21:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 21:06	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 21:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 21:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 21:06	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 21:06	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 21:06	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 21:06	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 21:06	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 21:06	108-87-2	
Methylene Chloride	**1.9J**	ug/L	2.0	0.97	1		08/21/09 21:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.61J**	ug/L	5.0	0.33	1		08/21/09 21:06	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 21:06	1634-04-4	
Naphthalene	**11.7**	ug/L	1.0	0.24	1		08/21/09 21:06	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 21:06	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 21:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 21:06	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 21:06	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 21:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 21:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 21:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 21:06	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 21:06	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 21:06	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 21:06	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 21:06	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 21:06	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 21:06	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		1		08/21/09 21:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120		1		08/21/09 21:06	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		08/21/09 21:06	2037-26-5	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-7 **Lab ID: 9250932003** Collected: 08/13/09 10:50 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**4110**	mg/L	40.0	40.0	2		08/18/09 17:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**168**	mg/L	5.6		1		08/20/09 18:44		
9040 pH	Analytical Method: EPA 9040								
pH	**4.2**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**1980**	mg/L	250	250	50		08/27/09 11:42	14808-79-8	

Sample: RW-10 **Lab ID: 9250932004** Collected: 08/13/09 11:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**179**	mg/L	0.65	0.65	1		08/20/09 20:56		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**159**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 20:56	7440-47-3	
Iron	**7670**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 20:56	7439-89-6	
Sodium	**12500**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 20:56	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**29.2**	ug/L	25.0	2.2	1		08/21/09 21:30	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 21:30	71-43-2	
Bromodichloromethane	**18.2**	ug/L	1.0	0.18	1		08/21/09 21:30	75-27-4	
Bromoform	**1.1**	ug/L	1.0	0.26	1		08/21/09 21:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 21:30	74-83-9	
2-Butanone (MEK)	**7.5**	ug/L	5.0	0.96	1		08/21/09 21:30	78-93-3	
Carbon disulfide	**6.1**	ug/L	2.0	1.2	1		08/21/09 21:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 21:30	56-23-5	
Chlorobenzene	**1.7**	ug/L	1.0	0.23	1		08/21/09 21:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 21:30	75-00-3	
Chloroform	**235**	ug/L	5.0	0.70	5		08/23/09 15:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 21:30	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 21:30	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 21:30	96-12-8	
Dibromochloromethane	**2.1**	ug/L	1.0	0.21	1		08/21/09 21:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 21:30	106-93-4	
1,2-Dichlorobenzene	**0.79J**	ug/L	1.0	0.30	1		08/21/09 21:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 21:30	541-73-1	
1,4-Dichlorobenzene	**0.93J**	ug/L	1.0	0.33	1		08/21/09 21:30	106-46-7	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-10 **Lab ID: 9250932004** Collected: 08/13/09 11:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 21:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 21:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 21:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 21:30	75-35-4	
cis-1,2-Dichloroethene	**2.5**	ug/L	1.0	0.19	1		08/21/09 21:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 21:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 21:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 21:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 21:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 21:30	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 21:30	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 21:30	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 21:30	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 21:30	108-87-2	
Methylene Chloride	**6.1**	ug/L	2.0	0.97	1		08/21/09 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.69J**	ug/L	5.0	0.33	1		08/21/09 21:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 21:30	1634-04-4	
Naphthalene	**6.2**	ug/L	1.0	0.24	1		08/21/09 21:30	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 21:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 21:30	79-34-5	
Tetrachloroethene	**0.52J**	ug/L	1.0	0.46	1		08/21/09 21:30	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 21:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 21:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 21:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 21:30	79-00-5	
Trichloroethene	**4.1**	ug/L	1.0	0.47	1		08/21/09 21:30	79-01-6	
Trichlorofluoromethane	**0.24J**	ug/L	1.0	0.20	1		08/21/09 21:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 21:30	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 21:30	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 21:30	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 21:30	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 21:30	460-00-4	
Dibromofluoromethane (S)	102	%	85-115		1		08/21/09 21:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		08/21/09 21:30	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		08/21/09 21:30	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**3980**	mg/L	20.0	20.0	1		08/18/09 17:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**342**	mg/L	25.0		1		08/20/09 18:44		
9040 pH	Analytical Method: EPA 9040								
pH	**4.7**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-10 **Lab ID: 9250932004** Collected: 08/13/09 11:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**945**	mg/L	250	250	50		08/27/09 11:44	14808-79-8	

Sample: PMW-7R **Lab ID: 9250932005** Collected: 08/13/09 11:45 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**418**	mg/L	13.0	13.0	20		08/21/09 12:22		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**26.8J**	ug/L	100	8.0	20	08/18/09 09:50	08/21/09 12:22	7440-47-3	
Iron	**22700**	ug/L	1000	280	20	08/18/09 09:50	08/21/09 12:22	7439-89-6	
Sodium	**900000**	ug/L	100000	50.0	20	08/18/09 09:50	08/21/09 12:22	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	125	10.8	5		08/23/09 16:01	67-64-1	
Benzene	ND	ug/L	5.0	1.2	5		08/23/09 16:01	71-43-2	
Bromodichloromethane	**6.1**	ug/L	5.0	0.90	5		08/23/09 16:01	75-27-4	
Bromoform	**1.4J**	ug/L	5.0	1.3	5		08/23/09 16:01	75-25-2	
Bromomethane	ND	ug/L	25.0	1.4	5		08/23/09 16:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	4.8	5		08/23/09 16:01	78-93-3	
Carbon disulfide	ND	ug/L	10.0	5.8	5		08/23/09 16:01	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1.2	5		08/23/09 16:01	56-23-5	
Chlorobenzene	**8.6**	ug/L	5.0	1.2	5		08/23/09 16:01	108-90-7	
Chloroethane	ND	ug/L	5.0	2.7	5		08/23/09 16:01	75-00-3	
Chloroform	**375**	ug/L	5.0	0.70	5		08/23/09 16:01	67-66-3	
Chloromethane	ND	ug/L	5.0	0.55	5		08/23/09 16:01	74-87-3	
Cyclohexane	ND	ug/L	5.0	1.8	5		08/23/09 16:01	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	15.0	12.6	5		08/23/09 16:01	96-12-8	
Dibromochloromethane	ND	ug/L	5.0	1.0	5		08/23/09 16:01	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1.4	5		08/23/09 16:01	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	5		08/23/09 16:01	95-50-1	
1,3-Dichlorobenzene	**1.3J**	ug/L	5.0	1.2	5		08/23/09 16:01	541-73-1	
1,4-Dichlorobenzene	**3.7J**	ug/L	5.0	1.6	5		08/23/09 16:01	106-46-7	
Dichlorodifluoromethane	ND	ug/L	5.0	1.0	5		08/23/09 16:01	75-71-8	
1,1-Dichloroethane	ND	ug/L	5.0	1.6	5		08/23/09 16:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	5.0	0.60	5		08/23/09 16:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	2.8	5		08/23/09 16:01	75-35-4	
cis-1,2-Dichloroethene	**44.4**	ug/L	5.0	0.95	5		08/23/09 16:01	156-59-2	
trans-1,2-Dichloroethene	**3.5J**	ug/L	5.0	2.4	5		08/23/09 16:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	5.0	1.4	5		08/23/09 16:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	5.0	0.65	5		08/23/09 16:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1.3	5		08/23/09 16:01	10061-02-6	
Ethylbenzene	ND	ug/L	5.0	1.5	5		08/23/09 16:01	100-41-4	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-7R **Lab ID: 9250932005** Collected: 08/13/09 11:45 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
2-Hexanone	ND	ug/L	25.0	2.3	5		08/23/09 16:01	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	5.0	2.0	5		08/23/09 16:01	98-82-8	
Methyl acetate	ND	ug/L	50.0	4.1	5		08/23/09 16:01	79-20-9	
Methylcyclohexane	ND	ug/L	50.0	9.4	5		08/23/09 16:01	108-87-2	
Methylene Chloride	ND	ug/L	10.0	4.8	5		08/23/09 16:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1.6	5		08/23/09 16:01	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.0	5		08/23/09 16:01	1634-04-4	
Naphthalene	ND	ug/L	5.0	1.2	5		08/23/09 16:01	91-20-3	
Styrene	ND	ug/L	5.0	1.3	5		08/23/09 16:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	2.0	5		08/23/09 16:01	79-34-5	
Tetrachloroethene	ND	ug/L	5.0	2.3	5		08/23/09 16:01	127-18-4	
Toluene	ND	ug/L	5.0	1.3	5		08/23/09 16:01	108-88-3	
1,2,4-Trichlorobenzene	**19.9**	ug/L	5.0	1.8	5		08/23/09 16:01	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	5.0	2.4	5		08/23/09 16:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1.4	5		08/23/09 16:01	79-00-5	
Trichloroethene	**29.2**	ug/L	5.0	2.4	5		08/23/09 16:01	79-01-6	
Trichlorofluoromethane	ND	ug/L	5.0	1.0	5		08/23/09 16:01	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5.0	0.95	5		08/23/09 16:01	76-13-1	
Vinyl chloride	ND	ug/L	5.0	3.1	5		08/23/09 16:01	75-01-4	
m&p-Xylene	ND	ug/L	10.0	3.3	5		08/23/09 16:01	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.2	5		08/23/09 16:01	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		5		08/23/09 16:01	460-00-4	
Dibromofluoromethane (S)	96	%	85-115		5		08/23/09 16:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	79-120		5		08/23/09 16:01	17060-07-0	
Toluene-d8 (S)	98	%	70-120		5		08/23/09 16:01	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**7000**	mg/L	20.0	20.0	1		08/19/09 20:58		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**95.1**	mg/L	7.1		1		08/20/09 18:45		
9040 pH	Analytical Method: EPA 9040								
pH	**3.1**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**3060**	mg/L	500	500	100		08/27/09 12:00	14808-79-8	

Sample: PMW-10 **Lab ID: 9250929001** Collected: 08/13/09 16:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**110**	mg/L	0.65	0.65	1		08/20/09 18:52		

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-10 **Lab ID: 9250929001** Collected: 08/13/09 16:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**29.1**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 18:52	7440-47-3	
Iron	**2190**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 18:52	7439-89-6	
Sodium	**30400**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 18:52	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/22/09 07:09	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/22/09 07:09	71-43-2	
Bromodichloromethane	**4.3**	ug/L	1.0	0.18	1		08/22/09 07:09	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/22/09 07:09	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/22/09 07:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/22/09 07:09	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/22/09 07:09	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/22/09 07:09	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/22/09 07:09	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/22/09 07:09	75-00-3	
Chloroform	**24.4**	ug/L	1.0	0.14	1		08/22/09 07:09	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/22/09 07:09	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/22/09 07:09	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/22/09 07:09	96-12-8	
Dibromochloromethane	**0.83J**	ug/L	1.0	0.21	1		08/22/09 07:09	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/22/09 07:09	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/22/09 07:09	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/22/09 07:09	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/22/09 07:09	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/22/09 07:09	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/22/09 07:09	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/22/09 07:09	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/22/09 07:09	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/22/09 07:09	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/22/09 07:09	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/22/09 07:09	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/22/09 07:09	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/22/09 07:09	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/22/09 07:09	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/22/09 07:09	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/22/09 07:09	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/22/09 07:09	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/22/09 07:09	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/22/09 07:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/22/09 07:09	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/22/09 07:09	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/22/09 07:09	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/22/09 07:09	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/22/09 07:09	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/22/09 07:09	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/22/09 07:09	108-88-3	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-10 **Lab ID: 9250929001** Collected: 08/13/09 16:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/22/09 07:09	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/22/09 07:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/22/09 07:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/22/09 07:09	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/22/09 07:09	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/22/09 07:09	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/22/09 07:09	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/22/09 07:09	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/22/09 07:09	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		08/22/09 07:09	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		08/22/09 07:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120		1		08/22/09 07:09	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		08/22/09 07:09	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**288**	mg/L	20.0	20.0	1		08/18/09 17:20		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**34.3**	mg/L	7.1		1		08/19/09 16:32		
9040 pH	Analytical Method: EPA 9040								
pH	**7.1**	Std. Units	0.10	0.10	1		08/25/09 17:30		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**46.0**	mg/L	10.0	10.0	2		08/27/09 11:08	14808-79-8	

Sample: PMW-11 **Lab ID: 9250929002** Collected: 08/13/09 17:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**416**	mg/L	6.5	6.5	10		08/20/09 18:56		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**54.3**	ug/L	50.0	4.0	10	08/18/09 09:50	08/20/09 18:56	7440-47-3	
Iron	**6230**	ug/L	500	140	10	08/18/09 09:50	08/20/09 18:56	7439-89-6	
Sodium	**746000**	ug/L	50000	25.0	10	08/18/09 09:50	08/20/09 18:56	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**5.4J**	ug/L	25.0	2.2	1		08/21/09 11:18	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 11:18	71-43-2	
Bromodichloromethane	**0.70J**	ug/L	1.0	0.18	1		08/21/09 11:18	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 11:18	75-25-2	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-11 **Lab ID: 9250929002** Collected: 08/13/09 17:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 11:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 11:18	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 11:18	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 11:18	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 11:18	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 11:18	75-00-3	
Chloroform	**53.1**	ug/L	1.0	0.14	1		08/21/09 11:18	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 11:18	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 11:18	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 11:18	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 11:18	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 11:18	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 11:18	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 11:18	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 11:18	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 11:18	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 11:18	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 11:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 11:18	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 11:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 11:18	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 11:18	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 11:18	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 11:18	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 11:18	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 11:18	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 11:18	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 11:18	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 11:18	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 11:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 11:18	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 11:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 11:18	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 11:18	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 11:18	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 11:18	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 11:18	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 11:18	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 11:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 11:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 11:18	79-01-6	
Trichlorofluoromethane	**0.22J**	ug/L	1.0	0.20	1		08/21/09 11:18	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 11:18	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 11:18	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 11:18	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 11:18	95-47-6	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-11 **Lab ID: 9250929002** Collected: 08/13/09 17:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
4-Bromofluorobenzene (S)	101	%	87-109		1		08/21/09 11:18	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		08/21/09 11:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	79-120		1		08/21/09 11:18	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		08/21/09 11:18	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**40000**	mg/L	200	200	10		08/18/09 17:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**276**	mg/L	19.2		1		08/20/09 18:33		
9040 pH	Analytical Method: EPA 9040								
pH	**6.4**	Std. Units	0.10	0.10	1		08/25/09 17:30		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**247**	mg/L	50.0	50.0	10		08/27/09 11:10	14808-79-8	

Sample: PMW-12 **Lab ID: 9250929003** Collected: 08/13/09 15:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**182**	mg/L	0.65	0.65	1		08/20/09 19:00		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**9.0**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 19:00	7440-47-3	
Iron	**39400**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 19:00	7439-89-6	
Sodium	**81900**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 19:00	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/21/09 11:37	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 11:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 11:37	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 11:37	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 11:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 11:37	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 11:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 11:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 11:37	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 11:37	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		08/21/09 11:37	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 11:37	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 11:37	110-82-7	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-12 **Lab ID: 9250929003** Collected: 08/13/09 15:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 11:37	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 11:37	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 11:37	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 11:37	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 11:37	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 11:37	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 11:37	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 11:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 11:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 11:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 11:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 11:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 11:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 11:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 11:37	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 11:37	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 11:37	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 11:37	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 11:37	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 11:37	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 11:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 11:37	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 11:37	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 11:37	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 11:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 11:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 11:37	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 11:37	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 11:37	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 11:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 11:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 11:37	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 11:37	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 11:37	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 11:37	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 11:37	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 11:37	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		08/21/09 11:37	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		08/21/09 11:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	79-120		1		08/21/09 11:37	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		08/21/09 11:37	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**714**	mg/L	20.0	20.0	1		08/18/09 17:23		

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-12 **Lab ID: 9250929003** Collected: 08/13/09 15:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**7260**	mg/L	250		1		08/20/09 18:39		
9040 pH	Analytical Method: EPA 9040								
pH	**6.6**	Std. Units	0.10	0.10	1		08/25/09 17:30		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**1430**	mg/L	250	250	50		08/27/09 10:16	14808-79-8	

Sample: RW-2 **Lab ID: 9250929004** Collected: 08/13/09 15:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**430**	mg/L	65.0	65.0	100		08/21/09 12:32		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**8.7**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 19:04	7440-47-3	
Iron	**1320**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 19:04	7439-89-6	
Sodium	**17900**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 19:04	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**4.4J**	ug/L	25.0	2.2	1		08/21/09 14:51	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 14:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 14:51	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 14:51	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 14:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 14:51	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 14:51	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 14:51	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 14:51	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 14:51	75-00-3	
Chloroform	**32.9**	ug/L	1.0	0.14	1		08/21/09 14:51	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 14:51	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 14:51	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 14:51	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 14:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 14:51	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 14:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 14:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 14:51	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 14:51	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 14:51	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 14:51	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 14:51	75-35-4	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-2 **Lab ID: 9250929004** Collected: 08/13/09 15:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 14:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 14:51	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 14:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 14:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 14:51	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 14:51	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 14:51	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 14:51	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 14:51	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 14:51	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 14:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 14:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 14:51	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 14:51	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 14:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 14:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 14:51	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 14:51	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 14:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 14:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 14:51	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 14:51	79-01-6	
Trichlorofluoromethane	**0.70J**	ug/L	1.0	0.20	1		08/21/09 14:51	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 14:51	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 14:51	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 14:51	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 14:51	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 14:51	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		08/21/09 14:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120		1		08/21/09 14:51	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		08/21/09 14:51	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**6400**	mg/L	40.0	40.0	2		08/18/09 17:23		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**263**	mg/L	16.7		1		08/20/09 18:41		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/25/09 17:30		H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**2280**	mg/L	500	500	100		08/27/09 11:43	14808-79-8	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-8 **Lab ID: 9250931001** Collected: 08/13/09 13:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**564**	mg/L	6.5	6.5	10		08/21/09 12:18		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**260**	ug/L	50.0	4.0	10	08/18/09 09:50	08/21/09 12:18	7440-47-3	
Iron	**4760**	ug/L	500	140	10	08/18/09 09:50	08/21/09 12:18	7439-89-6	
Sodium	**796000**	ug/L	50000	25.0	10	08/18/09 09:50	08/21/09 12:18	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**22.5J**	ug/L	25.0	2.2	1		08/21/09 18:42	67-64-1	
Benzene	**0.29J**	ug/L	1.0	0.25	1		08/21/09 18:42	71-43-2	
Bromodichloromethane	**2.8**	ug/L	1.0	0.18	1		08/21/09 18:42	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 18:42	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 18:42	74-83-9	
2-Butanone (MEK)	**6.1**	ug/L	5.0	0.96	1		08/21/09 18:42	78-93-3	
Carbon disulfide	**4.4**	ug/L	2.0	1.2	1		08/21/09 18:42	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 18:42	56-23-5	
Chlorobenzene	**0.74J**	ug/L	1.0	0.23	1		08/21/09 18:42	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 18:42	75-00-3	
Chloroform	**576**	ug/L	10.0	1.4	10		08/23/09 14:49	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 18:42	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 18:42	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 18:42	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 18:42	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 18:42	106-93-4	
1,2-Dichlorobenzene	**0.36J**	ug/L	1.0	0.30	1		08/21/09 18:42	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 18:42	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 18:42	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 18:42	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 18:42	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 18:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 18:42	75-35-4	
cis-1,2-Dichloroethene	**0.63J**	ug/L	1.0	0.19	1		08/21/09 18:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 18:42	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 18:42	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 18:42	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 18:42	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 18:42	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 18:42	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 18:42	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 18:42	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 18:42	108-87-2	
Methylene Chloride	**4.3**	ug/L	2.0	0.97	1		08/21/09 18:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.86J**	ug/L	5.0	0.33	1		08/21/09 18:42	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 18:42	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 18:42	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 18:42	100-42-5	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-8 **Lab ID: 9250931001** Collected: 08/13/09 13:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 18:42	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 18:42	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 18:42	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 18:42	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 18:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 18:42	79-00-5	
Trichloroethene	**1.2**	ug/L	1.0	0.47	1		08/21/09 18:42	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 18:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 18:42	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 18:42	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 18:42	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 18:42	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 18:42	460-00-4	
Dibromofluoromethane (S)	102	%	85-115		1		08/21/09 18:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		08/21/09 18:42	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		08/21/09 18:42	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**9780**	mg/L	100	100	5		08/18/09 17:24		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**143**	mg/L	7.1		1		08/20/09 18:42		
9040 pH	Analytical Method: EPA 9040								
pH	**4.5**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**1670**	mg/L	500	500	100		08/27/09 11:58	14808-79-8	

Sample: RW-6 **Lab ID: 9250931002** Collected: 08/13/09 14:20 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**364**	mg/L	13.0	13.0	20		08/21/09 12:39		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**11.6**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 19:12	7440-47-3	
Iron	**1140**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 19:12	7439-89-6	
Sodium	**99700**	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 19:12	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/23/09 15:13	67-64-1	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-6 **Lab ID: 9250931002** Collected: 08/13/09 14:20 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		08/23/09 15:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/23/09 15:13	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/23/09 15:13	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/23/09 15:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/23/09 15:13	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/23/09 15:13	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/23/09 15:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/23/09 15:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/23/09 15:13	75-00-3	
Chloroform	**3.6**	ug/L	1.0	0.14	1		08/23/09 15:13	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/23/09 15:13	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/23/09 15:13	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/23/09 15:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/23/09 15:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/23/09 15:13	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/23/09 15:13	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/23/09 15:13	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/23/09 15:13	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/23/09 15:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/23/09 15:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/23/09 15:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/23/09 15:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/23/09 15:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/23/09 15:13	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/23/09 15:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/23/09 15:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/23/09 15:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/23/09 15:13	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/23/09 15:13	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/23/09 15:13	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/23/09 15:13	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/23/09 15:13	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/23/09 15:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/23/09 15:13	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/23/09 15:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/23/09 15:13	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/23/09 15:13	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/23/09 15:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/23/09 15:13	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/23/09 15:13	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/23/09 15:13	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/23/09 15:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/23/09 15:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/23/09 15:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/23/09 15:13	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/23/09 15:13	76-13-1	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: RW-6 **Lab ID: 9250931002** Collected: 08/13/09 14:20 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/23/09 15:13	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/23/09 15:13	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/23/09 15:13	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		08/23/09 15:13	460-00-4	
Dibromofluoromethane (S)	95	%	85-115		1		08/23/09 15:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120		1		08/23/09 15:13	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		08/23/09 15:13	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**2050**	mg/L	20.0	20.0	1		08/18/09 17:24		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**4.8**	mg/L	2.8		1		08/20/09 18:42		
9040 pH	Analytical Method: EPA 9040								
pH	**6.6**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**477**	mg/L	250	250	50		08/27/09 11:16	14808-79-8	

Sample: PMW-2R **Lab ID: 9250931003** Collected: 08/13/09 14:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	**63.3**	mg/L	0.65	0.65	1		08/20/09 19:27		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**7.4**	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 19:27	7440-47-3	
Iron	**7260**	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 19:27	7439-89-6	
Sodium	**354000**	ug/L	100000	50.0	20	08/18/09 09:50	08/21/09 12:42	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/21/09 19:30	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 19:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 19:30	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 19:30	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 19:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 19:30	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 19:30	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 19:30	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 19:30	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 19:30	75-00-3	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-2R **Lab ID: 9250931003** Collected: 08/13/09 14:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Chloroform	**0.68J**	ug/L	1.0	0.14	1		08/21/09 19:30	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 19:30	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 19:30	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 19:30	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 19:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 19:30	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 19:30	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 19:30	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 19:30	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 19:30	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 19:30	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 19:30	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 19:30	75-35-4	
cis-1,2-Dichloroethene	**0.58J**	ug/L	1.0	0.19	1		08/21/09 19:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 19:30	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 19:30	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 19:30	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 19:30	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 19:30	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 19:30	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 19:30	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 19:30	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 19:30	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 19:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 19:30	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 19:30	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 19:30	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 19:30	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 19:30	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 19:30	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 19:30	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 19:30	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 19:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 19:30	79-00-5	
Trichloroethene	**1.2**	ug/L	1.0	0.47	1		08/21/09 19:30	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 19:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 19:30	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 19:30	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 19:30	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 19:30	95-47-6	
4-Bromofluorobenzene (S)	98	%	87-109		1		08/21/09 19:30	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		08/21/09 19:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120		1		08/21/09 19:30	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		08/21/09 19:30	2037-26-5	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-2R **Lab ID: 9250931003** Collected: 08/13/09 14:15 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1350**	mg/L	20.0	20.0	1		08/18/09 17:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**40.0**	mg/L	8.3		1		08/20/09 18:42		
9040 pH	Analytical Method: EPA 9040								
pH	**7.0**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**282**	mg/L	250	250	50		08/27/09 11:48	14808-79-8	

Sample: PMW-17 **Lab ID: 9250931004** Collected: 08/13/09 13:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B								
Total Hardness	ND	mg/L	0.65	0.65	1		08/20/09 20:40		
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	ND	ug/L	5.0	0.40	1	08/18/09 09:50	08/20/09 20:40	7440-47-3	
Iron	ND	ug/L	50.0	14.0	1	08/18/09 09:50	08/20/09 20:40	7439-89-6	
Sodium	ND	ug/L	5000	2.5	1	08/18/09 09:50	08/20/09 20:40	7440-23-5	
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	**4.3J**	ug/L	25.0	2.2	1		08/21/09 19:54	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 19:54	71-43-2	
Bromodichloromethane	**0.58J**	ug/L	1.0	0.18	1		08/21/09 19:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 19:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 19:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 19:54	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 19:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 19:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 19:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 19:54	75-00-3	
Chloroform	**116**	ug/L	1.0	0.14	1		08/21/09 19:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 19:54	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 19:54	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 19:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 19:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 19:54	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 19:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 19:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 19:54	106-46-7	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-17 **Lab ID: 9250931004** Collected: 08/13/09 13:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 19:54	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 19:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 19:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 19:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 19:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 19:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 19:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 19:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 19:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 19:54	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 19:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 19:54	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 19:54	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 19:54	108-87-2	
Methylene Chloride	**3.0**	ug/L	2.0	0.97	1		08/21/09 19:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 19:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 19:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 19:54	91-20-3	
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 19:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 19:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 19:54	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 19:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 19:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 19:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 19:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 19:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 19:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 19:54	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 19:54	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 19:54	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 19:54	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		08/21/09 19:54	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		08/21/09 19:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120		1		08/21/09 19:54	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		08/21/09 19:54	2037-26-5	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**39900**	mg/L	200	200	10		08/18/09 17:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	**57.2**	mg/L	5.0		1		08/20/09 18:43		
9040 pH	Analytical Method: EPA 9040								
pH	**6.0**	Std. Units	0.10	0.10	1		08/21/09 20:05		H1,H6

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: PMW-17 **Lab ID: 9250931004** Collected: 08/13/09 13:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D516-90 Sulfate Water	Analytical Method: ASTM D516-90								
Sulfate	**1790**	mg/L	250	250	50		08/27/09 11:36	14808-79-8	M0

Sample: TRIP BLANK **Lab ID: 9250931005** Collected: 08/13/09 00:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Acetone	ND	ug/L	25.0	2.2	1		08/21/09 17:54	67-64-1	
Benzene	ND	ug/L	1.0	0.25	1		08/21/09 17:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/21/09 17:54	75-27-4	
Bromoform	ND	ug/L	1.0	0.26	1		08/21/09 17:54	75-25-2	
Bromomethane	ND	ug/L	5.0	0.29	1		08/21/09 17:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	0.96	1		08/21/09 17:54	78-93-3	
Carbon disulfide	ND	ug/L	2.0	1.2	1		08/21/09 17:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/21/09 17:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		08/21/09 17:54	108-90-7	
Chloroethane	ND	ug/L	1.0	0.54	1		08/21/09 17:54	75-00-3	
Chloroform	ND	ug/L	1.0	0.14	1		08/21/09 17:54	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/21/09 17:54	74-87-3	
Cyclohexane	ND	ug/L	1.0	0.36	1		08/21/09 17:54	110-82-7	
1,2-Dibromo-3-chloropropane	ND	ug/L	3.0	2.5	1		08/21/09 17:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.21	1		08/21/09 17:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/21/09 17:54	106-93-4	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.30	1		08/21/09 17:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.24	1		08/21/09 17:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/21/09 17:54	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	0.21	1		08/21/09 17:54	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.32	1		08/21/09 17:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/21/09 17:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.56	1		08/21/09 17:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.19	1		08/21/09 17:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.49	1		08/21/09 17:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/21/09 17:54	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/21/09 17:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/21/09 17:54	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/21/09 17:54	100-41-4	
2-Hexanone	ND	ug/L	5.0	0.46	1		08/21/09 17:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	0.40	1		08/21/09 17:54	98-82-8	
Methyl acetate	ND	ug/L	10.0	0.82	1		08/21/09 17:54	79-20-9	
Methylcyclohexane	ND	ug/L	10.0	1.9	1		08/21/09 17:54	108-87-2	
Methylene Chloride	ND	ug/L	2.0	0.97	1		08/21/09 17:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	0.33	1		08/21/09 17:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/21/09 17:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/21/09 17:54	91-20-3	

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ANALYTICAL RESULTS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Sample: TRIP BLANK **Lab ID: 9250931005** Collected: 08/13/09 00:00 Received: 08/14/09 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260								
Styrene	ND	ug/L	1.0	0.26	1		08/21/09 17:54	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.40	1		08/21/09 17:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/21/09 17:54	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/21/09 17:54	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	0.35	1		08/21/09 17:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/21/09 17:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/21/09 17:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/21/09 17:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/21/09 17:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	0.19	1		08/21/09 17:54	76-13-1	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/21/09 17:54	75-01-4	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/21/09 17:54	1330-20-7	
o-Xylene	ND	ug/L	1.0	0.23	1		08/21/09 17:54	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		08/21/09 17:54	460-00-4	
Dibromofluoromethane (S)	98	%	85-115		1		08/21/09 17:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		1		08/21/09 17:54	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		08/21/09 17:54	2037-26-5	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9461 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

METHOD BLANK: 325084 Matrix: Water
Associated Lab Samples: 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	0.0J	2.5	08/20/09 18:32	

LABORATORY CONTROL SAMPLE: 325085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	250	256	102	80-120	

SAMPLE DUPLICATE: 325086

Parameter	Units	9250929002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	276	270	2	20	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: MSV/8031 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9250931001, 9250931002, 9250931003, 9250931004, 9250931005, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

METHOD BLANK: 325697 Matrix: Water
Associated Lab Samples: 9250931001, 9250931002, 9250931003, 9250931004, 9250931005, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/09 17:30	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/09 17:30	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/09 17:30	
1,1-Dichloroethane	ug/L	ND	1.0	08/21/09 17:30	
1,1-Dichloroethene	ug/L	ND	1.0	08/21/09 17:30	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/21/09 17:30	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	08/21/09 17:30	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/21/09 17:30	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/21/09 17:30	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/09 17:30	
1,2-Dichloropropane	ug/L	ND	1.0	08/21/09 17:30	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/21/09 17:30	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/09 17:30	
2-Butanone (MEK)	ug/L	ND	5.0	08/21/09 17:30	
2-Hexanone	ug/L	ND	5.0	08/21/09 17:30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	08/21/09 17:30	
Acetone	ug/L	ND	25.0	08/21/09 17:30	
Benzene	ug/L	ND	1.0	08/21/09 17:30	
Bromodichloromethane	ug/L	ND	1.0	08/21/09 17:30	
Bromoform	ug/L	ND	1.0	08/21/09 17:30	
Bromomethane	ug/L	ND	5.0	08/21/09 17:30	
Carbon tetrachloride	ug/L	ND	1.0	08/21/09 17:30	
Chlorobenzene	ug/L	ND	1.0	08/21/09 17:30	
Chloroethane	ug/L	ND	1.0	08/21/09 17:30	
Chloroform	ug/L	ND	1.0	08/21/09 17:30	
Chloromethane	ug/L	ND	1.0	08/21/09 17:30	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 17:30	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 17:30	
Dibromochloromethane	ug/L	ND	1.0	08/21/09 17:30	
Dichlorodifluoromethane	ug/L	ND	1.0	08/21/09 17:30	
Ethylbenzene	ug/L	ND	1.0	08/21/09 17:30	
m&p-Xylene	ug/L	ND	2.0	08/21/09 17:30	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/21/09 17:30	
Methylene Chloride	ug/L	ND	2.0	08/21/09 17:30	
Naphthalene	ug/L	ND	1.0	08/21/09 17:30	
o-Xylene	ug/L	ND	1.0	08/21/09 17:30	
Styrene	ug/L	ND	1.0	08/21/09 17:30	
Tetrachloroethene	ug/L	ND	1.0	08/21/09 17:30	
Toluene	ug/L	ND	1.0	08/21/09 17:30	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 17:30	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 17:30	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

METHOD BLANK: 325697 Matrix: Water

Associated Lab Samples: 9250931001, 9250931002, 9250931003, 9250931004, 9250931005, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	08/21/09 17:30	
Trichlorofluoromethane	ug/L	ND	1.0	08/21/09 17:30	
Vinyl chloride	ug/L	ND	1.0	08/21/09 17:30	
1,2-Dichloroethane-d4 (S)	%	99	79-120	08/21/09 17:30	
4-Bromofluorobenzene (S)	%	100	87-109	08/21/09 17:30	
Dibromofluoromethane (S)	%	98	85-115	08/21/09 17:30	
Toluene-d8 (S)	%	99	70-120	08/21/09 17:30	

LABORATORY CONTROL SAMPLE: 325698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.1	100	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.1	100	73-127	
1,1,2-Trichloroethane	ug/L	50	49.9	100	77-123	
1,1-Dichloroethane	ug/L	50	49.8	100	76-129	
1,1-Dichloroethene	ug/L	50	52.2	104	78-146	
1,2,4-Trichlorobenzene	ug/L	50	48.7	97	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	52.2	104	81-125	
1,2-Dichlorobenzene	ug/L	50	51.4	103	82-126	
1,2-Dichloroethane	ug/L	50	50.1	100	72-126	
1,2-Dichloropropane	ug/L	50	51.8	104	80-127	
1,3-Dichlorobenzene	ug/L	50	50.2	100	82-124	
1,4-Dichlorobenzene	ug/L	50	49.2	98	79-125	
2-Butanone (MEK)	ug/L	100	96.3	96	50-134	
2-Hexanone	ug/L	100	97.8	98	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.1	98	70-131	
Acetone	ug/L	100	102	102	50-146	
Benzene	ug/L	50	48.9	98	78-128	
Bromodichloromethane	ug/L	50	49.1	98	81-125	
Bromoform	ug/L	50	53.4	107	71-125	
Bromomethane	ug/L	50	56.6	113	50-150	
Carbon tetrachloride	ug/L	50	54.9	110	81-137	
Chlorobenzene	ug/L	50	50.8	102	82-126	
Chloroethane	ug/L	50	48.6	97	69-140	
Chloroform	ug/L	50	49.9	100	77-129	
Chloromethane	ug/L	50	49.9	100	54-139	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	76-133	
cis-1,3-Dichloropropene	ug/L	50	54.0	108	76-127	
Dibromochloromethane	ug/L	50	52.2	104	77-125	
Dichlorodifluoromethane	ug/L	50	51.5	103	50-150	
Ethylbenzene	ug/L	50	52.9	106	80-127	
m&p-Xylene	ug/L	100	111	111	82-127	
Methyl-tert-butyl ether	ug/L	50	49.2	98	71-130	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

LABORATORY CONTROL SAMPLE: 325698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/L	50	49.7	99	67-133	
Naphthalene	ug/L	50	45.8	92	52-136	
o-Xylene	ug/L	50	54.0	108	83-124	
Styrene	ug/L	50	56.9	114	80-130	
Tetrachloroethene	ug/L	50	53.6	107	78-128	
Toluene	ug/L	50	49.6	99	76-126	
trans-1,2-Dichloroethene	ug/L	50	48.9	98	78-134	
trans-1,3-Dichloropropene	ug/L	50	54.6	109	75-125	
Trichloroethene	ug/L	50	51.6	103	79-127	
Trichlorofluoromethane	ug/L	50	52.7	105	76-148	
Vinyl chloride	ug/L	50	51.9	104	67-143	
1,2-Dichloroethane-d4 (S)	%			97	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			99	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 325807 325808

Parameter	Units	9250931003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	52.7	54.3	105	109	60-150	3	30	
Benzene	ug/L	ND	50	50	46.0	48.3	92	96	74-136	5	30	
Chlorobenzene	ug/L	ND	50	50	49.0	52.1	98	104	79-135	6	30	
Toluene	ug/L	ND	50	50	47.7	50.5	95	101	73-131	6	30	
Trichloroethene	ug/L	1.2	50	50	52.3	55.2	102	108	73-131	5	30	
1,2-Dichloroethane-d4 (S)	%						93	93	79-120			
4-Bromofluorobenzene (S)	%						102	103	87-109			
Dibromofluoromethane (S)	%						92	92	85-115			
Toluene-d8 (S)	%						98	97	70-120			

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9482 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

SAMPLE DUPLICATE: 326132

Parameter	Units	9250932002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	9.6	9.6	0	20	H6

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: MPRP/4918 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

METHOD BLANK: 323233 Matrix: Water
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	ND	5.0	08/19/09 21:56	
Iron	ug/L	ND	50.0	08/19/09 21:56	
Sodium	ug/L	ND	5000	08/19/09 21:56	

LABORATORY CONTROL SAMPLE: 323234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	498	100	80-120	
Iron	ug/L	5000	5210	104	80-120	
Sodium	ug/L	5000	5410	108	80-120	

MATRIX SPIKE SAMPLE: 323235

Parameter	Units	9250905015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	7.2	500	501	99	75-125	
Iron	ug/L	4090	5000	9320	105	75-125	
Sodium	ug/L	35500	5000	40900	108	75-125	

SAMPLE DUPLICATE: 323236

Parameter	Units	9250905016 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium	ug/L	14.0	13.8	1	20	
Iron	ug/L	7520	7450	1	20	
Sodium	ug/L	36800	36900	0	20	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9441
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 9250929001

METHOD BLANK: 324482
Matrix: Water
Associated Lab Samples: 9250929001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	0.0J	2.5	08/19/09 16:21	

LABORATORY CONTROL SAMPLE: 324483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	250	220	88	80-120	

SAMPLE DUPLICATE: 324484

Parameter	Units	9250996006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	99.0	103	4	20	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: MSV/8019 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9250929004

METHOD BLANK: 324856 | Matrix: Water
Associated Lab Samples: 9250929004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/09 09:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/09 09:21	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/09 09:21	
1,1-Dichloroethane	ug/L	ND	1.0	08/21/09 09:21	
1,1-Dichloroethene	ug/L	ND	1.0	08/21/09 09:21	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/21/09 09:21	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	08/21/09 09:21	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/21/09 09:21	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:21	
1,2-Dichloroethane	ug/L	0.35J	1.0	08/21/09 09:21	
1,2-Dichloropropane	ug/L	ND	1.0	08/21/09 09:21	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:21	
2-Butanone (MEK)	ug/L	ND	5.0	08/21/09 09:21	
2-Hexanone	ug/L	ND	5.0	08/21/09 09:21	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	08/21/09 09:21	
Acetone	ug/L	ND	25.0	08/21/09 09:21	
Benzene	ug/L	ND	1.0	08/21/09 09:21	
Bromodichloromethane	ug/L	ND	1.0	08/21/09 09:21	
Bromoform	ug/L	ND	1.0	08/21/09 09:21	
Bromomethane	ug/L	ND	5.0	08/21/09 09:21	
Carbon tetrachloride	ug/L	ND	1.0	08/21/09 09:21	
Chlorobenzene	ug/L	ND	1.0	08/21/09 09:21	
Chloroethane	ug/L	ND	1.0	08/21/09 09:21	
Chloroform	ug/L	ND	1.0	08/21/09 09:21	
Chloromethane	ug/L	ND	1.0	08/21/09 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 09:21	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 09:21	
Dibromochloromethane	ug/L	ND	1.0	08/21/09 09:21	
Dichlorodifluoromethane	ug/L	ND	1.0	08/21/09 09:21	
Ethylbenzene	ug/L	ND	1.0	08/21/09 09:21	
m&p-Xylene	ug/L	ND	2.0	08/21/09 09:21	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/21/09 09:21	
Methylene Chloride	ug/L	3.2	2.0	08/21/09 09:21	C9
Naphthalene	ug/L	ND	1.0	08/21/09 09:21	
o-Xylene	ug/L	ND	1.0	08/21/09 09:21	
Styrene	ug/L	ND	1.0	08/21/09 09:21	
Tetrachloroethene	ug/L	ND	1.0	08/21/09 09:21	
Toluene	ug/L	ND	1.0	08/21/09 09:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 09:21	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 09:21	
Trichloroethene	ug/L	ND	1.0	08/21/09 09:21	
Trichlorofluoromethane	ug/L	ND	1.0	08/21/09 09:21	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

METHOD BLANK: 324856 Matrix: Water

Associated Lab Samples: 9250929004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Vinyl chloride	ug/L	ND	1.0	08/21/09 09:21	
1,2-Dichloroethane-d4 (S)	%	106	79-120	08/21/09 09:21	
4-Bromofluorobenzene (S)	%	100	87-109	08/21/09 09:21	
Dibromofluoromethane (S)	%	97	85-115	08/21/09 09:21	
Toluene-d8 (S)	%	100	70-120	08/21/09 09:21	

LABORATORY CONTROL SAMPLE: 324857

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	51.7	103	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	51.2	102	73-127	
1,1,2-Trichloroethane	ug/L	50	55.0	110	77-123	
1,1-Dichloroethane	ug/L	50	51.4	103	76-129	
1,1-Dichloroethene	ug/L	50	52.0	104	78-146	
1,2,4-Trichlorobenzene	ug/L	50	54.0	108	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	58.5	117	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	56.0	112	81-125	
1,2-Dichlorobenzene	ug/L	50	51.0	102	82-126	
1,2-Dichloroethane	ug/L	50	55.9	112	72-126	
1,2-Dichloropropane	ug/L	50	54.9	110	80-127	
1,3-Dichlorobenzene	ug/L	50	51.1	102	82-124	
1,4-Dichlorobenzene	ug/L	50	49.6	99	79-125	
2-Butanone (MEK)	ug/L	100	112	112	50-134	
2-Hexanone	ug/L	100	117	117	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	115	115	70-131	
Acetone	ug/L	100	133	133	50-146	
Benzene	ug/L	50	49.7	99	78-128	
Bromodichloromethane	ug/L	50	54.4	109	81-125	
Bromoform	ug/L	50	50.5	101	71-125	
Bromomethane	ug/L	50	53.0	106	50-150	
Carbon tetrachloride	ug/L	50	60.0	120	81-137	
Chlorobenzene	ug/L	50	50.3	101	82-126	
Chloroethane	ug/L	50	43.1	86	69-140	
Chloroform	ug/L	50	50.5	101	77-129	
Chloromethane	ug/L	50	36.5	73	54-139	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	76-133	
cis-1,3-Dichloropropene	ug/L	50	55.6	111	76-127	
Dibromochloromethane	ug/L	50	54.0	108	77-125	
Dichlorodifluoromethane	ug/L	50	42.4	85	50-150	
Ethylbenzene	ug/L	50	51.6	103	80-127	
m&p-Xylene	ug/L	100	108	108	82-127	
Methyl-tert-butyl ether	ug/L	50	55.3	111	71-130	
Methylene Chloride	ug/L	50	48.5	97	67-133	
Naphthalene	ug/L	50	52.8	106	52-136	
o-Xylene	ug/L	50	55.9	112	83-124	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

LABORATORY CONTROL SAMPLE: 324857

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Styrene	ug/L	50	49.0	98	80-130	
Tetrachloroethene	ug/L	50	48.2	96	78-128	
Toluene	ug/L	50	50.8	102	76-126	
trans-1,2-Dichloroethene	ug/L	50	48.6	97	78-134	
trans-1,3-Dichloropropene	ug/L	50	50.7	101	75-125	
Trichloroethene	ug/L	50	55.1	110	79-127	
Trichlorofluoromethane	ug/L	50	47.5	95	76-148	
Vinyl chloride	ug/L	50	50.7	101	67-143	
1,2-Dichloroethane-d4 (S)	%			101	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 324858 324859

Parameter	Units	9250929004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	64.1	63.4	128	127	60-150	1	30	
Benzene	ug/L	ND	50	50	57.0	56.9	114	114	74-136	0	30	
Chlorobenzene	ug/L	ND	50	50	56.8	56.9	114	114	79-135	0	30	
Toluene	ug/L	ND	50	50	57.6	57.2	115	114	73-131	1	30	
Trichloroethene	ug/L	ND	50	50	59.5	59.8	119	120	73-131	1	30	
1,2-Dichloroethane-d4 (S)	%						109	107	79-120			
4-Bromofluorobenzene (S)	%						99	100	87-109			
Dibromofluoromethane (S)	%						100	100	85-115			
Toluene-d8 (S)	%						100	99	70-120			

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9446 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 9250932005

METHOD BLANK: 324672 Matrix: Water
Associated Lab Samples: 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	20.0	08/19/09 20:57	

LABORATORY CONTROL SAMPLE: 324673

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	266	106	80-120	

SAMPLE DUPLICATE: 324674

Parameter	Units	9250932005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	7000	7100	1	20	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: MSV/8018 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9250929002, 9250929003

METHOD BLANK: 324849 | Matrix: Water
Associated Lab Samples: 9250929002, 9250929003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/09 09:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/09 09:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/09 09:40	
1,1-Dichloroethane	ug/L	ND	1.0	08/21/09 09:40	
1,1-Dichloroethene	ug/L	ND	1.0	08/21/09 09:40	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/21/09 09:40	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	08/21/09 09:40	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/21/09 09:40	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:40	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/09 09:40	
1,2-Dichloropropane	ug/L	ND	1.0	08/21/09 09:40	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/09 09:40	
2-Butanone (MEK)	ug/L	ND	5.0	08/21/09 09:40	
2-Hexanone	ug/L	ND	5.0	08/21/09 09:40	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	08/21/09 09:40	
Acetone	ug/L	ND	25.0	08/21/09 09:40	
Benzene	ug/L	ND	1.0	08/21/09 09:40	
Bromodichloromethane	ug/L	ND	1.0	08/21/09 09:40	
Bromoform	ug/L	ND	1.0	08/21/09 09:40	
Bromomethane	ug/L	ND	5.0	08/21/09 09:40	
Carbon tetrachloride	ug/L	ND	1.0	08/21/09 09:40	
Chlorobenzene	ug/L	ND	1.0	08/21/09 09:40	
Chloroethane	ug/L	ND	1.0	08/21/09 09:40	
Chloroform	ug/L	ND	1.0	08/21/09 09:40	
Chloromethane	ug/L	ND	1.0	08/21/09 09:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 09:40	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 09:40	
Dibromochloromethane	ug/L	ND	1.0	08/21/09 09:40	
Dichlorodifluoromethane	ug/L	ND	1.0	08/21/09 09:40	
Ethylbenzene	ug/L	ND	1.0	08/21/09 09:40	
m&p-Xylene	ug/L	ND	2.0	08/21/09 09:40	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/21/09 09:40	
Methylene Chloride	ug/L	1.7J	2.0	08/21/09 09:40	
Naphthalene	ug/L	ND	1.0	08/21/09 09:40	
o-Xylene	ug/L	ND	1.0	08/21/09 09:40	
Styrene	ug/L	ND	1.0	08/21/09 09:40	
Tetrachloroethene	ug/L	ND	1.0	08/21/09 09:40	
Toluene	ug/L	ND	1.0	08/21/09 09:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 09:40	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 09:40	
Trichloroethene	ug/L	ND	1.0	08/21/09 09:40	
Trichlorofluoromethane	ug/L	ND	1.0	08/21/09 09:40	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

METHOD BLANK: 324849 Matrix: Water

Associated Lab Samples: 9250929002, 9250929003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Vinyl chloride	ug/L	ND	1.0	08/21/09 09:40	
1,2-Dichloroethane-d4 (S)	%	106	79-120	08/21/09 09:40	
4-Bromofluorobenzene (S)	%	100	87-109	08/21/09 09:40	
Dibromofluoromethane (S)	%	98	85-115	08/21/09 09:40	
Toluene-d8 (S)	%	99	70-120	08/21/09 09:40	

LABORATORY CONTROL SAMPLE: 324850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.2	108	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	49.4	99	73-127	
1,1,2-Trichloroethane	ug/L	50	53.2	106	77-123	
1,1-Dichloroethane	ug/L	50	52.8	106	76-129	
1,1-Dichloroethene	ug/L	50	54.2	108	78-146	
1,2,4-Trichlorobenzene	ug/L	50	52.6	105	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	55.4	111	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	54.6	109	81-125	
1,2-Dichlorobenzene	ug/L	50	51.5	103	82-126	
1,2-Dichloroethane	ug/L	50	56.2	112	72-126	
1,2-Dichloropropane	ug/L	50	53.9	108	80-127	
1,3-Dichlorobenzene	ug/L	50	51.1	102	82-124	
1,4-Dichlorobenzene	ug/L	50	50.9	102	79-125	
2-Butanone (MEK)	ug/L	100	111	111	50-134	
2-Hexanone	ug/L	100	112	112	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	70-131	
Acetone	ug/L	100	124	124	50-146	
Benzene	ug/L	50	50.6	101	78-128	
Bromodichloromethane	ug/L	50	53.9	108	81-125	
Bromoform	ug/L	50	49.0	98	71-125	
Bromomethane	ug/L	50	60.1	120	50-150	
Carbon tetrachloride	ug/L	50	63.2	126	81-137	
Chlorobenzene	ug/L	50	50.8	102	82-126	
Chloroethane	ug/L	50	46.2	92	69-140	
Chloroform	ug/L	50	51.4	103	77-129	
Chloromethane	ug/L	50	38.4	77	54-139	
cis-1,2-Dichloroethene	ug/L	50	53.0	106	76-133	
cis-1,3-Dichloropropene	ug/L	50	54.6	109	76-127	
Dibromochloromethane	ug/L	50	53.7	107	77-125	
Dichlorodifluoromethane	ug/L	50	46.7	93	50-150	
Ethylbenzene	ug/L	50	52.7	105	80-127	
m&p-Xylene	ug/L	100	109	109	82-127	
Methyl-tert-butyl ether	ug/L	50	53.7	107	71-130	
Methylene Chloride	ug/L	50	51.2	102	67-133	
Naphthalene	ug/L	50	50.4	101	52-136	
o-Xylene	ug/L	50	56.1	112	83-124	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

LABORATORY CONTROL SAMPLE: 324850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Styrene	ug/L	50	49.3	99	80-130	
Tetrachloroethene	ug/L	50	49.1	98	78-128	
Toluene	ug/L	50	50.8	102	76-126	
trans-1,2-Dichloroethene	ug/L	50	50.0	100	78-134	
trans-1,3-Dichloropropene	ug/L	50	49.6	99	75-125	
Trichloroethene	ug/L	50	56.0	112	79-127	
Trichlorofluoromethane	ug/L	50	51.2	102	76-148	
Vinyl chloride	ug/L	50	53.4	107	67-143	
1,2-Dichloroethane-d4 (S)	%			101	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 324851 324852

Parameter	Units	9250929003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	66.2	66.0	132	132	60-150	0	30	
Benzene	ug/L	ND	50	50	58.8	57.1	118	114	74-136	3	30	
Chlorobenzene	ug/L	ND	50	50	58.1	57.7	116	115	79-135	1	30	
Toluene	ug/L	ND	50	50	58.8	58.2	118	116	73-131	1	30	
Trichloroethene	ug/L	ND	50	50	61.7	60.4	123	121	73-131	2	30	
1,2-Dichloroethane-d4 (S)	%						108	107	79-120			
4-Bromofluorobenzene (S)	%						99	99	87-109			
Dibromofluoromethane (S)	%						99	99	85-115			
Toluene-d8 (S)	%						100	98	70-120			

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9507 Analysis Method: EPA 9040
QC Batch Method: EPA 9040 Analysis Description: 9040 pH
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004

SAMPLE DUPLICATE: 326978

Parameter	Units	9250624002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	6.7	6.7	0	20	H6

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: MSV/8013 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9250929001

METHOD BLANK: 324821 | Matrix: Water
Associated Lab Samples: 9250929001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/09 21:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/09 21:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/09 21:47	
1,1-Dichloroethane	ug/L	ND	1.0	08/21/09 21:47	
1,1-Dichloroethene	ug/L	ND	1.0	08/21/09 21:47	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	08/21/09 21:47	
1,2-Dibromo-3-chloropropane	ug/L	ND	3.0	08/21/09 21:47	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/21/09 21:47	
1,2-Dichlorobenzene	ug/L	ND	1.0	08/21/09 21:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/09 21:47	
1,2-Dichloropropane	ug/L	ND	1.0	08/21/09 21:47	
1,3-Dichlorobenzene	ug/L	ND	1.0	08/21/09 21:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/09 21:47	
2-Butanone (MEK)	ug/L	ND	5.0	08/21/09 21:47	
2-Hexanone	ug/L	ND	5.0	08/21/09 21:47	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	08/21/09 21:47	
Acetone	ug/L	ND	25.0	08/21/09 21:47	
Benzene	ug/L	ND	1.0	08/21/09 21:47	
Bromodichloromethane	ug/L	ND	1.0	08/21/09 21:47	
Bromoform	ug/L	ND	1.0	08/21/09 21:47	
Bromomethane	ug/L	ND	5.0	08/21/09 21:47	
Carbon disulfide	ug/L	ND	2.0	08/21/09 21:47	
Carbon tetrachloride	ug/L	ND	1.0	08/21/09 21:47	
Chlorobenzene	ug/L	ND	1.0	08/21/09 21:47	
Chloroethane	ug/L	ND	1.0	08/21/09 21:47	
Chloroform	ug/L	ND	1.0	08/21/09 21:47	
Chloromethane	ug/L	ND	1.0	08/21/09 21:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 21:47	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 21:47	
Dibromochloromethane	ug/L	ND	1.0	08/21/09 21:47	
Dichlorodifluoromethane	ug/L	ND	1.0	08/21/09 21:47	
Ethylbenzene	ug/L	ND	1.0	08/21/09 21:47	
m&p-Xylene	ug/L	ND	2.0	08/21/09 21:47	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/21/09 21:47	
Methylene Chloride	ug/L	ND	2.0	08/21/09 21:47	
Naphthalene	ug/L	ND	1.0	08/21/09 21:47	
o-Xylene	ug/L	ND	1.0	08/21/09 21:47	
Styrene	ug/L	ND	1.0	08/21/09 21:47	
Tetrachloroethene	ug/L	ND	1.0	08/21/09 21:47	
Toluene	ug/L	ND	1.0	08/21/09 21:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/09 21:47	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/21/09 21:47	
Trichloroethene	ug/L	ND	1.0	08/21/09 21:47	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

METHOD BLANK: 324821 Matrix: Water

Associated Lab Samples: 9250929001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichlorofluoromethane	ug/L	ND	1.0	08/21/09 21:47	
Vinyl chloride	ug/L	ND	1.0	08/21/09 21:47	
1,2-Dichloroethane-d4 (S)	%	108	79-120	08/21/09 21:47	
4-Bromofluorobenzene (S)	%	101	87-109	08/21/09 21:47	
Dibromofluoromethane (S)	%	99	85-115	08/21/09 21:47	
Toluene-d8 (S)	%	100	70-120	08/21/09 21:47	

LABORATORY CONTROL SAMPLE: 324822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.5	113	80-129	
1,1,2,2-Tetrachloroethane	ug/L	50	53.0	106	73-127	
1,1,2-Trichloroethane	ug/L	50	56.1	112	77-123	
1,1-Dichloroethane	ug/L	50	52.8	106	76-129	
1,1-Dichloroethene	ug/L	50	56.8	114	78-146	
1,2,4-Trichlorobenzene	ug/L	50	55.4	111	68-127	
1,2-Dibromo-3-chloropropane	ug/L	50	57.6	115	65-128	
1,2-Dibromoethane (EDB)	ug/L	50	56.3	113	81-125	
1,2-Dichlorobenzene	ug/L	50	51.8	104	82-126	
1,2-Dichloroethane	ug/L	50	59.4	119	72-126	
1,2-Dichloropropane	ug/L	50	55.7	111	80-127	
1,3-Dichlorobenzene	ug/L	50	52.4	105	82-124	
1,4-Dichlorobenzene	ug/L	50	52.4	105	79-125	
2-Butanone (MEK)	ug/L	100	114	114	50-134	
2-Hexanone	ug/L	100	113	113	58-138	
4-Methyl-2-pentanone (MIBK)	ug/L	100	116	116	70-131	
Acetone	ug/L	100	142	142	50-146	
Benzene	ug/L	50	51.6	103	78-128	
Bromodichloromethane	ug/L	50	57.4	115	81-125	
Bromoform	ug/L	50	50.0	100	71-125	
Bromomethane	ug/L	50	56.9	114	50-150	
Carbon disulfide	ug/L	50	55.7	111	54-150	
Carbon tetrachloride	ug/L	50	67.7	135	81-137	
Chlorobenzene	ug/L	50	52.4	105	82-126	
Chloroethane	ug/L	50	45.0	90	69-140	
Chloroform	ug/L	50	54.3	109	77-129	
Chloromethane	ug/L	50	36.1	72	54-139	
cis-1,2-Dichloroethene	ug/L	50	54.4	109	76-133	
cis-1,3-Dichloropropene	ug/L	50	58.6	117	76-127	
Dibromochloromethane	ug/L	50	55.1	110	77-125	
Dichlorodifluoromethane	ug/L	50	47.1	94	50-150	
Ethylbenzene	ug/L	50	53.9	108	80-127	
m&p-Xylene	ug/L	100	114	114	82-127	
Methyl-tert-butyl ether	ug/L	50	56.1	112	71-130	
Methylene Chloride	ug/L	50	50.9	102	67-133	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

LABORATORY CONTROL SAMPLE: 324822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	50	53.0	106	52-136	
o-Xylene	ug/L	50	57.5	115	83-124	
Styrene	ug/L	50	50.4	101	80-130	
Tetrachloroethene	ug/L	50	50.5	101	78-128	
Toluene	ug/L	50	52.2	104	76-126	
trans-1,2-Dichloroethene	ug/L	50	51.6	103	78-134	
trans-1,3-Dichloropropene	ug/L	50	54.1	108	75-125	
Trichloroethene	ug/L	50	56.4	113	79-127	
Trichlorofluoromethane	ug/L	50	54.7	109	76-148	
Vinyl chloride	ug/L	50	55.9	112	67-143	
1,2-Dichloroethane-d4 (S)	%			105	79-120	
4-Bromofluorobenzene (S)	%			104	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			100	70-120	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WETA/5746 Analysis Method: ASTM D516-90
QC Batch Method: ASTM D516-90 Analysis Description: ASTM D516-90 Sulfate Water
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

METHOD BLANK: 327943 Matrix: Water
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004, 9250932005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	08/27/09 10:10	

LABORATORY CONTROL SAMPLE: 327944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.8	104	90-110	

MATRIX SPIKE SAMPLE: 327945

Parameter	Units	9251085004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	1070	20	1120	252	75-125	M0

MATRIX SPIKE SAMPLE: 327950

Parameter	Units	9250931004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	1790	20	1460	-1626	75-125	M0

SAMPLE DUPLICATE: 327949

Parameter	Units	9251085005 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	482	464	4	20	

SAMPLE DUPLICATE: 327951

Parameter	Units	9250932001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	1330	1410	6	20	

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QUALITY CONTROL DATA

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

QC Batch: WET/9416 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004

METHOD BLANK: 323761 Matrix: Water
Associated Lab Samples: 9250929001, 9250929002, 9250929003, 9250929004, 9250931001, 9250931002, 9250931003, 9250931004, 9250932001, 9250932002, 9250932003, 9250932004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	20.0	08/18/09 17:12	

LABORATORY CONTROL SAMPLE: 323762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	280	112	80-120	

SAMPLE DUPLICATE: 323763

Parameter	Units	9250785002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2200	2160	2	20	

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QUALIFIERS

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C9	Common Laboratory Contaminant.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated more than 15 minutes after sample collection.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9250929001	PMW-10	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250929002	PMW-11	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250929003	PMW-12	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250929004	RW-2	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250931001	RW-8	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250931002	RW-6	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250931003	PMW-2R	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250931004	PMW-17	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250932001	RW-3R	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250932002	PMW-14R2	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250932003	RW-7	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250932004	RW-10	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250932005	PMW-7R	EPA 3010	MPRP/4918	EPA 6010	ICP/4566
9250929001	PMW-10	SM 2540C	WET/9416		
9250929002	PMW-11	SM 2540C	WET/9416		
9250929003	PMW-12	SM 2540C	WET/9416		
9250929004	RW-2	SM 2540C	WET/9416		
9250931001	RW-8	SM 2540C	WET/9416		
9250931002	RW-6	SM 2540C	WET/9416		
9250931003	PMW-2R	SM 2540C	WET/9416		
9250931004	PMW-17	SM 2540C	WET/9416		
9250932001	RW-3R	SM 2540C	WET/9416		
9250932002	PMW-14R2	SM 2540C	WET/9416		
9250932003	RW-7	SM 2540C	WET/9416		
9250932004	RW-10	SM 2540C	WET/9416		
9250929001	PMW-10	SM 2540D	WET/9441		
9250932005	PMW-7R	SM 2540C	WET/9446		
9250929001	PMW-10	EPA 8260	MSV/8013		
9250929002	PMW-11	EPA 8260	MSV/8018		
9250929003	PMW-12	EPA 8260	MSV/8018		
9250929004	RW-2	EPA 8260	MSV/8019		
9250929002	PMW-11	SM 2540D	WET/9461		
9250929003	PMW-12	SM 2540D	WET/9461		
9250929004	RW-2	SM 2540D	WET/9461		
9250931001	RW-8	SM 2540D	WET/9461		
9250931002	RW-6	SM 2540D	WET/9461		
9250931003	PMW-2R	SM 2540D	WET/9461		
9250931004	PMW-17	SM 2540D	WET/9461		
9250932001	RW-3R	SM 2540D	WET/9461		
9250932002	PMW-14R2	SM 2540D	WET/9461		
9250932003	RW-7	SM 2540D	WET/9461		
9250932004	RW-10	SM 2540D	WET/9461		
9250932005	PMW-7R	SM 2540D	WET/9461		
9250931001	RW-8	EPA 8260	MSV/8031		
9250931002	RW-6	EPA 8260	MSV/8031		

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www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9250931003	PMW-2R	EPA 8260	MSV/8031		
9250931004	PMW-17	EPA 8260	MSV/8031		
9250931005	TRIP BLANK	EPA 8260	MSV/8031		
9250932001	RW-3R	EPA 8260	MSV/8031		
9250932002	PMW-14R2	EPA 8260	MSV/8031		
9250932003	RW-7	EPA 8260	MSV/8031		
9250932004	RW-10	EPA 8260	MSV/8031		
9250932005	PMW-7R	EPA 8260	MSV/8031		
9250931001	RW-8	EPA 9040	WET/9482		
9250931002	RW-6	EPA 9040	WET/9482		
9250931003	PMW-2R	EPA 9040	WET/9482		
9250931004	PMW-17	EPA 9040	WET/9482		
9250932001	RW-3R	EPA 9040	WET/9482		
9250932002	PMW-14R2	EPA 9040	WET/9482		
9250932003	RW-7	EPA 9040	WET/9482		
9250932004	RW-10	EPA 9040	WET/9482		
9250932005	PMW-7R	EPA 9040	WET/9482		
9250929001	PMW-10	EPA 9040	WET/9507		
9250929002	PMW-11	EPA 9040	WET/9507		
9250929003	PMW-12	EPA 9040	WET/9507		
9250929004	RW-2	EPA 9040	WET/9507		
9250929001	PMW-10	ASTM D516-90	WETA/5746		
9250929002	PMW-11	ASTM D516-90	WETA/5746		
9250929003	PMW-12	ASTM D516-90	WETA/5746		
9250929004	RW-2	ASTM D516-90	WETA/5746		
9250931001	RW-8	ASTM D516-90	WETA/5746		
9250931002	RW-6	ASTM D516-90	WETA/5746		
9250931003	PMW-2R	ASTM D516-90	WETA/5746		
9250931004	PMW-17	ASTM D516-90	WETA/5746		
9250932001	RW-3R	ASTM D516-90	WETA/5746		
9250932002	PMW-14R2	ASTM D516-90	WETA/5746		
9250932003	RW-7	ASTM D516-90	WETA/5746		
9250932004	RW-10	ASTM D516-90	WETA/5746		
9250932005	PMW-7R	ASTM D516-90	WETA/5746		
9250929001	PMW-10	SM 2340B	ICP/4764		
9250929002	PMW-11	SM 2340B	ICP/4764		
9250929003	PMW-12	SM 2340B	ICP/4764		
9250929004	RW-2	SM 2340B	ICP/4764		
9250931001	RW-8	SM 2340B	ICP/4764		
9250931002	RW-6	SM 2340B	ICP/4764		
9250931003	PMW-2R	SM 2340B	ICP/4764		
9250931004	PMW-17	SM 2340B	ICP/4764		
9250932001	RW-3R	SM 2340B	ICP/4764		
9250932002	PMW-14R2	SM 2340B	ICP/4764		
9250932003	RW-7	SM 2340B	ICP/4764		
9250932004	RW-10	SM 2340B	ICP/4764		
9250932005	PMW-7R	SM 2340B	ICP/4764		

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP RIEGELWOOD L- AREA
Pace Project No.: 9250932

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1324526

Section A Required Client Information:

Company: URS Corporation
Address: 1600 Perimeter Park Dr. Morrisville, NC 27560
Email To: martha-meyeslee@urscorp.com
Phone: 919-461-1100 Fax: 919-461-1415
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Martha Meyeslee
Copy To:
Purchase Order No.:
Project Name: DP Riegelwood L-Area
Project Number: 31826560.00001

Section C Invoice Information:

Attention: SAME
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 2324-1

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 8260 VOCs	TSS	TDS	Sulfate/pH	metals 200.7	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. (Bottle order # 14707 925932)
1	RW-3R	WT	G			8-13	1425		7	3		1	3					3	1	1	1	1		001
2	PMW-14R2	WT	G			8-13	1015		7	3		1	3					3	1	1	1	1		002
3	RW-7	WT	G			8-13	1050		7	3		1	3					3	1	1	1	1		003
4	RW-10	WT	G			8-13	1115		7	3		1	3					3	1	1	1	1		004
5	PMW-7R	WT	G			8-13	1145		7	3		1	3					3	1	1	1	1		005
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
refer to martha_meyeslee@urscorp.com for analytes + detection limits order # 14707	[signature]	8-13	1845	Fed Ex-23rd street [signature]	08/14/09	0930	3.7	Yes	Yes	Yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jerry Muclejewski

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 8-13-09

Pace Analytical

Sample Condition Upon Receipt

Client Name: URS Project # 9250932

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used T060 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 3.7 Biological Tissue is Frozen: Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 08/14/09

Optional	
Proj. Due Date:	N/A
Proj. Name:	N/A

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☐Yes ☑No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): N/A		

Client Notification/ Resolution: Field Data Required? Y / N / N/A

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 8/17/09

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CHAIN-OF-CUSTODY / Analytical Request Document

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0998143

Section A Required Client Information:

Company	URS Corporation
Address	1600 Perimeter Park Dr Morrisville, NC 27560
Email To:	Martha_meyerslee@urscorp.com
Phone	919-461-1100
Fax	919-461-1415
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Martha Meyerslee
Copy To:	
Purchase Order No.:	
Project Name:	DP Ringwood E-Area
Project Number:	31826560.00001

Section C Invoice Information:

Attention:	SAME
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	2324-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☒NC ☐OH ☐SC ☐WI ☐OTHER _____

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis: 8260 VOCs	TSS	TDS	Sulfate, Iron, methyl tert butyl	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	RW-8					8-13	1315		7	3		1	3					3	1	1	1	1	001
2	RW-6					8-13	1420		7	3		1	3					3	1	1	1	1	002
3	PMW-2R					8-13	1415		7	3		1	3					3	1	1	1	1	003
4	PMW-17					8-13	1300		7	3		1	3					3	1	1	1	1	004
5	TRIP BLANK					Lab Supply			2									2					005
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Bottle order # 1470785931

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION
[signature]	8-13	1845	FedEx-23rd sheet [signature]	08/14/09	0731	5.2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jerry Maciejewski

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical

Sample Condition Upon Receipt

Client Name: URS Project # 9250931

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☑ yes ☐ no

Optional
Proj. Due Date: N/A
Proj. Name: N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used T060 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 3.2 Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: JBB 08/14/09

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished.	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): N/A		

Client Notification/ Resolution: Field Data Required? Y / N / N/A

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 8/17/09

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: of 1324527

Section A Required Client Information:

Company: URS Corporation
Address: 1600 Perimeter Park Dr.
Morrisville, NC 27560
Email To: martha_meyerslee@urscorp.com
Phone: 919-461-1100 Fax: 919-461-1415
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Martha Meyerslee
Copy To:
Purchase Order No.:
Project Name: DP Riegelwood L-Area
Project Number: 31826560.00001

Section C Invoice Information:

Attention: SAME
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 2324-1

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): 8260 VOCs	TSS	TDS	Sulfate/Cl	metals 6010	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PMW-10	WT	G			8-13	1600		7	3		1	3					3	1	1	1	1		001
2	PMW-11	WT	G			8-13	1700		7	3		1	3					3	1	1	1	1		002
3	PMW-12	WT	G			8-13	1515		7	3		1	3					3	1	1	1	1		003
4	RW-2	WT	G			8-13	1515		7	3		1	3					3	1	1	1	1		004
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

9250929

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
refer to martha_meyerslee@urscorp.com for analytes and detection limits order # 14707	[signature]	8-13-09	1845	Fed Ex 23rd Street						
				[signature] / PACE	08/14/09	0930	3-9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jerry Maciejewski
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 8-13-09

Sample Condition Upon Receipt

Pace Analytical

Client Name: URS Project # 9250929

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Optional	
Proj. Due Date:	N/A
Proj. Name:	N/A

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used T060 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 3.9 Biological Tissue is Frozen: Yes No (N/A)

Date and initials of person examining contents: JGT 08/14/09

Temp should be above freezing to 6°C

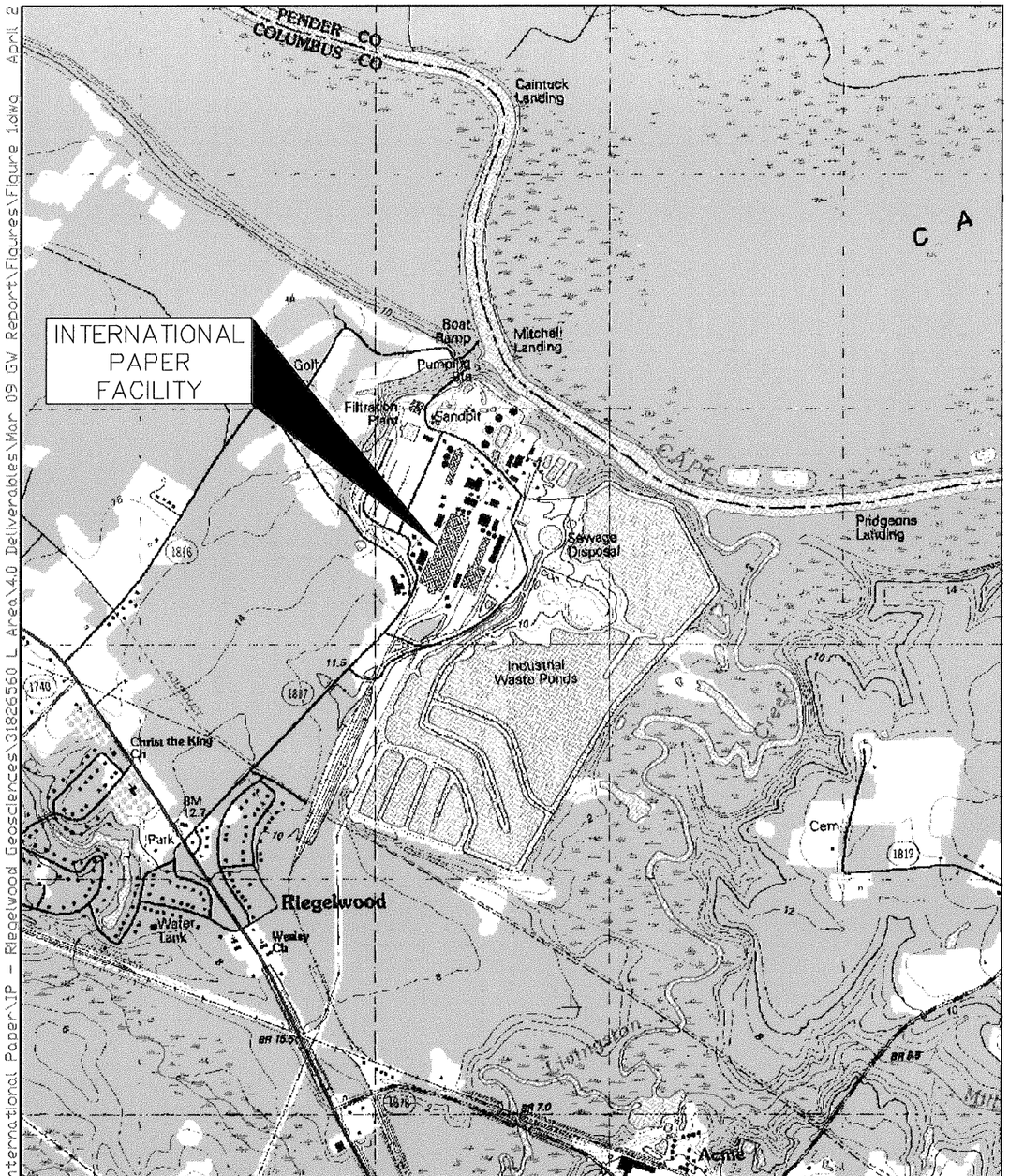
		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☐Yes ☑No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): N/A		

Client Notification/ Resolution: Field Data Required? Y / N / N/A

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: KH Date: 8/17/09



N.C.

QUADRANGLE LOCATION

SCALE IN FEET
0 2000

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
ACME, NC – DATED 1984

FIGURE 1. LOCATION MAP

INTERNATIONAL PAPER
RIEGELWOOD MILL
RIEGELWOOD, NORTH CAROLINA

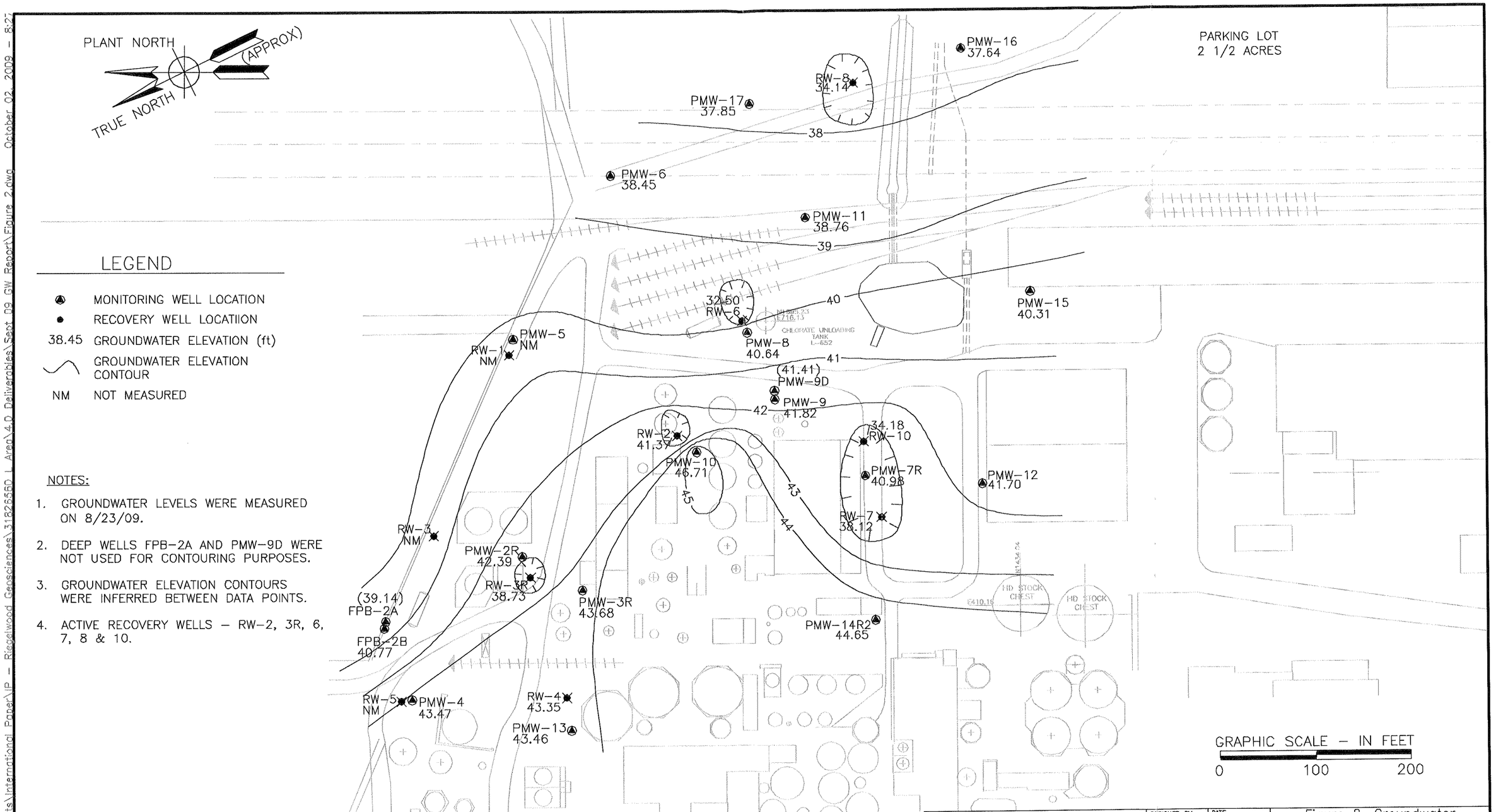
Prepared for:
INTERNATIONAL PAPER

URS
RDU, NORTH CAROLINA 27560

DRAWN BY: TSH
DATE: 04/07/09
PROJECT NO.

Fig. 1

P:\Jobs4\ Projects\International Paper\IP - Riegelwood Geosciences\3182656O L Area\4.0 Deliverables\Mar 09 GW Report\Figures\Figure 1.dwg April 2



LEGEND

- MONITORING WELL LOCATION
- RECOVERY WELL LOCATIION
- 38.45 GROUNDWATER ELEVATION (ft)
- GROUNDWATER ELEVATION CONTOUR
- NM NOT MEASURED

NOTES:

1. GROUNDWATER LEVELS WERE MEASURED ON 8/23/09.
2. DEEP WELLS FPB-2A AND PMW-9D WERE NOT USED FOR CONTOURING PURPOSES.
3. GROUNDWATER ELEVATION CONTOURS WERE INFERRED BETWEEN DATA POINTS.
4. ACTIVE RECOVERY WELLS – RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE AS SHOWN	DESIGNED BY	DATE	Figure 2. Groundwater Elevation Contour Map International Paper Riegelwood Mill, NC
CONFIDENTIAL–ALL RIGHTS RESERVED–PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 30SEP09	
	CHECKED BY CK	DATE 30SEP09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-2 / REV. 0
	APPROVED BY CK	DATE 30SEP09	

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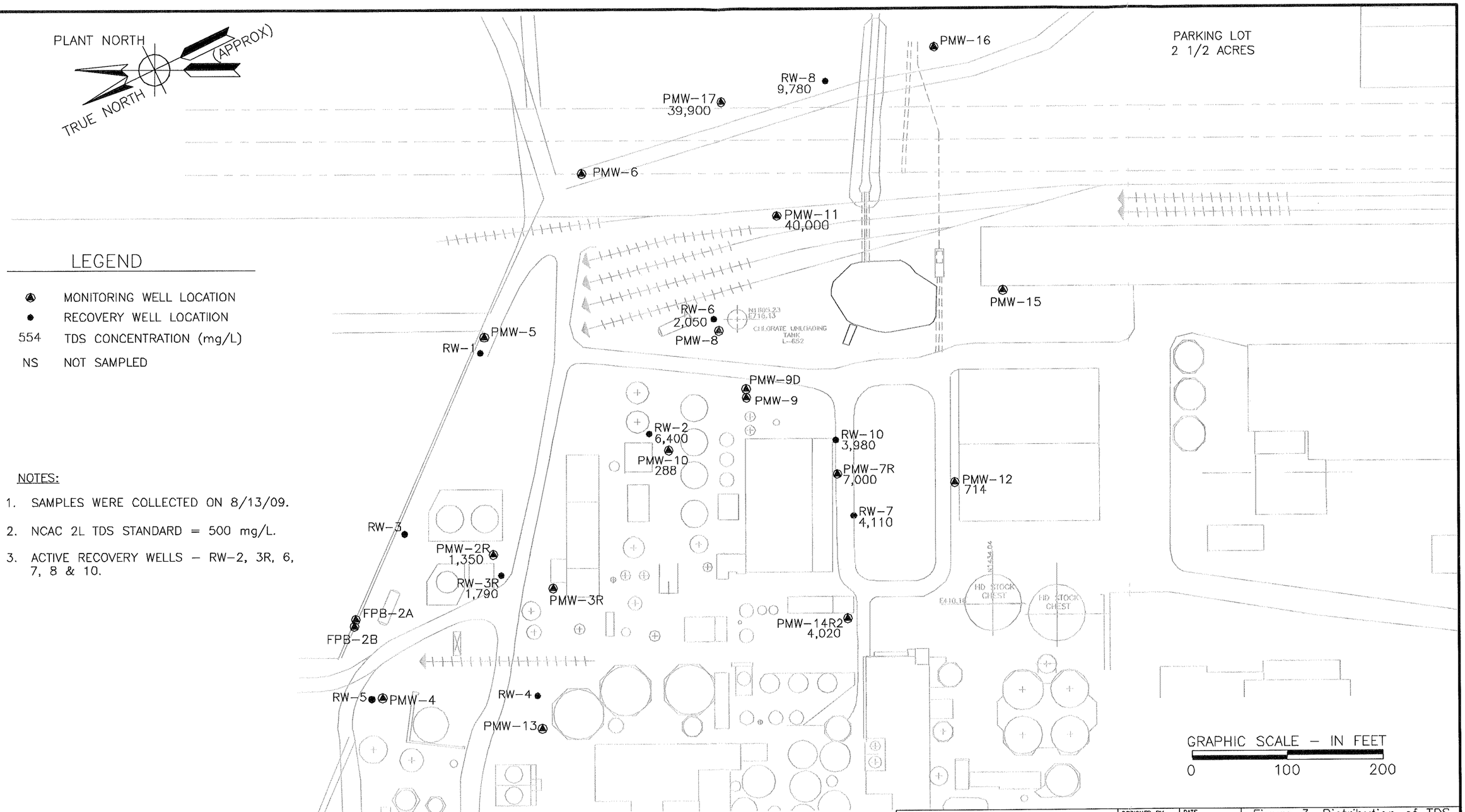

LEGEND

- MONITORING WELL LOCATION
- RECOVERY WELL LOCATIION
- 554 TDS CONCENTRATION (mg/L)
- NS NOT SAMPLED

NOTES:

1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L TDS STANDARD = 500 mg/L.
3. ACTIVE RECOVERY WELLS – RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE: AS SHOWN	DESIGNED BY	DATE	Figure 3. Distribution of TDS in Groundwater International Paper Riegelwood Mill, NC
CONFIDENTIAL-ALL RIGHTS RESERVED-PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 21APR09	
	CHECKED BY CK	DATE 13OCT09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-3 / REV. 0
	APPROVED BY CK	DATE 13OCT09	

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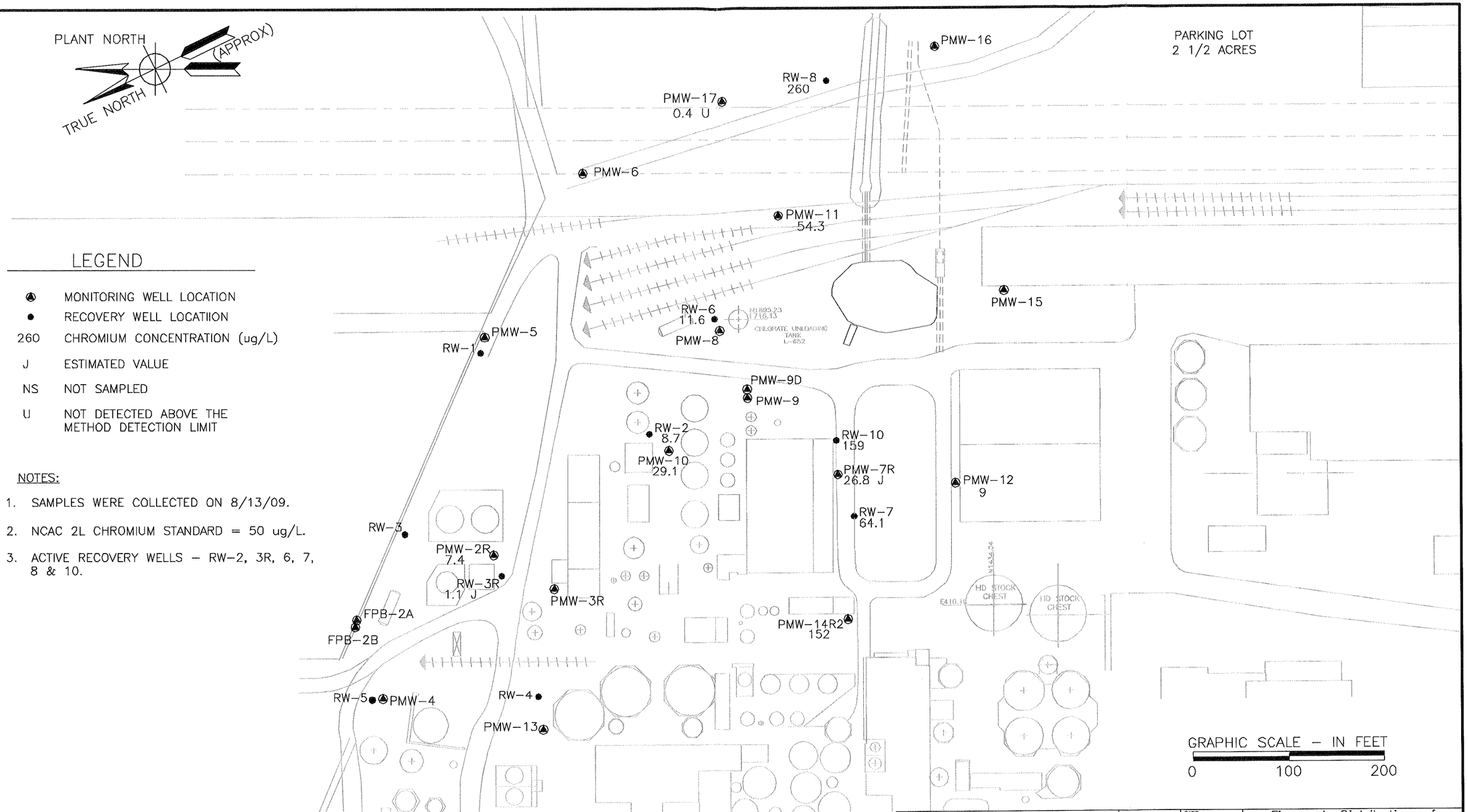


LEGEND

▲	MONITORING WELL LOCATION
●	RECOVERY WELL LOCATIION
260	CHROMIUM CONCENTRATION (ug/L)
J	ESTIMATED VALUE
NS	NOT SAMPLED
U	NOT DETECTED ABOVE THE METHOD DETECTION LIMIT

NOTES:

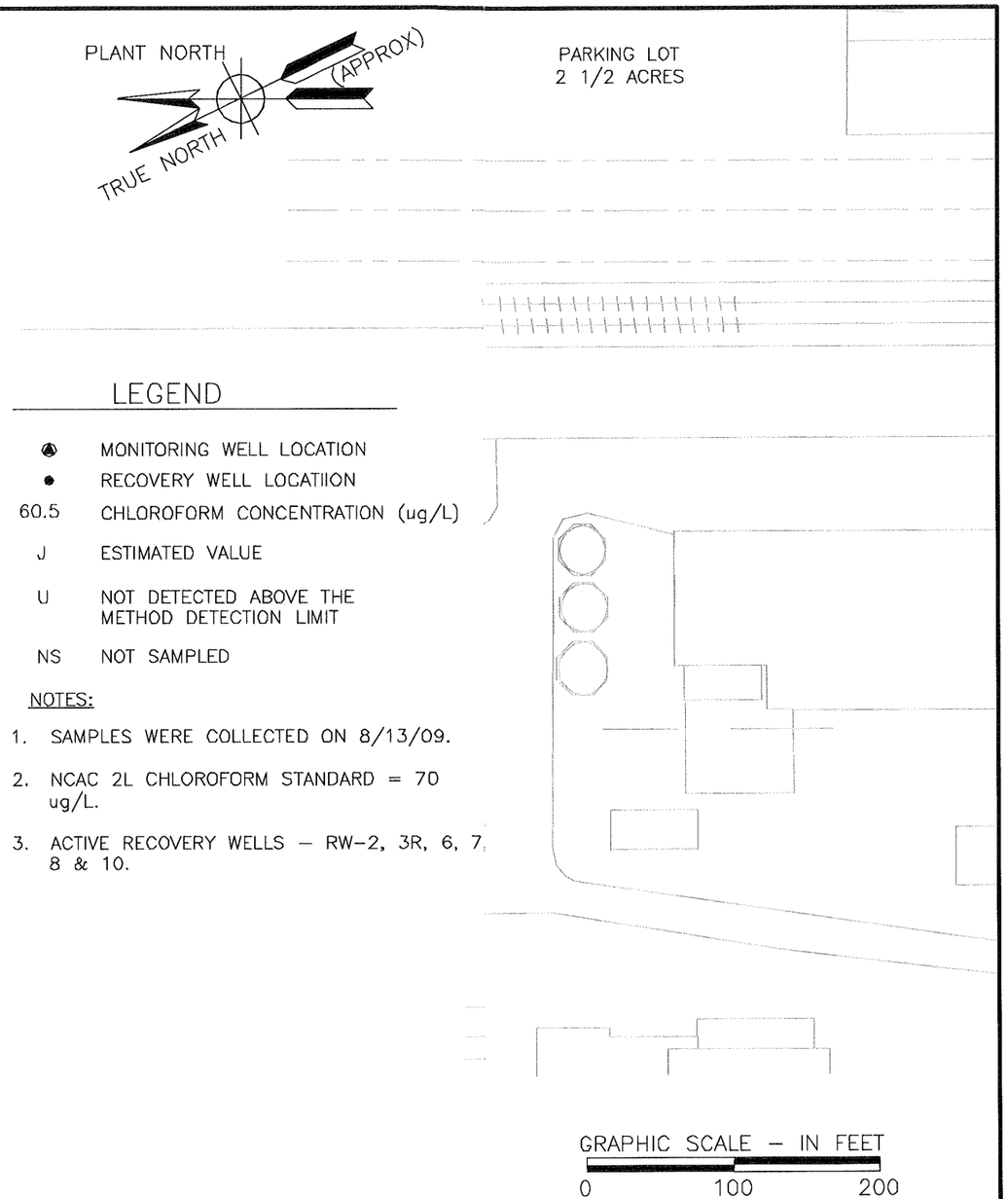
1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L CHROMIUM STANDARD = 50 ug/L.
3. ACTIVE RECOVERY WELLS – RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

SCALE: AS SHOWN	DESIGNED BY	DATE	Figure 4. Distribution of Chromium in Groundwater International Paper Riegelwood Mill, NC
CONFIDENTIAL–ALL RIGHTS RESERVED–PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY TSH	DATE 21APR09	
	CHECKED BY CK	DATE 13OCT09	CONTRACT NO. 31826560.00001 / DRAWING NO. FIGURE-4 / REV. 0
	APPROVED BY CK	DATE 13OCT09	

P:\Jobs4_Projects\International Paper\IP - Riegelwood Geosciences\31826560 L Area\4.0 Deliverables\Sept 09 GW Report\Figure 4.dwg October 14, 2009 - 3:41

P:\Jobs4 _Projects International Paper IP - Riegelwood Geosciences 31826560 L Area 4.0 Deliverables Sept 09 GW Report Figure 5.dwg October 14, 2009 - 3:41



LEGEND

◉	MONITORING WELL LOCATION
●	RECOVERY WELL LOCATIION
60.5	CHLOROFORM CONCENTRATION (ug/L)
J	ESTIMATED VALUE
U	NOT DETECTED ABOVE THE METHOD DETECTION LIMIT
NS	NOT SAMPLED

NOTES:

1. SAMPLES WERE COLLECTED ON 8/13/09.
2. NCAC 2L CHLOROFORM STANDARD = 70 ug/L.
3. ACTIVE RECOVERY WELLS - RW-2, 3R, 6, 7, 8 & 10.

REFERENCE: MCKIM & CREED, 7-28-93

ESIGNED BY	DATE	Figure 5. Distribution of Chloroform in Groundwater International Paper Riegelwood Mill, NC		
AWN BY TSH	DATE 21APR09			
ECKED BY CK	DATE 13OCT09	CONTRACT NO.	DRAWING NO.	REV.
PROVED BY CK	DATE 13OCT09	31826560.00001	FIGURE-5	0