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September 11, 2003

Mr. Tony Rutter
Remedial Project Manager
U.S. Environmental Protection Agency
Remedial Response Branch (SR-6J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

Subject: Groundwater Sampling Results Technical Memorandum for Spring 2003
Penta Wood Products Site
Town of Daniels, Wisconsin
Subcontract No. 291, Penta Wood Products (WI) Long Term Remedial Action
EPA Contract No. 68-W6-0025. WA No. 101-RALR-05WE

Dear Mr. Rutter:

Enclosed please find a technical memorandum with post-Remedial Action groundwater sampling results for the April, 2003 sampling round. Please contact Steve Paukner at (414) 272-1052, extension 476 if you have any questions or need further assistance.

Sincerely,

CH2M HILL

Steven L. Paukner

Steven Paukner
Project Chemist

c: Stephen Nathan/PO/USEPA (w/o enclosure)
Marshall McReynolds/CO/USEPA (w/o enclosure)
Bill Schultz/WDNR, Spooner
Regina Bayer/SM/CH2M HILL
Ike Johnson/PM/CH2M HILL
Dan Plomb/DPM/CH2M HILL
Phil Smith/RTL/CH2M HILL
Bill Andrae/ASM/CH2M HILL
Cherie Wilson/AA/CH2M HILL

# Semi-annual Groundwater Sampling Results April 2003 Sampling Event PentaWood Products Site

**PREPARED FOR:** Tony Rutter, USEPA

**PREPARED BY:** Steven Paukner, CH2M HILL

**COPIES:** Bill Schultz, WDNR
Gina Bayer, CH2M HILL
Phil Smith, CH2MHILL
Paul Arps, CH2M HILL

**DATE:** September 10, 2003

Groundwater samples were collected from five monitoring wells and four residential wells at the Penta Wood Product site in April 2003 for the semi-annual groundwater sampling event. Water levels were measured in all monitoring wells.

## Purpose and Scope

The purpose of the groundwater sampling events are to periodically monitor groundwater contaminant levels and natural attenuation parameters to assess the implemented remedy at the site. Parameters that are analyzed consist of PCP, BTEX, naphthalene, total and dissolved metals, and natural attenuation parameters (see the analytical results in Attachment 1 for the entire list). Water level measurements and oil thickness levels are also collected during each sampling event to assess the groundwater extraction capture zone when the groundwater extraction and treatment system is in operation, and to assess groundwater flow and NAPL thickness when the system is not operating. For the April 2003 sampling event, the groundwater extraction and treatment system was not operating, and had been shut down since the treatability studies finished in April, 2002.

## Water Level Measurements

Water levels in all monitoring wells were measured in April 2003. An oil-water interface probe was used to measure the distance from the top of the inner well casing to the water surface, and where applicable, to the oil. Water levels measured were consistent with historical levels taken at the site showing no change in the site conditions (see the water level measurments and groundwater contour maps in Attachments 2 and 3).

## Well Sampling

Groundwater samples were collected from monitoring wells MW01, MW12, MW19, MW21, and MW26, as well as four residential wells. The wells were sampled on April 29th, 2003 by Gina Bayer, Dave Shekoski, Rob Stryker, Steve Paukner, and Mary Wicklund of CH2M HILL. The monitoring wells were purged of three well volumes and sampled by bailing with the exception of MW-12. MW-12 was purged and sampled using a dedicated bladder

pump that was previously installed. Field measurments of pH, temperature, specific conductance, oxidation reduction potential (ORP), and dissolved oxygen (DO) were recorded from each monitoring well after each well volume was purged to monitor parameter stability prior to sample collection (Attachment 4 presents the field parameter data).

**Analytical Results**

The samples from the April sampling round were analyzed by White Water Associates (WWA) of Amasa, Michigan. Quality control samples consisting of field blanks, duplicate samples, and matrix spike/matrix spike duplicate samples were collected at the frequency specified in the Sampling and Analysis Plan (CH2MHILL, 2000).

Results received from WWA showed a trace level of PCP in residential well RW01. The laboratory reported an estimated concentration of PCP at the reporting limit, 0.10 J ug/L. When this detection was looked into further, the quantitation report indicated an analytical value of 0.0997 J ug/L, which is less than the reporting limit. However, when reporting to two significant figures which is customarily done by a laboratory, the result of 0.0997 J ug/L was rounded to 0.10 J ug/L, the value that was reported for RW01. This analytical result is at a level that may contain an amount of analytical bias which was discussed in a previous technical memorandum submitted to the EPA on August 2, 2002 (PCP WPDES Permit Effluent Critera at PentaWood Products Superfund Site, Town of Daniels, WI). Attachment 1 contains the analytical results for the residential and monitoring wells.

Monitoring well and residential well sample result packages were forwarded to USEPA for data validation on July 3, 2003 to the attention of Dennis Wesolowski. The data validation results were received by CH2M HILL on July 28 – August 18th, 2003 from the USEPA. Therefore, the results presented in this memorandum are considered validated, with the exception of total iron and dissolved iron results. The USEPA validator had qualified total iron results as unusuable "R" as a result of the analyst autozeroing the instrument prior to running the calibration blank checks, which is not an acceptable practice. The blank readings were negative with absolute values greater than 0.025 mg/L, which may have resulted in an elevated detection limit for the dissolved results of the samples. In turn, the sample results were negative and greater in absolute value than the SAS required detection limit of 0.025 mg/L. WWA was notified of the USEPA qualification and agreed to re-analyze the samples for total and dissolved iron, total manganese, and zinc without the autozeroing occuring before the calibration blank checks. The results of the re-analysis were received by CH2M HILL on September 8th, 2003 and were sent to the USEPA for validation on September 10, 2003.

Upon review, the unvalidated results of the re-analysis were presented along with the results of the May run. Except for total iron, all of the re-runs were conducted without using autozero and the blank readings were at or below the method detection limit (MDL). All results compare very similar with the results of the same samples that were run in May. The total iron re-analysis was also conducted without autozero, however the continuing calibration blanks were found to be above the detection limit of 0.025 mg/L. WWA indicated this analysis seemed to be unstable at that level and they would like to request a MDL of 0.05 mg/L in order to assure QC compliance in future samples. Only one sample had a significantly different result from the May analysis. Sample 03CB08-03 had an iron

result of 6.82 mg/L, where as the May run found the concentration of iron to be 3.16 mg/L. Since this sample was used for MS/MSD, WWA had re-digested the sample for the re-run. This may be the cause as to why the August result is different.

# Attachment 1
# Analytical Results

# Penta Wood Products Site LTRA
# Quarterly Groundwater Sampling Results
# April 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-12 | MW-12 | MW-19 | MW-19 | MW-21 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-03 | 03CB08-04 | 03CB08-05 | 03CB08-06 | 03CB08-07 | 03CB08-08 | 03CB08-09 |
| **Laboratory Sample Identification:** | | 18483-010 | 18483-016 | 18483-018 | 18483-019 | 18483-012 | 18483-013 | 18483-001 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | 4.3 = | NA | 31 = | NA | 19.6 = | NA | 41 = |
| Iron | mg/L | 3.16 J | NA | 0.23 J | NA | 2.03 J | NA | 3.44 J |
| Iron, Dissolved | mg/L | NA | 0.025 U | NA | 0.025 U | NA | 0.025 U | NA |
| Manganese | mg/L | 0.217 J | NA | 1.64 J | NA | 3.67 J | NA | 0.227 J |
| Manganese, Dissolved | mg/L | NA | 0.005 UJ | NA | 1.56 J | NA | 3.59 J | NA |
| Zinc | mg/L | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ |
| Zinc, Dissolved | mg/L | NA | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA |
| Methane | ug/L | 0.5 U | NA | 0.5 U | NA | 2.4 = | NA | 0.5 U |
| Naphthalene | ug/L | 7.4 UJ | NA | 17 J | NA | 1200 J | NA | 7.4 UJ |
| Arsenic | mg/L | 0.001 U | NA | 0.001 J | NA | 0.002 J | NA | 0.001 U |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.014 J | NA | 0.005 J | NA | 0.024 J | NA | 0.012 J |
| Copper, Dissolved | mg/L | NA | 0.001 U | NA | 0.004 = | NA | 0.005 = | NA |
| Alkalinity, Total | mg/L | 174 = | NA | 470 = | NA | 118 = | NA | 144 = |
| Hardness (As CaCO3) | mg/L | 187 = | NA | 442 = | NA | 162 = | NA | 169 = |
| Nitrogen, Nitrate (As N) | mg/L | 2.6 = | NA | 0.8 = | NA | 3 = | NA | 2.5 = |
| Sulfide | mg/L | 1 J | NA | 1 UJ | NA | 0.6 J | NA | 1 UJ |
| Sulfate | mg/L | 10 = | NA | 20 = | NA | 27 = | NA | 12 = |
| Total Organic Carbon | mg/L | 3.2 J | NA | 19 J | NA | 53 J | NA | 1.5 J |
| Pentachlorophenol | ug/L | 0.1 UJ | NA | 3000 = | NA | 4900 = | NA | 0.15 = |
| Benzene | ug/L | 0.5 U | NA | 0.5 U | NA | 500 U | NA | 0.5 U |
| Ethylbenzene | ug/L | 5 U | NA | 1.3 J | NA | 5000 U | NA | 5 U |
| Toluene | ug/L | 5 U | NA | 1.3 J | NA | 5000 U | NA | 5 U |
| Xylenes (Total) | ug/L | 5 U | NA | 11 = | NA | 5000 U | NA | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Quarterly Groundwater Sampling Results
# April 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-26 | MW-26 | MW-26 | MW-26 | RW-01 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water, Dup | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-10 | 03CB08-11 | 03CB08-12 | 03CB08-17 | 03CB08-18 | 03CB08-13 | 03CB08-14 |
| **Laboratory Sample Identification:** | | 18483-002 | 18483-004 | 18483-005 | 18483-024 | 18483-025 | 217123-007 | 217123-008 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | NA | 18 = | NA | 18.7 = | NA | NA | NA |
| Iron | mg/L | NA | 1.29 J | NA | 1.69 J | NA | NA | NA |
| Iron, Dissolved | mg/L | 0.025 U | NA | 0.025 U | NA | 0.025 U | NA | NA |
| Manganese | mg/L | NA | 0.046 J | NA | 0.048 J | NA | NA | NA |
| Manganese, Dissolved | mg/L | 0.005 UJ | NA | 0.005 UJ | NA | 0.005 UJ | NA | NA |
| Zinc | mg/L | NA | 0.01 UJ | NA | 0.02 J | NA | NA | NA |
| Zinc, Dissolved | mg/L | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA | NA |
| Methane | ug/L | NA | 0.5 U | NA | 0.5 U | NA | NA | NA |
| Naphthalene | ug/L | NA | 7.1 U | NA | 7.1 UJ | NA | 7.1 UJ | 6.8 UJ |
| Arsenic | mg/L | NA | 0.001 U | NA | 0.002 J | NA | NA | NA |
| Arsenic, Dissolved | mg/L | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA | NA |
| Copper | mg/L | NA | 0.004 J | NA | 0.005 J | NA | NA | NA |
| Copper, Dissolved | mg/L | 0.001 U | NA | 0.002 J | NA | 0.001 U | NA | NA |
| Alkalinity, Total | mg/L | NA | 248 = | NA | 250 = | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | 262 = | NA | 257 = | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 3.5 = | NA | 3.6 = | NA | NA | NA |
| Sulfide | mg/L | NA | 1 UJ | NA | 1 UJ | NA | NA | NA |
| Sulfate | mg/L | NA | 14 = | NA | 14 = | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | 7 J | NA | 12 J | NA | NA | NA |
| Pentachlorophenol | ug/L | NA | 0.1 U | NA | 0.11 U | NA | 0.1 J | 0.11 U |
| Benzene | ug/L | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Ethylbenzene | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |
| Toluene | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |
| Xylenes (Total) | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Quarterly Groundwater Sampling Results
# April 2003

| | | | |
|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA |
| **Field Sample Location:** | | RW-03 | RW-04 |
| **Sample Interval:** | | N/A | N/A |
| **Matrix:** | | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-15 | 03CB08-16 |
| **Laboratory Sample Identification:** | | 217123-009 | 217123-010 |
| **Parameter** | **Units** | | |
| Chloride | mg/L | NA | NA |
| Iron | mg/L | NA | NA |
| Iron, Dissolved | mg/L | NA | NA |
| Manganese | mg/L | NA | NA |
| Manganese, Dissolved | mg/L | NA | NA |
| Zinc | mg/L | NA | NA |
| Zinc, Dissolved | mg/L | NA | NA |
| Methane | ug/L | NA | NA |
| Naphthalene | ug/L | 6.8 UJ | 7.4 UJ |
| Arsenic | mg/L | NA | NA |
| Arsenic, Dissolved | mg/L | NA | NA |
| Copper | mg/L | NA | NA |
| Copper, Dissolved | mg/L | NA | NA |
| Alkalinity, Total | mg/L | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA |
| Sulfide | mg/L | NA | NA |
| Sulfate | mg/L | NA | NA |
| Total Organic Carbon | mg/L | NA | NA |
| Pentachlorophenol | ug/L | 0.11 U | 0.11 U |
| Benzene | ug/L | 0.5 U | 0.5 U |
| Ethylbenzene | ug/L | 5 U | 5 U |
| Toluene | ug/L | 5 U | 5 U |
| Xylenes (Total) | ug/L | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

## Attachment 2
# Water Level Measurments

**Penta Wood Products Site LTRA**
**Quarterly Groundwater Water Levels**
**April 1, 2003**

| Well | Casing Dia. (inches) | Approx. Well Depth (ft) | TOC Elev. (ft MSL) | Aquifer | Apr-2003 New TOC Elev. (ft MSL) | Apr-2003 Depth to Water - TOC (ft) | Apr-2003 GW Elev. (ft MSL) | Apr-2003 GW Elev Corrected (ft MSL) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| MW-01 | 2 | 97 | 1072.32 | UC | 1072.32 | 86.3 | 986.02 | | |
| MW-02 | 2 | 85 | 1065.66 | UC | 1064.85 | 80.21 | 984.64 | | |
| MW-03 | 4 | 182 | 1129.52 | SC | 1129.5 | 143.79 | 985.71 | | |
| MW-04 | 4 | 187 | 1089.86 | SC | 1087.81 | 102.69 | 985.12 | | |
| MW-05 | 4 | 118 | 1074.24 | UC | 1071.73 | 85.97 | 985.76 | | |
| MW-06 | | | | | | 123.75 | | | |
| MW-06 S | 2 | 112.5 | 1094.59 | UC | 1108.63 | 122.53 | 986.1 | | |
| MW-07 | 4 | 140.5 | 1096.42 | SC | 1096.39 | 110.79 | 985.6 | | |
| MW-08 | 4 | 160 | 1091.23 | SC | 1091.28 | 105.58 | 985.7 | | |
| MW-09 | 2 | 54 | 1020.70 | UC | 1020.71 | 34.56 | 986.15 | | |
| MW-10 | 4 | 131 | 1083.90 | SC | 1089.74 | 104.06 | 985.68 | | |
| MW-10 S (a) | 2 | 107.5 | 1085.34 | UC | 1090.43 | 104.8 | 985.63 | | |
| MW-11 | 2 | 155.5 | 1085.33 | SC | 1085.58 | 100.39 | 985.19 | | |
| MW-12 | 2 | 135 | 1081.86 | SC | 1081.99 | 96.43 | 985.56 | | |
| MW-13 | 2 | 27 | 1006.16 | UC | 1006.1 | 20.5 | 985.6 | | |
| MW-14 | 2 | 175 | 1078.61 | SC | 1078.5 | 93.33 | 985.17 | | |
| MW-15 | 2 | 170 | 1127.13 | SC | 1127.22 | 141.42 | 985.8 | | |
| MW-16 | 2 | 106.5 | 1081.88 | UC | 1081.92 | 95.75 | 986.17 | | |
| MW-17 | 2 | 134 | 1084.42 | SC | 1084.5 | 98.88 | 985.62 | | |
| MW-18 | 6 | 116 | 1076.31 | UC | 1072.44 | 86.6 | | 986.09 | |
| MW-19 (b) | 2 | 112 | 1088.00 | UC | 1088.17 | 103.15 | | 985.22 | |
| MW-20 (c) | 2 | 107.5 | 1087.73 | UC | 1097.76 | 111.77 | 985.99 | | |
| MW-21 | 2 | 114.9 | -- | UC | 1095.7 | 109.77 | 985.93 | | |
| MW-22 | 2 | 105.16 | -- | UC | 1084.7 | 98.69 | 986.01 | | |
| MW-23 | 2 | 125 | -- | SC | 1017.57 | 32.28 | 985.29 | | |
| MW-24 | 2 | 125 | -- | UC | 1084.1 | 98.31 | 985.79 | | |
| MW-25 | 2 | 117.8 | -- | UC | 1095.24 | | 1095.24 | | |
| MW-26 | 2 | 141 | | UC | 1087.07 | 101.5 | 985.57 | | |
| PW-01 | 4 | 175 | -- | | | | | | |
| PZ-03 | 2 | 38 | -- | | | | | | |

(a) MW-10S LNAPL thickness

(b) MW-19 LNAPL thickness

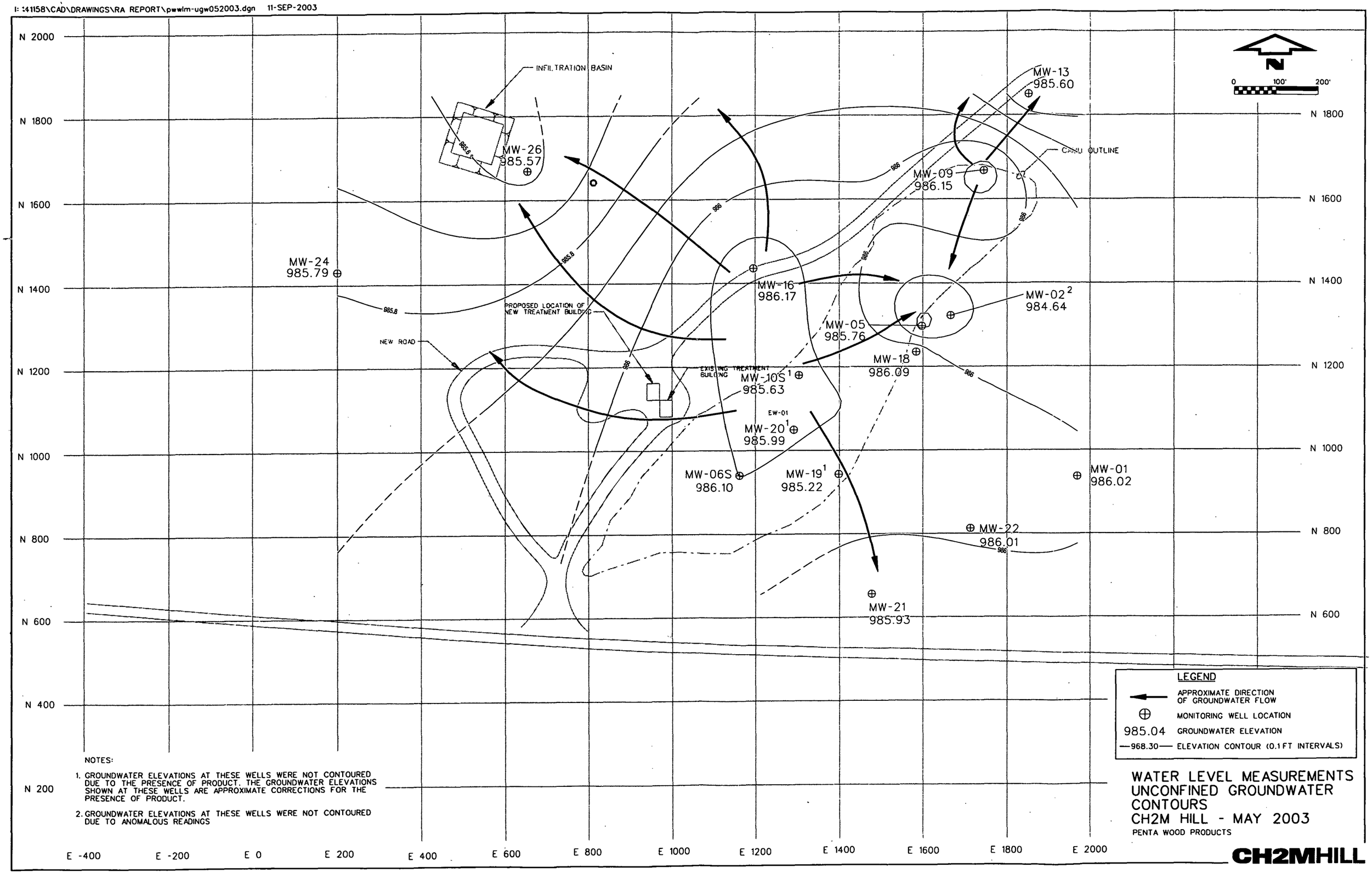
(c) MW-20 LNAPL thickness

UC Unconfined aquifer

SC Semiconfined aquifer

## Attachment 3
# Groundwater Contour Maps

I: \41158\CAD\DRAWINGS\RA REPORT\pwwlm-ugw052003.dgn 11-SEP-2003




NOTES:

1. GROUNDWATER ELEVATIONS AT THESE WELLS WERE NOT CONTOURED DUE TO THE PRESENCE OF PRODUCT. THE GROUNDWATER ELEVATIONS SHOWN AT THESE WELLS ARE APPROXIMATE CORRECTIONS FOR THE PRESENCE OF PRODUCT.
2. GROUNDWATER ELEVATIONS AT THESE WELLS WERE NOT CONTOURED DUE TO ANOMALOUS READINGS

LEGEND

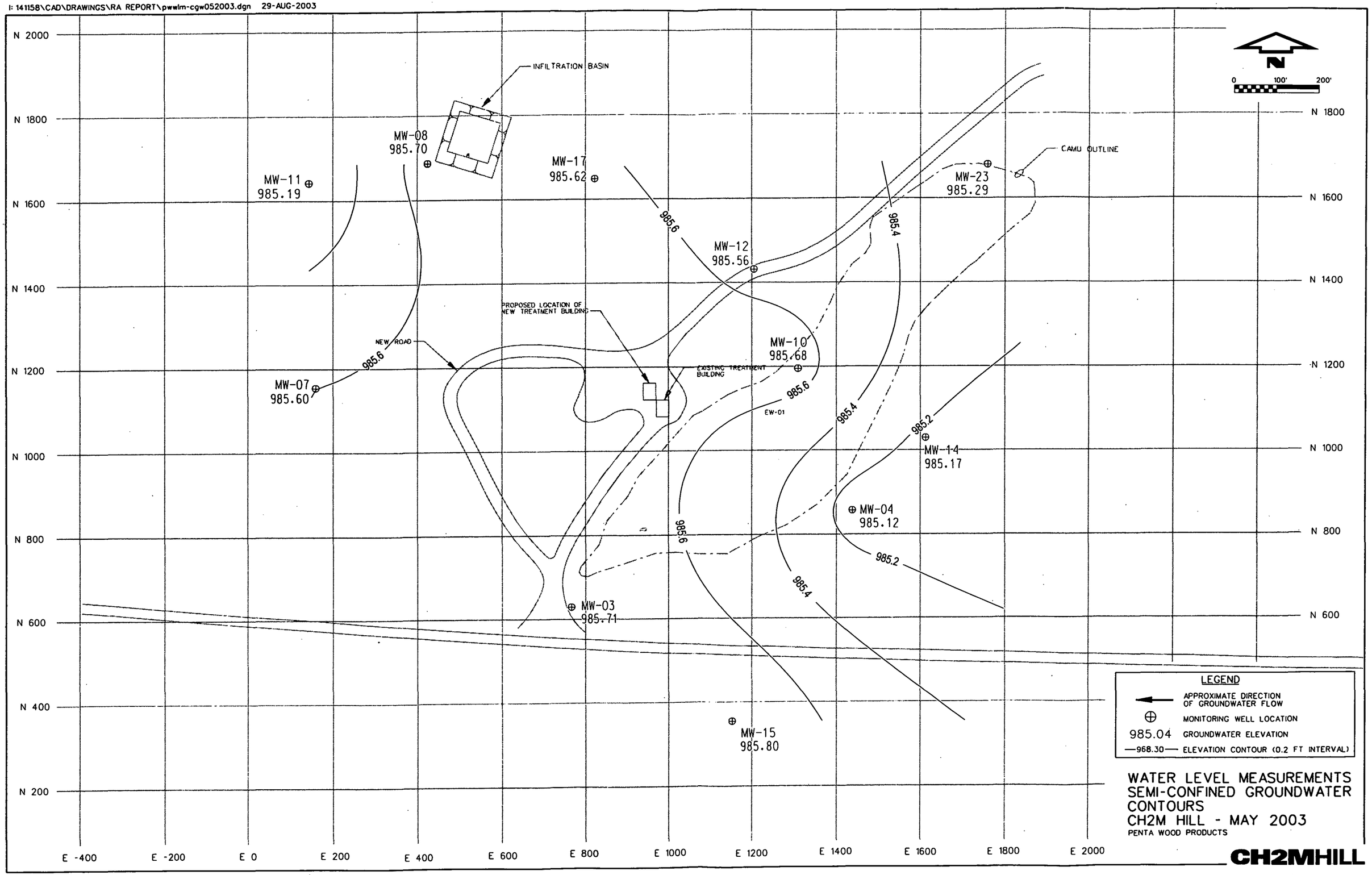
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW
- ⊕ MONITORING WELL LOCATION
- 985.04 GROUNDWATER ELEVATION
- —968.30— ELEVATION CONTOUR (0.1 FT INTERVALS)

# WATER LEVEL MEASUREMENTS UNCONFINED GROUNDWATER CONTOURS CH2M HILL - MAY 2003

PENTA WOOD PRODUCTS

CH2MHILL

I: 141158\CAD\DRAWINGS\RA REPORT\pwwlm-cgw052003.dgn 29-AUG-2003




# WATER LEVEL MEASUREMENTS SEMI-CONFINED GROUNDWATER CONTOURS CH2M HILL - MAY 2003

PENTA WOOD PRODUCTS

CH2MHILL

## Attachment 4
# Field Parameter Data

# Penta Wood Products Site LTRA
# Quarterly Groundwater Parameter Results
# April 2003

**TABLE 1**
Monitoring Well Field Parameters
*Penta Wood Products, Siren, WI*

| Well | Sample Date | Temp. (C) | Specific Conductance (µmhos) | DO (mg/L) | DO (%) | pH | ORP | Comments |
|---|---|---|---|---|---|---|---|---|
| MW-01 | 04/29/2003 | 9.03 | 383 | 3.03 | 26.5 | 7.13 | 151.8 | |
| MW-12 | 04/29/2003 | 10.95 | 982 | 5.24 | 47.2 | 6.80 | 126.1 | |
| MW-19 | 04/29/2003 | | Not collected due to product in the well | | | | | Visible product |
| MW-21 | 04/29/2003 | 9.91 | 473 | 3.72 | NR* | 6.65 | 144.9 | |
| MW-26 | 04/29/2003 | 10.58 | 621 | 8.68 | 79.2 | 6.53 | 157.3 | |

* Not Reported

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June 21, 2004

Mr. Tony Rutter
Remedial Project Manager
U.S. Environmental Protection Agency — 312-886-8961
Remedial Response Branch (SR-6J)
77 W. Jackson Boulevard
Chicago, IL 60604-3590

Subject: Groundwater Sampling Results Technical Memorandum for 2003
Penta Wood Products Site
Town of Daniels, Wisconsin
Work Assignment No. 201-RALR-05WE, Contract No. 68-W6-0025

Dear Tony:

Enclosed please find the technical memorandum with post-Remedial Action groundwater sampling results for the May and September, 2003 sampling rounds. Please feel free to call me with any questions or concerns.

Sincerely,

CH2M HILL

William M. Andrae — 414-847-0341

William Andrae
Site Manager

c: Stephen Nathan/PO/USEPA (w/o enclosure)
Marshall McReynolds/CO/USEPA (w/o enclosure)
Bill Schultz/WDNR, Rhinelander
Ike Johnson/PM/CH2M HILL, Milwaukee
Dan Plomb/DPM/CH2M HILL, Milwaukee
Phil Smith/RTL/CH2M HILL, Milwaukee
Gina Bayer/QAM/CH2M HILL, Milwaukee
Steven Paukner/Chemist/CH2M HILL, Milwaukee
Cherie Wilson/AA/CH2M HILL, Milwaukee

# Post–Remedial Action Groundwater Sampling Results April/May 2003 and September/November 2003 Sampling Events—Penta Wood Products Site

**PREPARED FOR:** Tony Rutter, USEPA

**PREPARED BY:** Jon Tortomasi, CH2M HILL

**COPIES:** Bill Schultz/WDNR
Bill Andrae/CH2M HILL
Gina Bayer/CH2M HILL
Phil Smith/CH2M HILL
Steven Paukner/CH2M HILL

**DATE:** June 18, 2004

## Introduction

Semiannual groundwater sampling was conducted at the Penta Wood Products Site in April and May 2003 at five monitoring wells and four residential wells, along with static water level measurements in all monitoring wells. The third annual post–Remedial Action (RA) groundwater sampling event was conducted in September and October 2003 and consisted of sampling 21 monitoring wells, four residential wells, and one onsite potable well, and measuring static water levels in all monitoring wells. This memorandum presents the results of the two groundwater sampling events and includes tables and figures presenting historical groundwater data. It is an update of the previous memorandum, retaining and updating evaluations based on the new data.

The treatment system was shut down in September 2001 to allow for pilot testing and plant modifications intended to help meet effluent criteria.

## Purpose and Scope

The purpose of the groundwater sampling events is to monitor groundwater contaminant levels and natural attenuation parameters to assess the effectiveness of the groundwater treatment and natural attenuation. Parameters that are analyzed include PCP, naphthalene, BTEX, total and dissolved metals, and natural attenuation parameters (see the analytical results in Attachment 1). Water level measurements and product thickness levels were also collected during each sampling event to assess groundwater flow direction.

## Water Level Measurements

Water levels in all monitoring wells were measured in May and September 2003. An oil/water interface probe was used to measure the distance from the top of the inner well casing to the water surface and, where applicable, to the product surface. The extraction

wells have not been in operation since September 2001; therefore the effects of water table drawdown are no longer reflected in the measured water levels for 2003.

Generally, groundwater in the unconfined aquifer moved to the north-northeast on the eastern half of the site and to the north-northwest on the western half. However, an area of localized outward radial flow was observed around a group of monitoring wells (MW16, MW10S, MW20, and MW09) near the northern part of the CAMU. An area of localized inward radial flow was observed around monitoring wells MW02, MW05, and MW18. The variability of the potentiometric surface observed in the unconfined aquifer may represent varying infiltration rates across the site, heterogeneity in the hydraulic properties of the aquifer material, and/or downward flow into the semiconfined aquifer. It is likely that the vertical movement of groundwater from the unconfined to the semiconfined aquifer is greater at the area of inward radial flow because of the heterogeneous nature of unconsolidated aquifer units.

In the semiconfined aquifer, groundwater moved toward the west-northwest on the western edge of the site (west of the infiltration basin) and toward the east on the eastern part, because of the presence of a groundwater divide running north-south beneath the site.

In April, LNAPL was observed in MW10S (sheen), MW19 (0.23 ft), and MW20 (0.04 ft). In September, LNAPL was observed in MW18 (0.32 ft), MW19 (0.24 ft), and MW20 (visible product while purging). This is consistent with observations made in 2002, with the exception that LNAPL was no longer observed in MW06S and MW10S in September 2003.

Groundwater elevation contour maps for both the unconfined and semiconfined aquifers, as measured in May and September 2003, are shown in Figures 1 and 2 of Attachment 2. Groundwater elevations, oil measurement data, and other observations are also included in Attachment 2.

## Well Sampling and Analysis

For the semiannual sampling round conducted in April and May of 2003, five monitoring wells and four residential wells were sampled. The monitoring wells chosen for this event were MW01, MW12, MW19, MW21, and MW26. MW19 was chosen to represent the unconfined groundwater in the LNAPL area; MW01, MW12, MW21, and MW22 were chosen to assess the impacts of the plant shutdown to the perimeter of the plume, particularly in the direction of residential wells; and, MW26 was chosen to monitor groundwater quality near the treated water infiltration basin. These wells were sampled on April 29 by Gina Bayer, Dave Shekoski, Rob Stryker, Steve Paukner, and Mary Wicklund of CH2M HILL. All monitoring wells were purged of at least three well volumes before sampling. MW12 was purged and sampled with the dedicated Timco bladder pump installed in 1997, and the remaining monitoring wells were purged and sampled using disposable PVC bailers.

White Water Associates (WWA) of Amasa, Michigan, analyzed the samples. Quality control samples consisting of field blanks, duplicate samples, and matrix spike/matrix spike duplicate samples were collected at the frequency specified in the Sampling and Analysis Plan (CH2M HILL 2000; rev. April 2001).

For the annual sampling event conducted during September and October 2003, 21 monitoring wells, 4 residential wells, and 1 potable water well were sampled. The monitoring wells selected for sampling were MW01, MW02, MW03, MW05, MW6S, MW07, MW08, MW09, MW10, MW10S, MW11, MW12, MW13, MW15, MW16, MW17, MW19, MW20, MW21, MW22, and MW26. Bill Andrae, Gina Bayer, Steve Paukner, Dave Shekoski, and Mary Wicklund of CH2M HILL sampled the wells during the week of September 22 and on October 1. MW03, MW05, MW07, MW08, MW10, and MW12 were purged and sampled with either dedicated Timco bladder pumps that had been installed in 1997, or with a dedicated Grundfos Redi-flo 2 MP1 pump. The remaining wells were purged and sampled using disposable PVC bailers.

The samples were analyzed by WWA and Severn Trent Laboratories (STL)—a subcontractor to WWA—of Chicago, Illinois, and North Canton, Ohio. Quality control samples consisting of field blanks, duplicate samples, and matrix spike/matrix spike duplicate samples were collected at the frequency specified in the Sampling and Analysis Plan (CH2M HILL 2000; rev. April 2001).

Monitoring well and residential well sample result packages were submitted to the director of USEPA Region 5 Central Regional Laboratory for data validation. Not all data validation results for the semiannual and annual sampling events have been received from USEPA, because there are still analytical issues being resolved, specifically concerning rejected metals results and an issue with sulfide.

## Residential Well Analytical Results

The residential well sample information (names, addresses, telephone numbers) and the analytical results were submitted under separate cover to Tony Rutter/USEPA WAM on August 14, 2002 (see Attachment 4).

Semiannual sampling results received from WWA show a trace amount of PCP in residential well RW01 at an estimated concentration of 0.10 µg/L, which is at the reporting limit. Further investigation of this detection showed that the quantitation report indicated an analytical value of 0.0997 µg/L, which is less than the reporting limit but was rounded up to two significant figures when reported to CH2M HILL. This result is at a level that may contain an amount of analytical bias, as discussed in a previous memo submitted to USEPA on August 2, 2002 (*PCP WPDES Permit Effluent Criteria at PentaWood Products Superfund Site, Town of Daniels, WI*). No other contaminants were detected in the semiannual residential well samples.

Annual sampling results received from STL showed a trace amount of PCP in residential well RW01 at a reported concentration of 0.28 µg/L. An investigation of the analytical run log by CH2M HILL determined that sample 03CB14-13, and its subsequent reanalysis with a dilution factor of 1,000, reported PCP levels of 10,000 µg/L and 11,000 µg/L, respectively. These analyses were run immediately before the RW01 sample in the run log. Believing that the high concentration of PCP in sample 03CB14-13 could result in contamination carry-over to sample RW01, CH2M HILL contacted STL when it was decided that there was no way to verify that carryover did not occur. Reanalysis was not possible because the sample's holding time had expired, so CH2M HILL resampled the residential well and collected a field blank for PCP analysis on November 20, 2003. Analytical results received from STL

showed a PCP concentration in RW01 of 0.24 µg/L, confirming the presence of PCP in the well. No other contaminants were detected in the annual residential well samples.

## Variance for PCP Criteria

CH2M HILL submitted the *PCP WPDES Permit Effluent Criteria Technical Memorandum* to USEPA and WDNR on August 1, 2002, which provided statistical evidence that PCP analytical methods are not reliable around the 0.1 µg/L level at this site. Instead, a criterion of 1.0 µg/L is proposed. A conference call was held on October 15, 2002, with the WDNR Project Manager for the Penta Wood Products Site, the USEPA WAM, and CH2M HILL to discuss the memorandum. During this call, WDNR and USEPA agreed to observe the performance of the treatment system after the pretreatment system was constructed before determining the appropriateness of raising the effluent PCP limit from 0.1 µg/L to a higher site-specific criterion.

## Evaluation of Groundwater Contaminant Trends

Trend analysis of historical groundwater data is being presented to evaluate the performance of the RA at the Penta Wood site. The analysis had the following objectives:

- Evaluate the influent data from the groundwater extraction system to determine the amount of PCP removed between September 2000, when the treatment system was started, and September 2001, when it was shut down for evaluation and pilot testing.
- Evaluate the current monitoring data to determine whether the plume is stable or declining in size and whether declining trends are occurring in groundwater PCP concentrations within the plume.
- Evaluate the current monitoring data to determine whether natural attenuation has been occurring.
- Evaluate the infiltration basin area to determine the effect of reinfiltration on groundwater quality.
- Identify changes needed to groundwater monitoring strategy.

In some cases, such as the evaluation of the groundwater extraction system influent data and the evaluation of the infiltration basin data, no new data has become available since the previous annual report. However, the results of the previous analysis are repeated below for the sake of completeness.

### Groundwater Extraction System PCP Removal Estimates

The groundwater extraction system was operated between September 27, 2000 and September 27, 2001, for a total of 280 days, with flow rates ranging from 35 gpm to 120 gpm during operation. A total volume of 30,000,000 gallons of groundwater, or roughly 2 pore volumes of the extraction zone, was removed. PCP influent concentrations typically were in the 5,000 to 14,000 µg/L range. Based on this information, the estimated PCP mass removed was about 2,500 pounds (see Table 1).

**TABLE 1**
PCP Mass Removed with the Groundwater Extraction System—September 27, 2000–September 27, 2001
*Penta Wood Products Site*

| Operation Period | Days Operated | Average Flow Rate (gpm) | Average PCP Influent Concentration (µg/L) | PCP Mass Removed (lbs.) |
|---|---|---|---|---|
| 9/27/00 to 12/18/00 | 83 | 98 | 12,535 | 1,224 |
| 2/2/01 to 2/8/01 | 8 | 60 | 12,535 | 72 |
| 3/16/01 to 6/10/01 | 86 | 75 | 10,356 | 802 |
| 6/15/01 to 9/27/01 | 103 | 46 | 7,535 | 429 |
| | | | **Total PCP Mass Removed** | **2,528** |

This represents about 30 percent of the dissolved phase PCP mass present prior to operation of the extraction system. However, as shown in Table 2 on the following page, it is estimated that there is considerably more PCP mass adsorbed on the aquifer matrix (11,000 pounds) and more PCP mass present in the LNAPL residual zone (15,000 pounds). Note that the contaminant mass estimates are based on many simplifying assumptions and are expected to be accurate only to within an order-of-magnitude range. As a result, they are intended as general comparisons of the relative significance of contaminant mass in different media. Table 3 summarizes the PCP mass estimates for 1994, 1997, 2000, 2002, and 2003 at the Penta Wood Site.

**TABLE 3**
Summary of PCP Mass Estimates
*Penta Wood Products Site*

| Location | 1994 PCP Mass (lb) | 1997 PCP Mass (lb) | April 2000 PCP Mass (lb) | August 2002 PCP Mass (lb) | September 2003 PCP Mass (lb) | Notes |
|---|---|---|---|---|---|---|
| Unsaturated Zone | 115,000 | 115,000 | 115,000 | 115,000 | 115,000 | No additional data to estimate actual degradation of PCP in unsaturated zone. |
| LNAPL Residual Zone | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | No additional data to estimate actual degradation of PCP in LNAPL zone. |
| Saturated Zone—Adsorbed | 33,000 | 25,000 | 22,000 | 11,000 | 11000 | Based on groundwater concentration and a PCP kd of 0.6. |
| Saturated Zone—Dissolved | 12,000 | 9,200 | 8,100 | 4,000 | 4,200 | Based on weighted average groundwater concentrations. |
| Total PCP Mass | 175,000 | 164,000 | 160,000 | 145,000 | 146,000 | |
| Removed by LNAPL Recovery System 2000–2001 | — | — | — | 350 | — | Assuming 50% of recovered liquid is LNAPL and LNAPL is 5% PCP. |
| Removed by GW Extraction System 2000–2001 | — | — | — | 2,500 | — | |

Note: Contaminant mass estimates are based on many simplifying assumptions and are expected to be accurate only to within an order-of-magnitude range. As a result, they are intended as general comparisons of the relative significance of contaminant mass in different media.

**TABLE 2**
Estimate of Saturated Zone Contaminant Mass
*Penta Wood Products Site*

| Contaminant | Parameter | Unconfined MW10S, 19, 20 (Area 1) | Unconfined MW6S, PW01 (Area 2) | Unconfined MW3 (Area 3) | Unconfined MW16 (Area 4) | Semiconfined MW5,10,18 (Area 1) | Semiconfined MW6, PW01 (Area 2) | Semiconfined MW3 (Area 3) | Semiconfined MW12 (Area 4) | Total Contaminant Mass (lb) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Aquifer Media Volume (CF): | 3,540,000 | 2,790,000 | 1,800,000 | 6,100,000 | 5,900,000 | 4,650,000 | 3,000,000 | 10,200,000 | |
| | Aquifer Water Volume (CF): | 1,416,000 | 1,116,000 | 720,000 | 2,440,000 | 2,360,000 | 1,860,000 | 1,200,000 | 4,080,000 | |
| *Mass in 1994 Based on Groundwater Sampling in September, 1994* | | | | | | | | | | |
| PCP | Conc. (µg/L) | 77,300 | 51 | 2.6 | 0.3 | 17,400 | 2,350 | 2.6 | 10,000 | |
| $K_d$[b] = 0.60 | Mass in soil (lb) | 18,236 | 9 | 0 | 0 | 6,842 | 728 | 1 | 6,798 | 32,614 |
| | Mass in GW (lb) | 6,815 | 4 | 0.1 | 0.05 | 2,557 | 272 | 0.2 | 2,540 | 12,188 |
| | Total Mass (lb) | 25,051 | 13 | 0.4 | 0.2 | 9,398 | 1,000 | 0.7 | 9,338 | 44,802 |
| *Mass in 1997 Based on Groundwater Sampling in October, 1997* | | | | | | | | | | |
| PCP | Conc. (µg/L) | 28,000 | 3 | 0.5 | 0.5 | 21,600 | 2,300 | 0.5 | 13,000 | |
| $K_d$[b] = 0.60 | Mass in soil (lb) | 6,606 | 1 | 0 | 0 | 8,493 | 713 | 0 | 8,837 | 24,649 |
| | Mass in GW (lb) | 2,468 | 0 | 0.0 | 0.08 | 3,174 | 266 | 0.0 | 3,302 | 9,211 |
| | Total Mass (lb) | 9,074 | 1 | 0.1 | 0.3 | 11,667 | 979 | 0.1 | 12,139 | 33,860 |
| *Mass in 2000 (Prior to Groundwater Extraction) Based on Groundwater Sampling in April, 2000*[a] | | | | | | | | | | |
| PCP | Conc. (µg/L) | 37,000 | | | 0.2 | 15,065 | | | 10,300 | |
| $K_d$[b] = 0.60 | Mass in soil (lb) | 8,729 | 0 | 0 | 0 | 5,923 | 0 | 0 | 7,002 | 21,654 |
| | Mass in GW (lb) | 3,262 | 0 | 0.0 | 0.03 | 2,214 | 0 | 0 | 2,616 | 8,092 |
| | Total Mass (lb) | 11,991 | 0 | 0.0 | 0.1 | 8,137 | 0 | 0 | 9,618 | 29,746 |

**TABLE 2**
Estimate of Saturated Zone Contaminant Mass
*Penta Wood Products Site*

| Contaminant | Parameter | Unconfined MW10S, 19, 20 (Area 1) | Unconfined MW6S, PW01 (Area 2) | Unconfined MW3 (Area 3) | Unconfined MW16 (Area 4) | Semiconfined MW5,10,18 (Area 1) | Semiconfined MW6, PW01 (Area 2) | Semiconfined MW3 (Area 3) | Semiconfined MW12 (Area 4) | Total Contaminant Mass (lb) |
|---|---|---|---|---|---|---|---|---|---|---|
| *Mass in 2002 (Following 1 Year of Groundwater Extraction) Based on Groundwater Sampling in August, 2002* | | | | | | | | | | |
| PCP | Conc. (µg/L) | 13,797 | | | | 11,255 | | | 4,300 | |
| $K_d$[b] = 0.60 | Mass In soil (lb) | 3,255 | 0 | 0 | 0 | 4,425 | 0 | 0 | 2,923 | 10,603 |
| | Mass in GW (lb) | 1,216 | 0 | 0.0 | 0.0 | 1,654 | 0 | 0 | 1,092 | 3,962 |
| | Total Mass (lb) | 4,471 | 0 | 0.0 | 0.0 | 6,079 | 0 | 0 | 4,015 | 14,566 |
| *Mass in 2003 (2nd Year Following 1 Year of Groundwater Extraction) Based on Groundwater Sampling in September, 2003* | | | | | | | | | | |
| PCP | Conc. (µg/L) | 10,067 | | | | 5,050 | | | 10,000 | |
| $K_d$[b] = 0.60 | Mass in soil (lb) | 2,375 | 0 | 0 | 0 | 1,986 | 0 | 0 | 6,798 | 11,158 |
| | Mass in GW (lb) | 887.5 | 0.0 | 0.0 | 0.0 | 742.0 | 0 | 0 | 2540.2 | 4,170 |
| | Total Mass (lb) | 3,262 | 0 | 0.0 | 0.0 | 2,728 | 0 | 0 | 9,338 | 15,328 |

Notes:
Contaminant mass estimates are based on many simplifying assumptions and are expected to be accurate only to within an order-of-magnitude range. As a result they are intended as general comparisons of the relative significance of contaminant mass in different media.
[a]Where April 2000 groundwater data is not available for a MW, April 2001 data is used.
[b]Kd from Hydrogeologic Investigation, Dec., 1994

Soil Density = 1.78 g/cm$^3$
PCP $K_d$ = 0.6

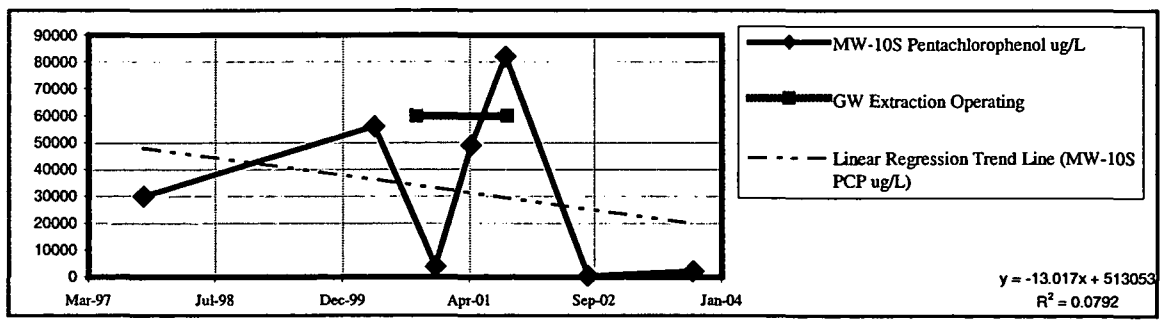
The volume of liquid waste that was obtained from the separator can be used to make a rough estimate of the volume of LNAPL that was removed by groundwater extraction. While the plant was operating, approximately 1,870 gallons of liquid waste were captured in the separator; if the assumption is made that half of this waste was water, then roughly 935 gallons of LNAPL were removed. Assuming a PCP density of 1.979 g/cm$^3$ and a PCP concentration of 5 percent, this volume equates to about 772 pounds of PCP.

## PCP Plume

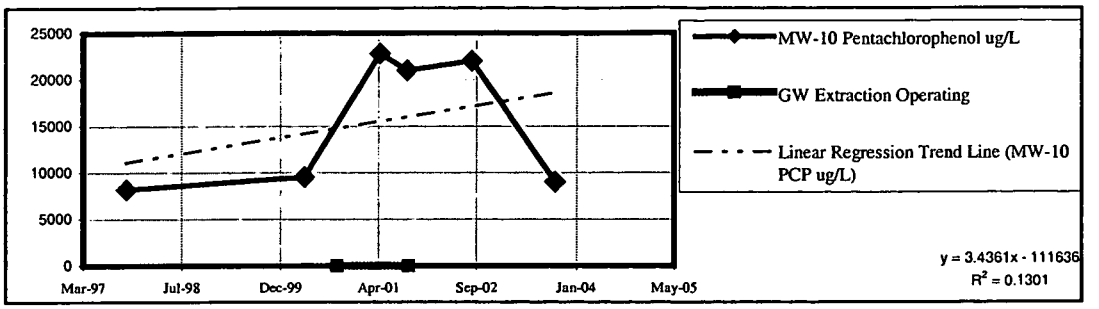
The monitoring well analytical results tables presented in Attachment 1 are formatted into three unique tables; the April 2003 semiannual sampling results, the September 2003 annual sampling results, and a compilation table that presents annual sampling results from 1997, 2000, 2001, 2002, and 2003.

To observe PCP trends over time, PCP concentration contours that exceed 1,000 µg/L are presented in Figure 1 of Attachment 2. PCP concentration contours that exceed the Wisconsin NR 140 enforcement standard of 1 µg/L are presented in Figure 2 of Attachment 2. A comparison of the 1,000 µg/L contour lines in Figure 1 for 1997, 2001 2002, and 2003 shows that the plume shrunk slightly between 2002 and 2003, probably as a result of ongoing natural attenuation. The extent of the plume, as defined by the 1-µg/L contour in Figure 2, has extended out to MW13 to the northeast and towards MW22 to the southeast. This is likely because of the advective transport of PCP under the site's natural groundwater flow conditions. Monitoring wells with LNAPL present in the lower half of screen do not show declines, most likely because of LNAPL captured in samples.

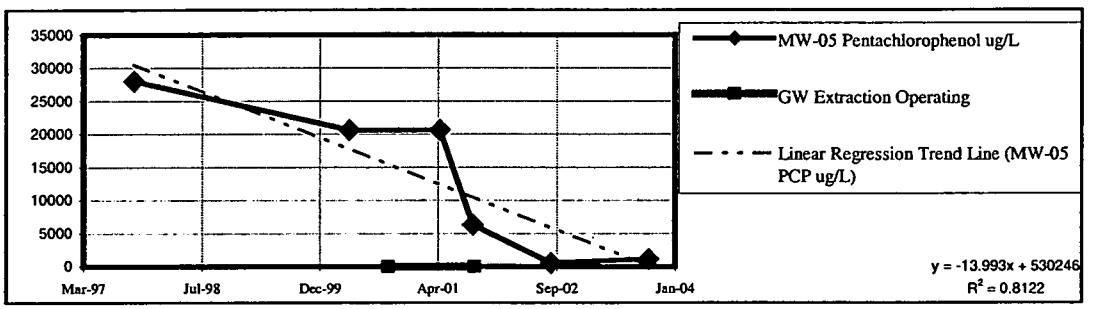
Monitoring well MW10S shows a sharp drop in PCP, from 56,100 µg/L prior to groundwater extraction to 390 µg/L after operation. Since the extraction system was shut down, PCP levels rebounded slightly to 2,200 µg/L. MW10S is near the perimeter (within 100 ft) of the high concentration PCP plume in the unconfined aquifer, where relatively clean groundwater has been drawn past the well screen by nearby extraction well EW-03. Because of its proximity to the LNAPL plume, random globules of product migrating with the groundwater or heterogeneity in PCP groundwater concentrations could be responsible for the observed variability and occasional high PCP levels in this well.



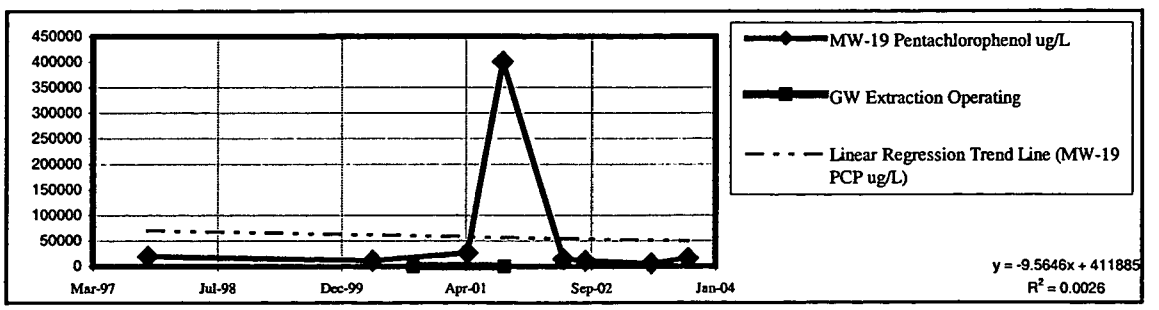

PCP in monitoring well MW10 increased from 9,530 µg/L shortly before startup of the treatment system to 22,000 µg/L in August 2002. Concentrations in the well did not drop immediately, but by September of 2003, concentrations had fallen to 9,000 µg/L. It appears that the relatively clean groundwater in the semiconfined aquifer to the west may be migrating toward MW10 under the influence of the natural gradient and EW-03 (when operational).



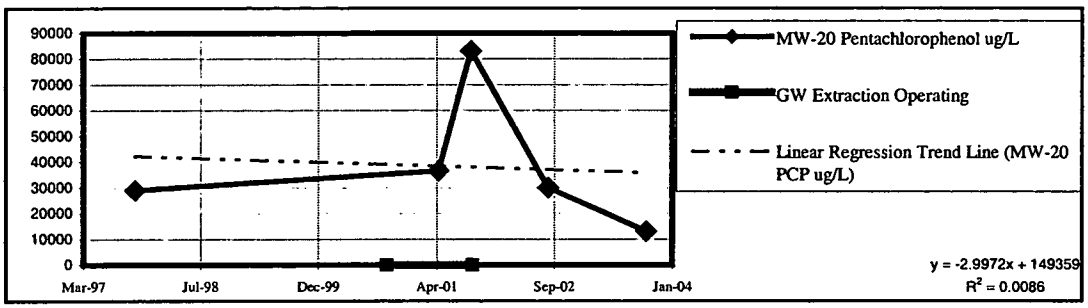

PCP in monitoring well MW05 dropped sharply from 20,600 µg/L to 510 µg/L, most likely due to its proximity to the perimeter of the high concentration PCP plume. Since the extraction system was shut down, PCP levels rebounded slightly to 1,100 µg/L. This area of the plume was remediated relatively quickly because of the nearby uncontaminated groundwater being drawn radially toward EW-02 and EW-05, thereby purging the aquifer of PCP. Note the strong downward trend line with a very high coefficient of determination ($R^2 = 0.81$) indicating a good fit of the trend line to the data.




From April 2000 to May 2002, PCP in monitoring well MW19 increased from 11,000 µg/L to 14,000 µg/L. This well most likely has LNAPL within the lower half of the screen. The PCP concentrations are probably indicative of the LNAPL and not the dissolved phase groundwater. A very large hit of 400,000 µg/L occurred in Sept 2001, possibly because of LNAPL entrainment in the groundwater sample. Because MW19 is "perched" over a low permeability till, the area around the well may be more difficult to clean up quickly. In 2003, the PCP concentration increased from 4,900 to 15,000 µg/L. This increase is likely due to MW19's position just downgradient from the most heavily concentrated portion of the plume.



Monitoring well MW20 increased from 29,000 µg/L before the startup of the extraction system to 83,000 µg/L near the end of operation. Since the extraction system became inactive, PCP concentrations have been declining. In 2003, PCP concentrations continued to decrease to 13,000 µg/L. This may be due to relatively clean groundwater in the unconfined aquifer, which migrated from the west towards MW20 under natural conditions present in September 2003.




The 2003 PCP concentrations in the high concentration perimeter areas (>1,000 µg/L) are similar to those of 2002 indicating that the groundwater in the perimeter areas has not been affected adversely by the shutdown of the treatment system in September 2001.

### Naphthalene

Naphthalene was detected in only four monitoring wells in 2003 (MW10, MW12, MW19 and MW20) at levels above reporting limits. Concentrations ranged from 17 µg/L to 3,200 µg/L. All four wells where naphthalene was detected are within the area of concentrated PCP.

### BTEX

In 2003, benzene, toluene, and ethylbenzene were not detected above reporting limits. Xylene was detected in five monitoring wells (MW10, MW10S, MW12, MW19, and MW20) within the concentrated PCP plume area at concentrations ranging from 8.6 µg/L to 60.9 µg/L.

### Total and Dissolved Metals

Both dissolved and total arsenic, copper, iron, manganese, and zinc were sampled in April and September 2003. Dissolved metals samples provide the best indicator of metals present in groundwater because total metal results are often biased high as a result of the presence of suspended solids in samples. When the groundwater sample is acidified for preservation, the metals present as suspended solids are dissolved into the water. The suspended solids are typically orders of magnitude higher in metal concentrations when compared to groundwater. As a result, even a very small amount of suspended solids can have a large effect on total metal concentrations. Turbidity was observed in some of the samples and, in those cases, metals may not have been representative of groundwater.

**Arsenic.** The evaluation of arsenic is made more difficult because dissolved arsenic may be biased low since dissolved arsenic may co-precipitate with iron as oxygen diffuses into the sample after removal from the well. The precipitated arsenic, then, is field filtered out of the

sample before analysis. As noted, many wells had to be bailed for purging and sampling. This method can cause aeration during sampling, and the dissolved arsenic results may bias low.

Dissolved arsenic in all April and September samples was below the WDNR Preventive Action Limit (PAL) of 5 µg/L. Only 3 wells had any dissolved arsenic detects, MW05 (3 µg/L), MW10 (2 µg/L), and MW06S (1 µg/L).

Total arsenic did not exceed the WDNR Enforcement Standard (ES) of 50 µg/L in any well in 2003. It exceeded the WDNR PAL of 5 µg/L in two wells (MW02, MW22), although both results were less than 10 µg/L.

The effect of suspended solids on metal results can also be discerned by comparing metal results within a sample. Typically, suspended solids result in the elevation of several metals, such as iron and copper, in similar proportions. This appears to be the case in previous years' samples where arsenic exceeded the PAL. A third line of evidence is the horizontal distribution of metals. If suspended solids are the source of elevated metals, the distribution of elevated metals is random and not associated with the reducing portion of the PCP plume, as is expected when metals are actually present in groundwater. This is most likely the case since both of the monitoring wells with total arsenic above the PAL are in the aerobic plume perimeter.

In summary, arsenic is below the ES in all wells and total arsenic exceeded the WDNR PAL in only two wells. In each case, it is suspected that the exceedance is related to turbidity in the sample and is not indicative of arsenic in groundwater.

**Copper.** Total copper exceeded the WDNR PAL of 130 µg/L at MW21 (260 µg/L) and MW22 (140 µg/L) in 2003. However, high turbidity was found at both sampling points (400 NTU in MW21, 1,038 NTU in MW22). High turbidity could cause an increase in metal concentrations due to the increase in suspended solids. All other total copper samples were below the WDNR PAL. Copper exceeded the site's reporting limits in six wells (MW02, MW05, MW10, MW13, MW19 and MW20), with concentrations ranging from 100 µg/L to 27 µg/L.

Dissolved copper was detected at 14 wells in 2003, but it never exceeded the WDNR PAL of 130 µg/L. The highest concentration of dissolved copper was found at MW22 (20 µg/L), below the site's reporting limits.

**Iron.** Total iron was detected above the WDNR ES of 0.3 mg/L at 18 wells across the site in 2003, ranging from 0.74 mg/L (MW26) to 68.4 mg/L (MW21). Total iron exceeded the WDNR PAL of 0.15 mg/L at six wells in 2003, with concentrations ranging from 0.15 mg/L (MW03) to 0.28 mg/L (MW07 and 15). As noted, the high turbidity of groundwater in some wells likely increases total metal concentrations due to the increase in suspended solids.

Dissolved iron was detected above the WDNR ES at seven wells (MW02, 05, 06S, 10, 13, 20, and 22) in 2003, ranging from 0.24 mg/L to (MW09) 13.4 mg/L (MW05).

There is a clear downward trend in both total and dissolved iron concentrations in all wells, with September 2003 concentrations being the lowest recorded to date (with the exception of DW01 which was first sampled in September 2003).

**Manganese.** Total manganese was detected and exceeded the WDNR ES of 0.05 mg/L at 26 wells across the site in 2003, ranging from 0.06 mg/L (DW01, MW07) to 9.45 mg/L

(MW05). Again, the high turbidity of groundwater in some of these wells likely causes an increase in metal concentrations due to the increase in suspended solids.

Dissolved manganese exceeded the WDNR ES at 16 wells across the site, ranging from 0.06 mg/L (MW08) to 8.32 mg/L (MW05).

For most wells there is an overall downward trend in total and dissolved manganese concentrations, with the exception of a few wells where the trend is less well-defined and displays some lower manganese concentrations prior to September 2003.

**Zinc.** Total zinc was detected at 16 wells across the site in 2003, ranging from 0.01 mg/L (multiple wells) to 0.15 mg/L (MW21). There were no WDNR PAL or ES exceedances of zinc in any wells.

Dissolved zinc was detected at three wells in 2003, ranging from 0.04 mg/L (DW-01) to 0.02 mg/L (MW02, 22). There were no WDNR PAL or ES exceedances of zinc in any wells.

As with iron, there is a clear downward trend in both total and dissolved zinc concentrations in all wells across the site, with September 2003 concentrations being the lowest recorded to date (with the exception of DW01, which was first sampled in September 2003).

### Evaluation of Natural Attenuation

Natural attenuation is a remediation approach that relies on natural processes that work to reduce mass and concentration of contaminants in soil and groundwater. Natural attenuation processes include dispersion, dilution, abiotic transformation, volatilization, sorption, and biodegradation. Biodegradation is often the most important process for compounds that can be transformed or reduced by indigenous microorganisms.

Attachment 3 contains a table presenting the natural attenuation parameters for each well as measured in 1997, 2000, 2001, 2002, and 2003.

**Limitations in Field Measurements of Natural Attenuation Parameters.** The natural attenuation parameters measured in the field may not be truly representative of groundwater because of limitations that exist in the measurement methods.

Initially, dedicated pumps were installed in the wells, which would allow accurate measurement of downhole parameters. However, due to the large hydraulic head (more than 100 feet in some areas), dedicated pumps could not pump at sufficient rates to allow efficient purging to occur. As a result, bailing was used to purge and sample many of the wells. This process can aerate the groundwater and significantly change ORP, dissolved oxygen, and pH readings. The oxygenation may result in the precipitation of iron, arsenic, manganese, and other metals, effectively removing them from dissolved samples during field filtering. As a result, dissolved metals may not be representative of groundwater. Total metals can be useful in the evaluation of dissolved metal concentrations because most are expected to be in the dissolved phase in reducing areas of the plume. However if sample locations are frequently turbid (such as MW03) or if metal casings in wells have corroded, total metals data may not be representative of groundwater conditions. Because of these concerns, further evaluation of dedicated downhole pumps for groundwater sampling is still under way. In August 2003, a new dedicated downhole Grundfos Redi-flo 2 MP1 pump was installed into MW10 and used during the September 2003 sampling event.

**Oxidation/Reduction.** For data generated during 2003, the RI suggested that the LNAPL area was reducing and the surrounding areas were oxidizing. Data from select wells were reviewed to determine if there was a substantial change in the reducing zone. Oxidation-reduction data at all wells had remained fairly consistent between 2002 and 2003, indicating that the plume was relatively stable.

For wells MW10S, MW10, and MW05, iron, manganese, and sulfide are elevated while nitrate is depressed (other than what appears to be an outlier in September 2001 for well MW10S). This suggests that the wells continue to reduce.

MW19 is somewhat unusual because it appears to be isolated by a layer of glacial till that exists immediately below the well, and results are effected by the LNAPL layer resting on the till layer. In this well, manganese is elevated and nitrate is depressed, but iron has dropped significantly as has sulfate and chloride. This is indicative of a changing contaminant profile.

In MW20, iron and manganese are elevated and nitrate is depressed. This suggests that the well continues to reduce.

Although dissolved oxygen measurements are questionable for the reasons discussed above, a review of the dissolved oxygen data in traditionally aerobic wells failed to show a shift toward anaerobic conditions.

In summary, there is no substantial change in the reducing zone.

**Chloride.** Chloride production is an indicator of PCP degradation. About 700 µg/L of chloride is produced for each 1,000 µg/L of PCP degraded. Except for MW12, MW03, and MW21, chloride is generally higher near the interior wells than the perimeter wells. MW12 is in an isolated PCP plume, where historic concentrations as high as 18,000 µg/L were reported, with chloride levels ranging from 37 µg/L to 54 mg/L. MW03 and MW21 chloride concentrations have been traditionally higher than background.

Since the beginning of groundwater extraction, correlation between PCP degradation and chloride production has been difficult because as chloride is produced, it is removed by the extraction system, creating a net effect that is difficult to discern.

**Nitrate.** In August 2002, nitrate levels were less than the detection limit (0.15 mg/L) in all samples except MW12 (0.46 mg/L) and MW19 (0.16 mg/L). Since nitrate was not detected in many wells where it traditionally had been detected at much higher levels, nitrate data in August 2002 may have been biased low. Analytical data from September 2003 seem to confirm this, as most nitrate levels returned to concentrations comparable to those before August 2002 with a range of 1.01 mg/L in MW06S to 5.1 mg/L in MW17.

**Methane.** Methane, a product of anaerobic degradation, was detected in one well (MW06S) in April 2003 (0.13 mg/L). The absence of methane at or above the detection limit in most wells suggests that degradation is occurring primarily under nonmethanogenic, anaerobic iron, or sulfate-reducing conditions.

**Sulfate.** Once oxygen and nitrate are depleted, sulfate can also be used as an electron acceptor. Several wells showed a significant decrease in sulfate, MW10, MW10S, and MW12. These wells are all within the PCP plume and may be indicating the beginnings of sulfate

reduction. However, the decrease in sulfate concentration at these wells is less than an order of magnitude and may simply reflect natural variation within the native groundwater.

### Effects of Reinfiltration on Groundwater Quality

Large quantities of treated groundwater were reinjected at the site's infiltration basin in 2000 and 2001. During one year of operation, about 30 million gallons of groundwater were reinfiltrated. The water would be expected to displace groundwater over a considerable area. Assuming that a 20-foot thickness of the aquifer is affected, the area occupied by 30 million gallons equals roughly 15 acres.

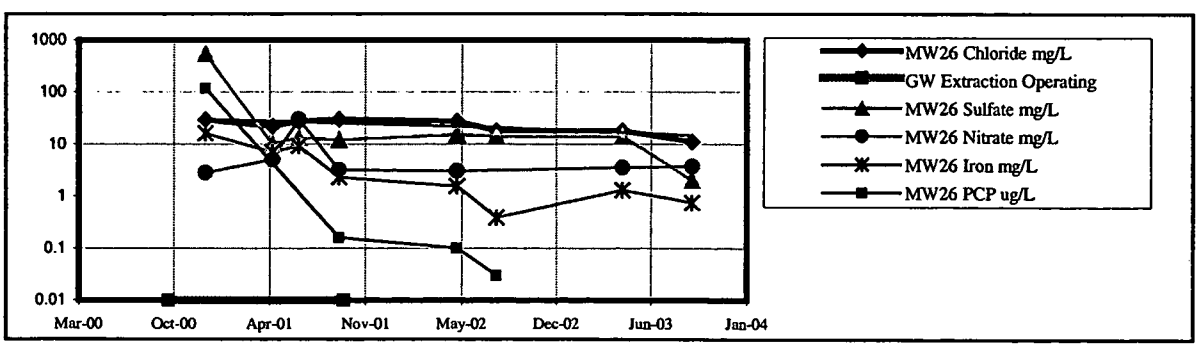
MW26 is used to determine the effects the infiltration basin has on groundwater in the area. The well, however, was not sampled prior to discharge of groundwater. As a result, MW08, located about 200 feet upgradient, is used to establish the local background concentrations.

PCP in MW26 has remained similar to background levels during extraction well operation and after plant shutdown. During treatment system operation, PCP ranged from "below detection limits" to 0.16 µg/L in September 2001. PCP was not detected in MW26 in May or August 2003.

Based on surrounding background concentrations, chloride increased from an expected background of about 5 mg/L to a range of 10 to 30 mg/L during operation of the groundwater collection and treatment system. This was expected because the treated groundwater from the source area is elevated in chloride. Chloride had declined slightly in 2003, likely because of the cessation of discharge of treated groundwater. Sulfate increased from a background of about 7 mg/L to a range of 2 to 14 mg/L during system operation. As expected, it was elevated in treated groundwater and declined following system shutdown.

Iron has dropped significantly at MW26. This was also expected because the aeration of the groundwater results in precipitation and removal of iron from treated groundwater. Nitrate also dropped as expected because the source area groundwater has minimal nitrate.

Another benefit of reinfiltrating groundwater is that treatment results in aeration and reoxygenation of the water. The estimated 30 million gallons of treated groundwater supplies about 2,000 pounds of oxygen (assuming an average of 8 mg/L oxygen) for aerobic biodegradation of PCP at the PCP plume. Assuming all the oxygen is used for PCP degradation, about 2,900 pounds of PCP is degraded. This is an amount similar to the 2,500 pounds of PCP removed in the extraction system.



In summary, infiltration of treated groundwater has not increased PCP in groundwater, but has increased chloride and sulfate and depressed iron and nitrate, as expected. In the future, the reinjection of treated groundwater is expected to accelerate the decline in PCP groundwater concentrations through increased aerobic biological degradation.

## Summary

Semiannual groundwater sampling was conducted at the Penta Wood Products Site in April 2003 for five monitoring wells and four residential wells. The third post–RA annual groundwater sampling event was conducted in September 2003 and consisted of 21 monitoring wells, an onsite potable well, and four residential wells.

Water level measurements taken in the western part of the site during plant shutdown show that current flow directions remain consistent compared with the past measurements in both the unconfined and semiconfined aquifers. Most of the groundwater in the unconfined aquifer flows in a northerly direction, whereas groundwater in the semiconfined aquifier flows to the east and southeast.

East of the infiltration basin, the semiconfined groundwater flow is consistent with past flow directions, which is generally toward the east; however, the shallow unconfined groundwater shows a distinct change from flows encountered during the operation of the extraction system. The groundwater generally flows toward the north, but during plant operation, shallow groundwater flows converge from all directions toward the extraction well system. LNAPL was measured in MW18, MW19, and MW20 at levels of less than 0.5 foot in thickness. LNAPL thickness in these wells is consistent with past measurements from 2002.

Results from the four residential wells sampled in April and September 2003 showed trace levels of PCP in one well (RW01) at 0.28 µg/L. An investigation into the analytical run of this sample by CH2M HILL and STL could not determine that the sample analysis for RW01 was biased from prior sample analyses. CH2M HILL resampled RW01 and collected a field blank on November 20, 2003 for another separate PCP analysis. Results showed a PCP concentration of 0.24 µg/L in RW01, confirming the presence of PCP in this well. No other contaminant detects were reported in the residential wells sampled in August.

The groundwater extraction system was operated from September 27, 2000, to September 27, 2001, and removed 30,000,000 gallons of groundwater, or about 2 pore volumes of the extraction zone. About 2,500 pounds of PCP was removed.

The PCP plume exceeding 1,000 µg/L shrunk slightly between 1997 and 2003 as a result of groundwater extraction and natural attenuation. The extent of the plume, as defined by the 1 µg/L contour, has extended out to MW13 in the northeast and beyond MW14 in the southeast. Advective transport of PCP under natural groundwater flow conditions is the most likely cause for this plume expansion (see Attachment 2, Figure 2 ).

Naphthalene and xylene are present in several wells in the area of concentrated PCP. They are not present in any of the monitoring wells along or outside the plume perimeter.

Evaluation of the natural attenuation parameters revealed no significant changes in the groundwater conditions from those previously measured during the RI. The reducing zone below the CAMU remains substantially unchanged.

Infiltration of treated groundwater has not increased PCP in groundwater but has increased chloride and sulfate and depressed iron and nitrate, as expected. Since infiltration ceased in 2001, the groundwater has been returning to baseline concentrations. In the future the reinjection of treated groundwater is expected to accelerate the decline in PCP groundwater concentrations through increased aerobic biological degradation.

## Recommendations

Changes in the sampling method from hand bailing to dedicated pumps is recommended. The ~100-foot depths to groundwater, which is typical for the site, presents a significant challenge for many commercial pumps. This was demonstrated by the poor performance of the Timco bladder pumps installed in 1997. Research of available alternatives resulted in the purchase of a Grundfos Redi-flo 2 MP1 pump, which was installed in MW10 before the September 2003 sampling round. The pump was easy to install, performed well at the ~100-foot depth, and considerably reduced sampling time. It also resolved issues associated with hand bailing, such as providing more accurate measurement of natural attenuation parameters, minimizing suspended solids in samples, and minimizing aeration during sample collection.

Evaluation of the correlation of turbidity and metals results should continue and consideration should be given to refraining from submitting metals samples for analysis where turbidity exceeds 10 NTU.

## References

CH2M HILL. 2000, revised April 2001. Sampling and Analysis Plan.

CH2M HILL. August 1, 2002. PCP WPDES Permit Effluent Criteria Technical Memorandum. Technical memorandum to USEPA and WDNR.

CH2M HILL. August 2, 2002. PCP WPDES Permit Effluent Criteria at Penta Wood Products Superfund Site, Town of Daniels, WI. Memorandum to USEPA.

Attachment 1

# Analytical Results

# Penta Wood Products Site LTRA
# Quarterly Groundwater Sampling Results
# April 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-12 | MW-12 | MW-19 | MW-19 | MW-21 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-03 | 03CB08-04 | 03CB08-05 | 03CB08-06 | 03CB08-07 | 03CB08-08 | 03CB08-09 |
| **Laboratory Sample Identification:** | | 18483-010 | 18483-016 | 18483-018 | 18483-019 | 18483-012 | 18483-013 | 18483-001 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | 4.3 = | NA | 31 = | NA | 19.6 = | NA | 41 = |
| Iron | mg/L | 3.16 J | NA | 0.23 J | NA | 2.03 J | NA | 3.44 J |
| Iron, Dissolved | mg/L | NA | 0.025 U | NA | 0.025 U | NA | 0.025 U | NA |
| Manganese | mg/L | 0.217 J | NA | 1.64 J | NA | 3.67 J | NA | 0.227 J |
| Manganese, Dissolved | mg/L | NA | 0.005 UJ | NA | 1.56 J | NA | 3.59 J | NA |
| Zinc | mg/L | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ |
| Zinc, Dissolved | mg/L | NA | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA |
| Methane | ug/L | 0.5 U | NA | 0.5 U | NA | 2.4 = | NA | 0.5 U |
| Naphthalene | ug/L | 7.4 UJ | NA | 17 J | NA | 1200 J | NA | 7.4 UJ |
| Arsenic | mg/L | 0.001 U | NA | 0.001 J | NA | 0.002 J | NA | 0.001 U |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.014 J | NA | 0.005 J | NA | 0.024 J | NA | 0.012 J |
| Copper, Dissolved | mg/L | NA | 0.001 U | NA | 0.004 = | NA | 0.005 = | NA |
| Alkalinity, Total | mg/L | 174 = | NA | 470 = | NA | 118 = | NA | 144 = |
| Hardness (As CaCO3) | mg/L | 187 = | NA | 442 = | NA | 162 = | NA | 169 = |
| Nitrogen, Nitrate (As N) | mg/L | 2.6 = | NA | 0.8 = | NA | 3 = | NA | 2.5 = |
| Sulfide | mg/L | 1 J | NA | 1 UJ | NA | 0.6 J | NA | 1 UJ |
| Sulfate | mg/L | 10 = | NA | 20 = | NA | 27 = | NA | 12 = |
| Total Organic Carbon | mg/L | 3.2 J | NA | 19 J | NA | 53 J | NA | 1.5 J |
| Pentachlorophenol | ug/L | 0.1 UJ | NA | 3000 = | NA | 4900 = | NA | 0.15 = |
| Benzene | ug/L | 0.5 U | NA | 0.5 U | NA | 500 U | NA | 0.5 U |
| Ethylbenzene | ug/L | 5 U | NA | 1.3 J | NA | 5000 U | NA | 5 U |
| Toluene | ug/L | 5 U | NA | 1.3 J | NA | 5000 U | NA | 5 U |
| Xylenes (Total) | ug/L | 5 U | NA | 11 = | NA | 5000 U | NA | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Quarterly Groundwater Sampling Results
# April 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-26 | MW-26 | MW-26 | MW-26 | RW-01 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water, Dup | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-10 | 03CB08-11 | 03CB08-12 | 03CB08-17 | 03CB08-18 | 03CB08-13 | 03CB08-14 |
| **Laboratory Sample Identification:** | | 18483-002 | 18483-004 | 18483-005 | 18483-024 | 18483-025 | 217123-007 | 217123-008 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | NA | 18 = | NA | 18.7 = | NA | NA | NA |
| Iron | mg/L | NA | 1.29 J | NA | 1.69 J | NA | NA | NA |
| Iron, Dissolved | mg/L | 0.025 U | NA | 0.025 U | NA | 0.025 U | NA | NA |
| Manganese | mg/L | NA | 0.046 J | NA | 0.048 J | NA | NA | NA |
| Manganese, Dissolved | mg/L | 0.005 UJ | NA | 0.005 UJ | NA | 0.005 UJ | NA | NA |
| Zinc | mg/L | NA | 0.01 UJ | NA | 0.02 J | NA | NA | NA |
| Zinc, Dissolved | mg/L | 0.01 UJ | NA | 0.01 UJ | NA | 0.01 UJ | NA | NA |
| Methane | ug/L | NA | 0.5 U | NA | 0.5 U | NA | NA | NA |
| Naphthalene | ug/L | NA | 7.1 U | NA | 7.1 UJ | NA | 7.1 UJ | 6.8 UJ |
| Arsenic | mg/L | NA | 0.001 U | NA | 0.002 J | NA | NA | NA |
| Arsenic, Dissolved | mg/L | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA | NA |
| Copper | mg/L | NA | 0.004 J | NA | 0.005 J | NA | NA | NA |
| Copper, Dissolved | mg/L | 0.001 U | NA | 0.002 J | NA | 0.001 U | NA | NA |
| Alkalinity, Total | mg/L | NA | 248 = | NA | 250 = | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | 262 = | NA | 257 = | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 3.5 = | NA | 3.6 = | NA | NA | NA |
| Sulfide | mg/L | NA | 1 UJ | NA | 1 UJ | NA | NA | NA |
| Sulfate | mg/L | NA | 14 = | NA | 14 = | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | 7 J | NA | 12 J | NA | NA | NA |
| Pentachlorophenol | ug/L | NA | 0.1 U | NA | 0.11 U | NA | 0.1 J | 0.11 U |
| Benzene | ug/L | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U | 0.5 U |
| Ethylbenzene | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |
| Toluene | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |
| Xylenes (Total) | ug/L | NA | 5 U | NA | 5 U | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA

## Quarterly Groundwater Sampling Results
## April 2003

| | | | |
|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA |
| **Field Sample Location:** | | RW-03 | RW-04 |
| **Sample Interval:** | | N/A | N/A |
| **Matrix:** | | Water | Water |
| **Sample Collection Date:** | | 04/29/2003 | 04/29/2003 |
| **Field Sample Identification:** | | 03CB08-15 | 03CB08-16 |
| **Laboratory Sample Identification:** | | 217123-009 | 217123-010 |
| **Parameter** | **Units** | | |
| Chloride | mg/L | NA | NA |
| Iron | mg/L | NA | NA |
| Iron, Dissolved | mg/L | NA | NA |
| Manganese | mg/L | NA | NA |
| Manganese, Dissolved | mg/L | NA | NA |
| Zinc | mg/L | NA | NA |
| Zinc, Dissolved | mg/L | NA | NA |
| Methane | ug/L | NA | NA |
| Naphthalene | ug/L | 6.8 UJ | 7.4 UJ |
| Arsenic | mg/L | NA | NA |
| Arsenic, Dissolved | mg/L | NA | NA |
| Copper | mg/L | NA | NA |
| Copper, Dissolved | mg/L | NA | NA |
| Alkalinity, Total | mg/L | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA |
| Sulfide | mg/L | NA | NA |
| Sulfate | mg/L | NA | NA |
| Total Organic Carbon | mg/L | NA | NA |
| Pentachlorophenol | ug/L | 0.11 U | 0.11 U |
| Benzene | ug/L | 0.5 U | 0.5 U |
| Ethylbenzene | ug/L | 5 U | 5 U |
| Toluene | ug/L | 5 U | 5 U |
| Xylenes (Total) | ug/L | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | DW-01 | DW-01 | MW-01 | MW-01 | MW-02 | MW-02 | MW-03 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/23/2003 |
| **Field Sample Identification:** | | 03CB14-68 | 03CB14-69 | 03CB14-05 | 03CB14-06 | 03CB14-09 | 03CB14-10 | 03CB14-11 |
| **Laboratory Sample Identification:** | | 19267-018 | 19267-019 | 19267-005 | 19267-006 | 19267-009 | 19267-010 | 19255-008 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | 66.9 = | NA | 3.3 = | NA | 1 J | NA | 52.4 = |
| Iron | mg/L | 0.05 U | NA | 7 = | NA | 41.3 = | NA | 0.15 = |
| Iron, Dissolved | mg/L | NA | 0.05 U | NA | 0.1 J | NA | 3.03 = | NA |
| Manganese | mg/L | 0.006 J | NA | 0.416 = | NA | 1.18 = | NA | 0.05 = |
| Manganese, Dissolved | mg/L | NA | 0.005 U | NA | 0.036 = | NA | 0.443 = | NA |
| Sulfide, Total | mg/L | 1 U | NA | 1 U | NA | 1 U | NA | 1 U |
| Zinc | mg/L | 0.03 = | NA | 0.02 J | NA | 0.08 = | NA | 0.01 U |
| Zinc, Dissolved | mg/L | NA | 0.04 = | NA | 0.01 U | NA | 0.02 = | NA |
| Methane | ug/L | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA | 2.5 = |
| Naphthalene | ug/L | 1 U | NA | 1 U | NA | 0.99 U | NA | 1.1 U |
| Arsenic | mg/L | 0.001 U | NA | 0.001 J | NA | 0.008 = | NA | 0.001 U |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.002 = | NA | 0.021 = | NA | 0.1 = | NA | 0.001 J |
| Copper, Dissolved | mg/L | NA | 0.001 UJ | NA | 0.001 J | NA | 0.016 = | NA |
| Alkalinity, Total | mg/L | 250 J | NA | 157 J | NA | 80 J | NA | 357 J |
| Hardness (As CaCO3) | mg/L | 110.8 = | NA | 68.25 = | NA | 106.2 = | NA | 160 = |
| Nitrogen, Nitrate (As N) | mg/L | 1.48 = | NA | 2.61 = | NA | 2.02 = | NA | 4.43 = |
| Sulfate | mg/L | 2 U | NA | 2 U | NA | 3 J | NA | 2 U |
| Total Organic Carbon | mg/L | 1.5 = | NA | 8.4 = | NA | 2.3 = | NA | 1.6 = |
| Pentachlorophenol | ug/L | 0.05 J | NA | 0.13 = | NA | 0.28 = | NA | 0.31 = |
| Benzene | ug/L | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ |
| Ethylbenzene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Toluene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Xylenes (Total) | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-03 | MW-05 | MW-05 | MW-06S | MW-06S | MW-07 | MW-07 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/24/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/24/2003 | 09/24/2003 |
| **Field Sample Identification:** | | 03CB14-12 | 03CB14-13 | 03CB14-14 | 03CB14-15 | 03CB14-16 | 03CB14-17 | 03CB14-18 |
| **Laboratory Sample Identification:** | | 19255-009 | 19274-009 | 19274-010 | 19274-005 | 19274-006 | 19267-007 | 19267-012 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | NA | 22.1 = | NA | 23.9 = | NA | 12.2 = | NA |
| Iron | mg/L | NA | 35.1 J | NA | 5.9 J | NA | 0.28 = | NA |
| Iron, Dissolved | mg/L | 0.05 U | NA | 13.4 = | NA | 1.1 = | NA | 0.09 J |
| Manganese | mg/L | NA | 9.45 = | NA | 1.19 = | NA | 0.006 J | NA |
| Manganese, Dissolved | mg/L | 0.008 J | NA | 8.32 J | NA | 0.961 = | NA | 0.005 U |
| Sulfide, Total | mg/L | NA | 3.4 = | NA | 1 U | NA | 1 U | NA |
| Zinc | mg/L | NA | 0.02 J | NA | 0.01 J | NA | 0.01 U | NA |
| Zinc, Dissolved | mg/L | 0.01 U | NA | 0.01 U | NA | 0.01 J | NA | 0.01 U |
| Methane | ug/L | NA | 0.47 J | NA | 130 = | NA | 4.9 = | NA |
| Naphthalene | ug/L | NA | 2.5 = | NA | 1 U | NA | 0.96 U | NA |
| Arsenic | mg/L | NA | 0.004 J | NA | 0.001 J | NA | 0.001 U | NA |
| Arsenic, Dissolved | mg/L | 0.001 U | NA | 0.003 = | NA | 0.001 J | NA | 0.001 U |
| Copper | mg/L | NA | 0.05 = | NA | 0.022 = | NA | 0.001 U | NA |
| Copper, Dissolved | mg/L | 0.001 UJ | NA | 0.007 J | NA | 0.009 J | NA | 0.001 UJ |
| Alkalinity, Total | mg/L | NA | 228 J | NA | 282 J | NA | 346 J | NA |
| Hardness (As CaCO3) | mg/L | NA | 78.48 = | NA | 104 = | NA | 133.3 = | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 0.05 U | NA | 1.01 = | NA | 2.97 = | NA |
| Sulfate | mg/L | NA | 20 = | NA | 17 = | NA | 2 U | NA |
| Total Organic Carbon | mg/L | NA | 6.2 = | NA | 8.2 = | NA | 1.2 = | NA |
| Pentachlorophenol | ug/L | NA | 1100 = | NA | 0.33 = | NA | 0.044 J | NA |
| Benzene | ug/L | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA |
| Ethylbenzene | ug/L | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA |
| Toluene | ug/L | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA |
| Xylenes (Total) | ug/L | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-08 | MW-08 | MW-08 | MW-08 | MW-09 | MW-09 | MW-10 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 10/01/2003 |
| **Field Sample Identification:** | | 03CB14-07 | 03CB14-08 | 03CB14-19 | 03CB14-20 | 03CB14-21 | 03CB14-22 | 03CB14-23 |
| **Laboratory Sample Identification:** | | 19274-001 | 19274-002 | 19274-003 | 19274-004 | 19274-011 | 19274-012 | 19309-001 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | 11 = | NA | 11 = | NA | 4.4 = | NA | 22 = |
| Iron | mg/L | 0.14 J | NA | 0.24 J | NA | 7.4 J | NA | 5.47 = |
| Iron, Dissolved | mg/L | NA | 0.05 U | NA | 0.05 U | NA | 0.24 J | NA |
| Manganese | mg/L | 0.008 J | NA | 0.008 J | NA | 0.229 = | NA | 1.96 = |
| Manganese, Dissolved | mg/L | NA | 0.008 J | NA | 0.006 J | NA | 0.005 U | NA |
| Sulfide, Total | mg/L | 1 U | NA | 1 U | NA | 1 U | NA | 1 U |
| Zinc | mg/L | 0.01 U | NA | 0.01 U | NA | 0.02 J | NA | 0.02 = |
| Zinc, Dissolved | mg/L | NA | 0.01 U | NA | 0.01 U | NA | 0.01 U | NA |
| Methane | ug/L | 8.9 = | NA | 9.2 = | NA | 0.5 U | NA | 0.62 = |
| Naphthalene | ug/L | 0.95 U | NA | 1 U | NA | 1 U | NA | 18 = |
| Arsenic | mg/L | 0.001 U | NA | 0.001 U | NA | 0.001 J | NA | 0.002 J |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.001 U | NA | 0.001 U | NA | 0.02 = | NA | 0.03 = |
| Copper, Dissolved | mg/L | NA | 0.001 UJ | NA | 0.001 UJ | NA | 0.001 UJ | NA |
| Alkalinity, Total | mg/L | 182 J | NA | 184 J | NA | 59 J | NA | 287 J |
| Hardness (As CaCO3) | mg/L | 69.57 = | NA | 69.44 = | NA | 32.83 = | NA | 93.58 = |
| Nitrogen, Nitrate (As N) | mg/L | 2.61 = | NA | 2.6 = | NA | 2.36 = | NA | 0.05 U |
| Sulfate | mg/L | 2 U | NA | 2 U | NA | 24 = | NA | 3 J |
| Total Organic Carbon | mg/L | 1.7 = | NA | 2.3 = | NA | 6.5 = | NA | 25.3 = |
| Pentachlorophenol | ug/L | 0.047 J | NA | 0.11 U | NA | 2.3 = | NA | 9000 = |
| Benzene | ug/L | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 U |
| Ethylbenzene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 U |
| Toluene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 U |
| Xylenes (Total) | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 13.5 = |

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# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-10 | MW-10S | MW-10S | MW-11 | MW-11 | MW-12 | MW-12 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/01/2003 | 09/25/2003 | 09/25/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 |
| **Field Sample Identification:** | | 03CB14-24 | 03CB14-25 | 03CB14-26 | 03CB14-27 | 03CB14-28 | 03CB14-29 | 03CB14-30 |
| **Laboratory Sample Identification:** | | 19309-002 | 19274-007 | 19274-008 | 19255-014 | 19255-015 | 19255-021 | 19255-022 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | NA | 6.7 = | NA | 6.7 = | NA | 30.8 = | NA |
| Iron | mg/L | NA | 1.76 J | NA | 0.16 = | NA | 0.07 J | NA |
| Iron, Dissolved | mg/L | 2.59 = | NA | 0.05 U | NA | 0.05 U | NA | 0.05 U |
| Manganese | mg/L | NA | 5.91 = | NA | 0.005 U | NA | 1.42 = | NA |
| Manganese, Dissolved | mg/L | 1.85 = | NA | 5.9 = | NA | 0.005 U | NA | 1.53 = |
| Sulfide, Total | mg/L | NA | 1 U | NA | 1 U | NA | NA | NA |
| Zinc | mg/L | NA | 0.01 U | NA | 0.02 U | NA | 0.01 U | NA |
| Zinc, Dissolved | mg/L | 0.01 U | NA | 0.01 U | NA | 0.01 U | NA | 0.01 U |
| Methane | ug/L | NA | 0.5 U | NA | 0.5 U | NA | 0.49 J | NA |
| Naphthalene | ug/L | NA | 1 U | NA | 0.98 U | NA | NA | NA |
| Arsenic | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Arsenic, Dissolved | mg/L | 0.002 J | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U |
| Copper | mg/L | NA | 0.007 J | NA | 0.002 = | NA | 0.004 = | NA |
| Copper, Dissolved | mg/L | 0.008 = | NA | 0.001 J | NA | 0.001 UJ | NA | 0.003 = |
| Alkalinity, Total | mg/L | NA | 135 J | NA | 187 J | NA | 443 J | NA |
| Hardness (As CaCO3) | mg/L | NA | 52.05 = | NA | 72.14 = | NA | 151.4 = | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 3.41 = | NA | 2.94 = | NA | 1.17 = | NA |
| Sulfate | mg/L | NA | 2 J | NA | 2 U | NA | 2 U | NA |
| Total Organic Carbon | mg/L | NA | 6.6 = | NA | 2.3 = | NA | 15.5 = | NA |
| Pentachlorophenol | ug/L | NA | 2200 = | NA | 0.11 U | NA | NA | NA |
| Benzene | ug/L | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA |
| Ethylbenzene | ug/L | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA |
| Toluene | ug/L | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA |
| Xylenes (Total) | ug/L | NA | 3.4 J | NA | 2.5 UJ | NA | 8.6 J | NA |

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# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | MW-12 | MW-12 | MW-13 | MW-13 | MW-15 | MW-15 | MW-16 |
| **Sample Interval:** | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | Water, Dup | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | 09/23/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 |
| **Field Sample Identification:** | 03CB14-49 | 03CB14-50 | 03CB14-31 | 03CB14-32 | 03CB14-33 | 03CB14-34 | 03CB14-35 |
| **Laboratory Sample Identification:** | 19255-019 | 19255-020 | 19255-001 | 19255-002 | 19255-003 | 19255-004 | 19255-016 |
| **Parameter** | **Units** | | | | | | |
| Chloride | mg/L | 29.8 = | NA | 5.1 = | NA | 17.4 = | NA | 6.2 = |
| Iron | mg/L | 0.08 J | NA | 24.6 = | NA | 0.28 = | NA | 7.47 = |
| Iron, Dissolved | mg/L | NA | 0.05 U | NA | 0.96 = | NA | 0.05 U | NA |
| Manganese | mg/L | 1.49 = | NA | 0.687 = | NA | 0.009 J | NA | 0.532 = |
| Manganese, Dissolved | mg/L | NA | 1.49 = | NA | 0.182 = | NA | 0.005 U | NA |
| Sulfide, Total | mg/L | 1 U | NA | 1 U | NA | 1 U | NA | 1 U |
| Zinc | mg/L | 0.01 U | NA | 0.05 = | NA | 0.01 J | NA | 0.01 J |
| Zinc, Dissolved | mg/L | NA | 0.01 U | NA | 0.01 J | NA | 0.01 U | NA |
| Methane | ug/L | 0.64 = | NA | 0.5 U | NA | 0.5 U | NA | 0.5 U |
| Naphthalene | ug/L | 14 = | NA | 1 U | NA | 0.99 U | NA | 1.1 U |
| Arsenic | mg/L | 0.001 U | NA | 0.003 = | NA | 0.001 U | NA | 0.002 J |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.004 = | NA | 0.055 = | NA | 0.001 J | NA | 0.018 = |
| Copper, Dissolved | mg/L | NA | 0.003 = | NA | 0.008 = | NA | 0.001 UJ | NA |
| Alkalinity, Total | mg/L | 433 J | NA | 78 J | NA | 213 J | NA | 82 J |
| Hardness (As CaCO3) | mg/L | 153.3 = | NA | 35.04 = | NA | 88.57 = | NA | 37.96 = |
| Nitrogen, Nitrate (As N) | mg/L | 1.23 = | NA | 1.86 = | NA | 3.8 = | NA | 3.49 = |
| Sulfate | mg/L | 2 U | NA | 7 = | NA | 2 U | NA | 3 J |
| Total Organic Carbon | mg/L | 16 = | NA | 6 = | NA | 1.8 = | NA | 2.3 = |
| Pentachlorophenol | ug/L | 10000 = | NA | 2.9 = | NA | 0.1 U | NA | 0.089 J |
| Benzene | ug/L | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ |
| Ethylbenzene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Toluene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Xylenes (Total) | ug/L | 9.4 J | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |

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# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-16 | MW-17 | MW-17 | MW-19 | MW-19 | MW-20 | MW-20 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/23/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 | 09/25/2003 |
| **Field Sample Identification:** | | 03CB14-36 | 03CB14-37 | 03CB14-38 | 03CB14-39 | 03CB14-40 | 03CB14-41 | 03CB14-42 |
| **Laboratory Sample Identification:** | | 19255-017 | 19274-015 | 19274-016 | 19274-017 | 19274-018 | 19274-019 | 19274-020 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | NA | 4.4 = | NA | 17.5 J | NA | 19.4 J | NA |
| Iron | mg/L | NA | 0.05 U | NA | 0.95 J | NA | 7.22 J | NA |
| Iron, Dissolved | mg/L | 0.05 U | NA | 0.05 U | NA | 0.05 J | NA | 0.35 J |
| Manganese | mg/L | NA | 0.005 U | NA | 2.21 J | NA | 3.31 = | NA |
| Manganese, Dissolved | mg/L | 0.005 U | NA | 0.005 U | NA | 4.47 J | NA | 3.25 J |
| Sulfide, Total | mg/L | NA | 1 U | NA | 1 U | NA | 1 U | NA |
| Zinc | mg/L | NA | 0.01 U | NA | 0.01 U | NA | 0.02 J | NA |
| Zinc, Dissolved | mg/L | 0.01 U | NA | 0.01 U | NA | 0.01 U | NA | 0.01 J |
| Methane | ug/L | NA | 0.5 U | NA | 5.7 = | NA | 5.4 = | NA |
| Naphthalene | ug/L | NA | 0.96 U | NA | 3200 = | NA | 830 = | NA |
| Arsenic | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.002 J | NA |
| Arsenic, Dissolved | mg/L | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U |
| Copper | mg/L | NA | 0.001 UJ | NA | 0.027 J | NA | 0.058 J | NA |
| Copper, Dissolved | mg/L | 0.001 UJ | NA | 0.001 UJ | NA | 0.009 J | NA | 0.011 J |
| Alkalinity, Total | mg/L | NA | 184 J | NA | 160 J | NA | 233 J | NA |
| Hardness (As CaCO3) | mg/L | NA | 71.56 = | NA | 71.57 = | NA | 86.67 = | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 5.1 = | NA | 2 J | NA | 1.25 U | NA |
| Sulfate | mg/L | NA | 2 U | NA | 90 J | NA | 80 J | NA |
| Total Organic Carbon | mg/L | NA | 2.1 = | NA | 129 J | NA | 150 J | NA |
| Pentachlorophenol | ug/L | NA | 0.46 = | NA | 15000 = | NA | 13000 = | NA |
| Benzene | ug/L | NA | 0.25 UJ | NA | 1 UJ | NA | 1 UJ | NA |
| Ethylbenzene | ug/L | NA | 2.5 UJ | NA | 10 UJ | NA | 10 UJ | NA |
| Toluene | ug/L | NA | 2.5 UJ | NA | 10 UJ | NA | 10 UJ | NA |
| Xylenes (Total) | ug/L | NA | 2.5 UJ | NA | 46.6 J | NA | 60.9 J | NA |

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# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-21 | MW-22 | MW-22 | MW-26 | MW-26 | RW-01 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/24/2003 | 09/23/2003 | 09/23/2003 | 09/23/2003 |
| **Field Sample Identification:** | | 03CB14-43 | 03CB14-44 | 03CB14-45 | 03CB14-46 | 03CB14-47 | 03CB14-48 | 03CB14-51 |
| **Laboratory Sample Identification:** | | 19267-014 | 19267-015 | 19267-003 | 19267-004 | 19255-006 | 19255-007 | 19255-024 |
| **Parameter** | **Units** | | | | | | | |
| Chloride | mg/L | 48 = | NA | 4.9 = | NA | 11 = | NA | NA |
| Iron | mg/L | 68.4 = | NA | 56.9 = | NA | 0.74 = | NA | NA |
| Iron, Dissolved | mg/L | NA | 0.05 U | NA | 2.77 = | NA | 0.05 U | NA |
| Manganese | mg/L | 3.75 = | NA | 2.57 = | NA | 0.029 = | NA | NA |
| Manganese, Dissolved | mg/L | NA | 0.005 U | NA | 0.542 = | NA | 0.005 U | NA |
| Sulfide, Total | mg/L | 1 U | NA | 1 U | NA | 1 U | NA | NA |
| Zinc | mg/L | 0.15 = | NA | 0.12 = | NA | 0.01 U | NA | NA |
| Zinc, Dissolved | mg/L | NA | 0.01 U | NA | 0.02 J | NA | 0.01 U | NA |
| Methane | ug/L | 0.5 U | NA | 0.5 U | NA | 0.5 U | NA | NA |
| Naphthalene | ug/L | 1 U | NA | 1 U | NA | 1 U | NA | 0.97 U |
| Arsenic | mg/L | 0.001 U | NA | 0.007 = | NA | 0.001 U | NA | NA |
| Arsenic, Dissolved | mg/L | NA | 0.001 U | NA | 0.001 U | NA | 0.001 U | NA |
| Copper | mg/L | 0.26 = | NA | 0.14 = | NA | 0.001 J | NA | NA |
| Copper, Dissolved | mg/L | NA | 0.001 UJ | NA | 0.02 = | NA | 0.001 UJ | NA |
| Alkalinity, Total | mg/L | 165 J | NA | 132 J | NA | 250 J | NA | NA |
| Hardness (As CaCO3) | mg/L | 81.46 = | NA | 101.8 = | NA | 90.28 = | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 2.62 = | NA | 2.15 = | NA | 3.74 = | NA | NA |
| Sulfate | mg/L | 2 U | NA | 3 J | NA | 2 U | NA | NA |
| Total Organic Carbon | mg/L | 3.6 = | NA | 1.7 = | NA | 6.4 = | NA | NA |
| Pentachlorophenol | ug/L | 0.063 J | NA | 0.34 = | NA | 0.11 U | NA | 0.28 = |
| Benzene | ug/L | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ | NA | 0.25 UJ |
| Ethylbenzene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Toluene | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |
| Xylenes (Total) | ug/L | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ | NA | 2.5 UJ |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products Site LTRA
# Annual Groundwater Sampling Results
# September 2003

| | | | | | | |
|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-01 | RW-02 | RW-02 | RW-03 | RW-04 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water, Dup | Water | Water |
| **Sample Collection Date:** | | 11/20/2003 | 09/24/2003 | 09/24/2003 | 09/23/2003 | 09/23/2003 |
| **Field Sample Identification:** | | 03CB14-71 | 03CB14-52 | 03CB14-53 | 03CB14-54 | 03CB14-55 |
| **Laboratory Sample Identification:** | | 222528-002 | 19255-012 | 19255-011 | 19255-025 | 19255-026 |
| **Parameter** | **Units** | | | | | |
| Chloride | mg/L | NA | NA | NA | NA | NA |
| Iron | mg/L | NA | NA | NA | NA | NA |
| Iron, Dissolved | mg/L | NA | NA | NA | NA | NA |
| Manganese | mg/L | NA | NA | NA | NA | NA |
| Manganese, Dissolved | mg/L | NA | NA | NA | NA | NA |
| Sulfide, Total | mg/L | NA | NA | NA | NA | NA |
| Zinc | mg/L | NA | NA | NA | NA | NA |
| Zinc, Dissolved | mg/L | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | 0.97 U | 0.96 U | 0.96 U | 0.99 U |
| Arsenic | mg/L | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | mg/L | NA | NA | NA | NA | NA |
| Copper | mg/L | NA | NA | NA | NA | NA |
| Copper, Dissolved | mg/L | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/L | 0.24 = | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| Benzene | ug/L | NA | 0.25 UJ | 0.25 UJ | 0.25 UJ | 0.25 UJ |
| Ethylbenzene | ug/L | NA | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |
| Toluene | ug/L | NA | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |
| Xylenes (Total) | ug/L | NA | 2.5 UJ | 2.5 UJ | 2.5 UJ | 2.5 UJ |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/09/1997 | 10/09/1997 | 04/05/2000 | 04/24/2001 | 04/24/2001 | 09/11/2001 | 05/14/2002 |
| **Field Sample Identification:** | | 98ZR01-05 | 98ZR01-26 | 00CB09-01 | 01CB07-64 | 01CB07-65 | 01CB28-21 | 02CB14-05 |
| **Laboratory Sample Identification:** | | 26300*12 | 26300*14 | 200403802 | 210420901 | 210420902 | 913080-024 | 02052485-24 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | 1 U | NA | 0.4 J | 2 U |
| Ethane | ug/L | NA | NA | NA | 0.21 U | NA | NA | 10 UJ |
| Ethene | ug/L | NA | NA | NA | 0.22 U | NA | NA | 10 UJ |
| Methane | ug/L | 10 U | 10 U | 0.267 = | 0.11 U | NA | 10 U | 10 UJ |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 184000 J | 183000 J | 26900 = | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2 UJ | 2.3 = | 2.4 = | 2.4 = | NA | 1.3 J | 1.4 U |
| Arsenic, Dissolved | ug/L | 2 UJ | 2 UJ | 2.6 = | NA | 1 U | 0.7 J | NA |
| Copper | ug/L | 61.6 = | 70.9 = | 23.9 = | 33 = | NA | 25 J | 12.1 J |
| Copper, Dissolved | ug/L | 2 UJ | 3.5 J | NA | NA | 25 U | 4 J | NA |
| Iron | ug/L | NA | NA | 5670 = | 9830 = | NA | 4000 J | 2700 = |
| Iron, Dissolved | ug/L | 20 U | 20 U | 50 U | NA | 25 U | 35 U | NA |
| Manganese | ug/L | 1070 = | 1180 = | NA | 642 = | NA | 450 J | 247 = |
| Manganese, Dissolved | ug/L | NA | NA | 2 U | NA | 15 U | 0.79 J | NA |
| Zinc | ug/L | 32.8 J | 36 J | 10.6 = | 16 J | NA | 20 J | NA |
| Zinc, Dissolved | ug/L | 3 J | 3.8 J | NA | NA | 25 U | 3.7 UJ | NA |
| Alkalinity, Total | mg/L | 190 = | 190 = | 208 = | 140 = | NA | 130 = | NA |
| Chloride | mg/L | 18 = | 16 = | 8.72 = | 24 = | NA | 10 = | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | 226 = | 218 = | NA | 170 J | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | 0.14 = | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | 0.1 U | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 6.5 = | 4.5 J | 1.66 = | 6.5 = | NA | 2.6 J | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 6.3 J | 5.8 = | 2.54 = | 13 = | NA | 8.2 U | NA |
| Total Organic Carbon | mg/L | 20 J | 43.5 J | 3.36 = | 3.89 = | NA | 3.9 R | NA |
| Pentachlorophenol | ug/Kg | 2 = | 1 = | 0.5 U | 0.1 U | NA | 0.5 = | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 11 U | 5.6 U | NA | 0.24 U | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/09/1997 | 10/09/1997 | 04/05/2000 | 04/24/2001 | 04/24/2001 | 09/11/2001 | 05/14/2002 |
| **Field Sample Identification:** | | 98ZR01-05 | 98ZR01-26 | 00CB09-01 | 01CB07-64 | 01CB07-65 | 01CB28-21 | 02CB14-05 |
| **Laboratory Sample Identification:** | | 26300*12 | 26300*14 | 200403802 | 210420901 | 210420902 | 913080-024 | 02052485-24 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | 0.1 U | 0.15 U | 0.1 U | NA | 0.44 U | NA |
| Ethylbenzene | ug/L | 1 U | 1 U | 1 U | 1 U | NA | 0.5 U | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | 1 U | 1 U | 1 U | 2 U | NA | NA | NA |
| O-Xylene | ug/L | 1 U | 1 U | 1 U | 1 U | NA | NA | NA |
| Toluene | ug/L | 1 U | 1 U | 1 U | 1 U | NA | 0.4 U | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | 1 U | 1 U | 1 U | NA | 1.2 U | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water, Dup | Water, Dup | Water |
| **Sample Collection Date:** | | 05/14/2002 | 05/14/2002 | 08/06/2002 | 08/06/2002 | 08/06/2002 | 08/06/2002 | 10/09/1997 |
| **Field Sample Identification:** | | 02CB14-05 | 02CB14-06 | 02CB18-09 | 02CB18-10 | 02CB18-11 | 02CB18-12 | 98ZR01-06 |
| **Laboratory Sample Identification:** | | 0205385-06A | 02052485-25 | 02081571-27 | 02081571-28 | 02081571-29 | 02081571-30 | 26300*4 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | NA | 2 U | NA | 2 U | NA | NA |
| Ethane | ug/L | 10 UJ | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | 10 UJ | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 10 UJ | NA | 0.01 U | NA | 0.01 U | NA | 10 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | 343000 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 1.4 U | NA | 1.4 UJ | NA | 1.8 J | NA | 2 U |
| Arsenic, Dissolved | ug/L | NA | 1.4 U | NA | 1.7 J | NA | 1.4 UJ | 2 UJ |
| Copper | ug/L | 12.1 J | NA | 7.6 =B | NA | 9.5 =B | NA | 11.4 J |
| Copper, Dissolved | ug/L | NA | 1.6 J | NA | 0.3 UJ | NA | 0.3 UJ | 10.2 J |
| Iron | ug/L | 2700 = | NA | 1700 = | NA | 2200 = | NA | NA |
| Iron, Dissolved | ug/L | NA | 11.2 U | NA | 11 U | NA | 11 U | 20 U |
| Manganese | ug/L | 247 = | NA | 180 J | NA | 230 J | NA | 50.6 = |
| Manganese, Dissolved | ug/L | NA | 0.48 J | NA | 0.95 J | NA | 2.2 J | NA |
| Zinc | ug/L | NA | NA | 5.8 J | NA | 6.5 J | NA | 10.7 J |
| Zinc, Dissolved | ug/L | NA | 5.4 J | NA | 3.9 =B | NA | 2.9 =B | 10 J |
| Alkalinity, Total | mg/L | NA | NA | 170 = | NA | 160 = | NA | 300 = |
| Chloride | mg/L | NA | NA | 7.4 = | NA | 7.3 = | NA | 3.5 = |
| Hardness (As CaCO3) | mg/L | NA | NA | 190 = | NA | 190 = | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | 0.1 U |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | 0.15 U | NA | 0.15 U | NA | 1.1 J |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | 7.9 = | NA | 7.7 = | NA | 17 = |
| Total Organic Carbon | mg/L | NA | NA | 2.6 = | NA | 3.7 = | NA | 2.6 J |
| Pentachlorophenol | ug/Kg | NA | NA | 0.067 = | NA | 0.063 = | NA | 1 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 5 U | NA | 5 U | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-01 | MW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water, Dup | Water, Dup | Water |
| **Sample Collection Date:** | | 05/14/2002 | 05/14/2002 | 08/06/2002 | 08/06/2002 | 08/06/2002 | 08/06/2002 | 10/09/1997 |
| **Field Sample Identification:** | | 02CB14-05 | 02CB14-06 | 02CB18-09 | 02CB18-10 | 02CB18-11 | 02CB18-12 | 98ZR01-06 |
| **Laboratory Sample Identification:** | | 0205385-06A | 02052485-25 | 02081571-27 | 02081571-28 | 02081571-29 | 02081571-30 | 26300*4 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | NA | 1 U | NA | 1 U | NA | 0.1 U |
| Ethylbenzene | ug/L | NA | NA | 5 U | NA | 5 U | NA | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | 2.5 U | NA | 2.5 U | NA | 1 U |
| O-Xylene | ug/L | NA | NA | 2.5 U | NA | 2.5 U | NA | 1 U |
| Toluene | ug/L | NA | NA | 5 U | NA | 5 U | NA | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | 5 U | NA | 5 U | NA | 1 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-02 | MW-02 | MW-02 | MW-02 | MW-02 | MW-03 | MW-03 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/05/2000 | 06/18/2001 | 09/12/2001 | 08/06/2002 | 08/06/2002 | 10/08/1997 | 04/04/2000 |
| **Field Sample Identification:** | | 00CB09-02 | 01CB08-66 | 01CB28-39 | 02CB18-13 | 02CB18-14 | 98ZR01-07 | 00CB09-03 |
| **Laboratory Sample Identification:** | | 200403810 | 210611201 | 913080-011 | 02081571-9 | 02081571-10 | 26300*1 | 200402501 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | 1 U | 3.3 J | 2 U | NA | NA | 1 U |
| Ethane | ug/L | NA | 0.19 U | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | 0.2 U | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.261 = | 0.14 J | 10 U | 0.01 U | NA | 10 U | 1.646 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 78410 = | NA | NA | NA | NA | 394000 = | 54680 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2.1 U | 6.7 = | 3.9 J | 6.4 J | NA | NA | 2.1 U |
| Arsenic, Dissolved | ug/L | 2.1 U | 0.37 J | 0.29 J | NA | 1.4 UJ | 2 UJ | 5 U |
| Copper | ug/L | 64.2 = | 109 = | 110 J | 30 = | NA | NA | 5 U |
| Copper, Dissolved | ug/L | NA | 25 U | 2.2 U | NA | 0.3 UJ | 2 UJ | NA |
| Iron | ug/L | 21700 = | 39900 = | 29000 J | 10000 = | NA | NA | 719 = |
| Iron, Dissolved | ug/L | 50 U | 24 J | 35 U | NA | 48 = | 257 = | 498 J |
| Manganese | ug/L | NA | 1230 = | 1200 J | 420 J | NA | NA | NA |
| Manganese, Dissolved | ug/L | 3.4 = | 8.3 = | 57 J | NA | 18 = | 10.9 = | 10.3 = |
| Zinc | ug/L | 33.7 = | 64 = | 69 J | 26 =B | NA | NA | 10 U |
| Zinc, Dissolved | ug/L | NA | 25 U | 5.2 J | NA | 9.1 =B | 2 UJ | NA |
| Alkalinity, Total | mg/L | 50 = | 36 = | 49 = | 66 = | NA | 370 = | 468 = |
| Chloride | mg/L | 1.01 = | 5.73 = | 6.2 = | 3 = | NA | 42 = | 64 = |
| Hardness (As CaCO3) | mg/L | 89.4 = | 66 = | 140 J | 98 = | NA | NA | 548 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | 0.28 = | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.1 U | 38 = | 2.3 = | 0.15 U | NA | 4.4 J | 2.84 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 58.3 = | 105 = | 10 = | 10 = | NA | 16 = | 12.5 = |
| Total Organic Carbon | mg/L | 1.97 = | 5.57 = | 4.2 R | 3.2 = | NA | 1.2 J | 2.18 = |
| Pentachlorophenol | ug/Kg | 0.5 U | 0.1 UJ | 0.51 = | 0.12 = | NA | 1 U | 0.6 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 10 U | 5 U | 0.24 U | 5 U | NA | NA | 12 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-02 | MW-02 | MW-02 | MW-02 | MW-02 | MW-03 | MW-03 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/05/2000 | 06/18/2001 | 09/12/2001 | 08/06/2002 | 08/06/2002 | 10/08/1997 | 04/04/2000 |
| **Field Sample Identification:** | | 00CB09-02 | 01CB08-66 | 01CB28-39 | 02CB18-13 | 02CB18-14 | 98ZR01-07 | 00CB09-03 |
| **Laboratory Sample Identification:** | | 200403810 | 210611201 | 913080-011 | 02081571-9 | 02081571-10 | 26300*1 | 200402501 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.15 U | 0.1 U | 0.44 U | 1 U | NA | 0.1 U | 0.1 U |
| Ethylbenzene | ug/L | 1 U | 1 U | 0.5 U | 5 U | NA | 1 U | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 1 U | 2 U | NA | 2.5 U | NA | 1 U | 1 U |
| O-Xylene | ug/L | 1 U | 1 U | NA | 2.5 U | NA | 1 U | 1 U |
| Toluene | ug/L | 1 U | 1 U | 0.4 U | 5 U | NA | 1 U | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | 1 U | 1.2 U | 5 U | NA | 1 U | 1 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 | MW-04 | MW-04 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/25/2001 | 04/25/2001 | 09/13/2001 | 08/07/2002 | 08/07/2002 | 10/09/1997 | 04/04/2000 |
| **Field Sample Identification:** | | 01CB07-83 | 01CB07-84 | 01CB28-44 | 02CB18-15 | 02CB18-16 | 98ZR01-30 | 00CB09-04 |
| **Laboratory Sample Identification:** | | 210422706 | 210422707 | 913103-001 | 02081571-35 | 02081571-36 | 26300*20 | 200402511 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | NA | 2.7 = | 2 U | NA | NA | 1 U |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | 10 U | 0.01 U | NA | 139 = | 0.811 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | 83000 J | 1130 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 1 U | NA | 0.35 J | 1.7 J | NA | 2 U | 2.1 U |
| Arsenic, Dissolved | ug/L | NA | 1 U | 0.29 UJ | NA | 1.9 J | 2 UJ | 5 U |
| Copper | ug/L | 25 U | NA | 2.2 UJ | 2.3 J | NA | 2.4 J | 5 U |
| Copper, Dissolved | ug/L | NA | 25 U | 2.2 UJ | NA | 0.58 J | 2 UJ | NA |
| Iron | ug/L | 147 = | NA | 2400 J | 480 = | NA | NA | 1040 = |
| Iron, Dissolved | ug/L | NA | 142 = | 930 = | NA | 160 = | 35.9 J | 50 U |
| Manganese | ug/L | 7.3 J | NA | 31 J | 15 J | NA | 55.9 = | NA |
| Manganese, Dissolved | ug/L | NA | 7.9 J | 31 J | NA | 12 J | NA | 47 = |
| Zinc | ug/L | 25 U | NA | 3.7 U | 1.4 J | NA | 4.5 J | 10 U |
| Zinc, Dissolved | ug/L | NA | 25 U | 3.7 U | NA | 4.8 =B | 2 UJ | NA |
| Alkalinity, Total | mg/L | 442 = | NA | 440 J | 420 = | NA | 94 = | 120 = |
| Chloride | mg/L | 47 = | NA | 58 = | 69 = | NA | 7.3 = | 9.59 = |
| Hardness (As CaCO3) | mg/L | 544 = | NA | 480 J | 540 = | NA | NA | 119 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | 0.42 = | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 4.42 = | NA | 4 = | 0.15 U | NA | 0.1 UJ | 0.1 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 11 = | NA | 14 J | 16 = | NA | 6.3 = | 10.8 = |
| Total Organic Carbon | mg/L | 1 U | NA | 1.1 R | 1.4 = | NA | 12.3 J | 2.4 = |
| Pentachlorophenol | ug/Kg | 0.11 U | NA | 0.092 J | 0.11 = | NA | 1 U | 0.5 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 6.1 R | NA | 0.26 U | 5 U | NA | NA | 10 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-03 | MW-03 | MW-03 | MW-03 | MW-03 | MW-04 | MW-04 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/25/2001 | 04/25/2001 | 09/13/2001 | 08/07/2002 | 08/07/2002 | 10/09/1997 | 04/04/2000 |
| **Field Sample Identification:** | | 01CB07-83 | 01CB07-84 | 01CB28-44 | 02CB18-15 | 02CB18-16 | 98ZR01-30 | 00CB09-04 |
| **Laboratory Sample Identification:** | | 210422706 | 210422707 | 913103-001 | 02081571-35 | 02081571-36 | 26300*20 | 200402511 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | NA | 0.44 U | 1 U | NA | 2 J | 0.1 U |
| Ethylbenzene | ug/L | 1 U | NA | 0.5 U | 5 U | NA | 3 J | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2 U | NA | NA | 2.5 U | NA | 2 J | 1 U |
| O-Xylene | ug/L | 1 U | NA | NA | 2.5 U | NA | 1 J | 1 U |
| Toluene | ug/L | 0.46 J | NA | 0.4 U | 5 U | NA | 1 J | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | 1.2 U | 5 U | NA | 3 J | 1 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/10/1997 | 10/10/1997 | 04/07/2000 | 04/26/2001 | 04/26/2001 | 09/13/2001 | 08/07/2002 |
| **Field Sample Identification:** | | 98ZR01-09 | 98ZR01-10 | 00CB09-05 | 01CB08-05 | 01CB08-06 | 01CB28-46 | 02CB18-17 |
| **Laboratory Sample Identification:** | | 26300*9 | 26300*10 | 200405120 | 210423416 | 210423417 | 913103-006 | 02081836-7 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | 1.52 = | NA | 6.7 = | 2 U |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 10 U | 10 U | 0.936 = | 0.4 J | NA | 10 U | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 504000 = | 513000 = | 103590 = | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 3.8 = | 4.6 = | 4.9 = | 5.6 = | NA | 8.2 J | 4.1 = |
| Arsenic, Dissolved | ug/L | 3.2 J | 4.3 J | 5.4 = | NA | 3.9 = | 3.7 J | NA |
| Copper | ug/L | 48.5 J | 4835 J | 142.8 = | 74 = | NA | 100 J | 28 = |
| Copper, Dissolved | ug/L | 24 J | 26.2 J | NA | NA | 25 U | 5.1 J | NA |
| Iron | ug/L | NA | NA | 17500 = | 20400 = | NA | 26000 J | 34500 = |
| Iron, Dissolved | ug/L | 4860 = | 5070 = | 3370 = | NA | 7630 = | 4100 J | NA |
| Manganese | ug/L | 12900 = | 15500 = | NA | 11200 = | NA | 8500 J | 8130 = |
| Manganese, Dissolved | ug/L | NA | NA | 3350 = | NA | 11300 = | 8500 J | NA |
| Zinc | ug/L | 3.7 J | 2.7 J | 10 U | 25 U | NA | 4.2 J | 104 = |
| Zinc, Dissolved | ug/L | 2 U | 2 UJ | NA | NA | 25 U | 6.2 J | NA |
| Alkalinity, Total | mg/L | 370 = | 370 = | 308 = | 352 = | NA | 270 J | 220 = |
| Chloride | mg/L | 50 = | 50 = | 49.2 = | 42 = | NA | 29 = | 26 = |
| Hardness (As CaCO3) | mg/L | NA | NA | 330 = | 349 = | NA | 240 J | 4 U |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | 0.1 U | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.1 UJ | 0.1 UJ | 0.1 U | 0.13 U | NA | 0.17 J | 0.15 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 15 = | 16 = | 34.3 = | 28 = | NA | 22 J | 21 = |
| Total Organic Carbon | mg/L | 115 J | 160 J | 74.1 = | 43 = | NA | 27 R | 25 = |
| Pentachlorophenol | ug/Kg | 28000 = | 31000 = | 20600 = | 20600 = | NA | 6300 = | 510 =B |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 76 U | 38 = | NA | 23 = | 3.2 J |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 | MW-05 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/10/1997 | 10/10/1997 | 04/07/2000 | 04/26/2001 | 04/26/2001 | 09/13/2001 | 08/07/2002 |
| **Field Sample Identification:** | | 98ZR01-09 | 98ZR01-10 | 00CB09-05 | 01CB08-05 | 01CB08-06 | 01CB28-46 | 02CB18-17 |
| **Laboratory Sample Identification:** | | 26300*9 | 26300*10 | 200405120 | 210423416 | 210423417 | 913103-006 | 02081836-7 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | 0.1 U | 0.33 = | 0.22 = | NA | 0.44 U | 1 U |
| Ethylbenzene | ug/L | 3 = | 2 = | 3.6 = | 0.84 J | NA | 0.54 J | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 12 = | 10 = | 8.3 = | 4.5 = | NA | NA | 2.5 U |
| O-Xylene | ug/L | 9 = | 8 = | 6.9 = | 3.6 = | NA | NA | 2.5 U |
| Toluene | ug/L | 5 = | 4 = | 3 = | 1.8 = | NA | 0.78 J | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 21 = | 18 = | 15 = | 8.1 = | NA | 4.3 = | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Field Site Identifier:** | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| | **Field Sample Location:** | MW-05 | MW-06S | MW-06S | MW-06S | MW-06S | MW-06S | MW-06S |
| | **Sample Interval:** | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | **Matrix:** | Water | Water | Water | Water | Water | Water | Water |
| | **Sample Collection Date:** | 08/07/2002 | 10/09/1997 | 04/07/2000 | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 |
| | **Field Sample Identification:** | 02CB18-18 | 98ZR01-11 | 00CB09-06 | 01CB08-11 | 01CB08-12 | 01CB28-34 | 02CB18-19 |
| | **Laboratory Sample Identification:** | 02081836-8 | 26300*5 | 200405113 | 210423404 | 210423405 | 913080-001 | 02081836-10 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | 1 U | NA | 1.1 = | 2 U |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | 10 U | NA | 0.12 U | NA | 10 U | 0.27 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | 184000 J | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | 5.1 = | NA | 15 = | NA | 7.4 J | 5.5 = |
| Arsenic, Dissolved | ug/L | 2 UB | 2 UJ | NA | NA | 0.26 J | 0.58 J | NA |
| Copper | ug/L | NA | 473 = | NA | 202 = | NA | 190 J | 69.1 = |
| Copper, Dissolved | ug/L | 1.5 UB | 2 UJ | NA | NA | 25 U | 3.1 J | NA |
| Iron | ug/L | NA | NA | NA | 82800 = | NA | 42000 J | 7570 = |
| Iron, Dissolved | ug/L | 7900 = | 20 U | NA | NA | 25 U | 35 U | NA |
| Manganese | ug/L | NA | 4720 = | NA | 1950 = | NA | 1900 J | 2210 = |
| Manganese, Dissolved | ug/L | 7840 = | NA | NA | NA | 347 = | 800 J | NA |
| Zinc | ug/L | NA | 258 J | NA | 131 = | NA | 110 J | 18.3 =B |
| Zinc, Dissolved | ug/L | 26.9 UB | 2.2 J | NA | NA | 25 U | 5 J | NA |
| Alkalinity, Total | mg/L | NA | 62 = | NA | 148 = | NA | 160 = | 270 = |
| Chloride | mg/L | NA | 72 = | NA | 14 = | NA | 12 = | 17 = |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | 285 = | NA | 290 J | 4 U |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 4.5 J | NA | 0.87 = | NA | 1.1 = | 0.15 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | 0.9 = | NA | 12 = | NA | 16 = | 18 = |
| Total Organic Carbon | mg/L | NA | 1.6 J | NA | 5.29 = | NA | 6.3 = | 5.8 = |
| Pentachlorophenol | ug/Kg | NA | 1 U | NA | 2.5 = | NA | 1.1 = | 88 =B |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | NA | 5.4 U | NA | 0.24 U | 5 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-05 | MW-06S | MW-06S | MW-06S | MW-06S | MW-06S | MW-06S |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/07/2002 | 10/09/1997 | 04/07/2000 | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 |
| **Field Sample Identification:** | | 02CB18-18 | 98ZR01-11 | 00CB09-06 | 01CB08-11 | 01CB08-12 | 01CB28-34 | 02CB18-19 |
| **Laboratory Sample Identification:** | | 02081836-8 | 26300*5 | 200405113 | 210423404 | 210423405 | 913080-001 | 02081836-10 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.1 U | 0.1 U | 0.1 U | NA | 0.44 U | 1 U |
| Ethylbenzene | ug/L | NA | 1 U | 1 U | 1 U | NA | 0.5 U | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 1 U | 1 U | 2 U | NA | NA | 2.5 U |
| O-Xylene | ug/L | NA | 1 U | 1 U | 1 U | NA | NA | 2.5 U |
| Toluene | ug/L | NA | 1 U | 1 U | 1 U | NA | 0.4 U | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 1 U | 1 U | 1 U | NA | 1.2 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-06S | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 08/07/2002 | 10/14/1997 | 04/04/2000 | 04/04/2000 | 04/25/2001 | 04/25/2001 | 09/11/2001 |
| **Field Sample Identification:** | | 02CB18-20 | 98ZR01-12 | 00CB09-07 | 00CB09-20 | 01CB07-87 | 01CB07-88 | 01CB28-22 |
| **Laboratory Sample Identification:** | | 02081836-11 | 26308*20 | 200402505 | 200402507 | 210422708 | 210422709 | 913080-026 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | 1 U | 1 U | NA | 0.8 J |
| Ethane | ug/L | NA | NA | NA | NA | 0.26 U | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | 0.27 U | NA | NA |
| Methane | ug/L | NA | 10 UJ | 4.041 = | 4.211 = | 4.65 = | NA | 12 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | 325000 = | 45950 = | 50090 = | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | 2 U | 2.1 U | 2.1 U | 1 U | NA | 0.4 J |
| Arsenic, Dissolved | ug/L | 2.7 = | 2 U | 5 U | 5 U | NA | 1 U | 0.29 J |
| Copper | ug/L | NA | 2 UJ | 5 U | 5 U | 25 U | NA | 2.2 UJ |
| Copper, Dissolved | ug/L | 9.9 UB | 6.2 J | NA | NA | NA | 25 U | 2.2 U |
| Iron | ug/L | NA | NA | 505 = | 456 = | 352 = | NA | 560 = |
| Iron, Dissolved | ug/L | 3330 = | 622 J | 359 J | 357 J | NA | 154 = | 230 = |
| Manganese | ug/L | NA | 13.4 = | NA | NA | 5.4 J | NA | 6.4 J |
| Manganese, Dissolved | ug/L | 1790 = | NA | 26.2 = | 26.5 = | NA | 6.6 J | 4.4 J |
| Zinc | ug/L | NA | 3.5 = | 47.5 = | 10 U | 25 U | NA | 3.7 UJ |
| Zinc, Dissolved | ug/L | 9.7 UB | 11.4 = | NA | NA | NA | 25 U | 5.2 J |
| Alkalinity, Total | mg/L | NA | 350 = | 384 = | 330 = | 352 = | NA | 340 = |
| Chloride | mg/L | NA | 7.6 = | 4.82 = | 4.72 = | 8.36 = | NA | 23 = |
| Hardness (As CaCO3) | mg/L | NA | NA | 398 = | 393 = | 388 = | NA | 410 J |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 4.9 J | 2.72 = | 2.67 = | 3.63 = | NA | 3 J |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | 6 = | 6.06 = | 4.23 = | 6.54 J | NA | 10 = |
| Total Organic Carbon | mg/L | NA | 1.6 J | 2 = | 2.69 = | 2.8 = | NA | 2 R |
| Pentachlorophenol | ug/Kg | NA | 1 U | 0.5 U | 0.5 U | 0.1 U | NA | 0.083 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 10 U | 10 U | 5.2 R | NA | 0.24 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-06S | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 | MW-07 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 08/07/2002 | 10/14/1997 | 04/04/2000 | 04/04/2000 | 04/25/2001 | 04/25/2001 | 09/11/2001 |
| **Field Sample Identification:** | | 02CB18-20 | 98ZR01-12 | 00CB09-07 | 00CB09-20 | 01CB07-87 | 01CB07-88 | 01CB28-22 |
| **Laboratory Sample Identification:** | | 02081836-11 | 26308*20 | 200402505 | 200402507 | 210422708 | 210422709 | 913080-026 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.1 U | 0.1 U | 0.1 U | 0.1 U | NA | 0.44 U |
| Ethylbenzene | ug/L | NA | 1 U | 1 U | 1 U | 1 U | NA | 0.5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 1 U | 1 U | 1 U | 2 U | NA | NA |
| O-Xylene | ug/L | NA | 1 U | 1 U | 1 U | 1 U | NA | NA |
| Toluene | ug/L | NA | 1 U | 1 U | 1 U | 1 U | NA | 0.4 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 1 U | 1 U | 1 U | NA | NA | 1.2 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-07 | MW-07 | MW-07 | MW-08 | MW-08 | MW-08 | MW-08 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 08/07/2002 | 08/07/2002 | 10/14/1997 | 04/05/2000 | 04/25/2001 | 04/25/2001 |
| **Field Sample Identification:** | | 01CB28-23 | 02CB18-21 | 02CB18-22 | 98ZR01-13 | 00CB09-08 | 01CB07-93 | 01CB07-94 |
| **Laboratory Sample Identification:** | | 913080-027 | 02081571-32 | 02081571-33 | 26308*19 | 200403807 | 210422715 | 210422716 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1.3 J | 2 U | NA | NA | 1 U | 1 U | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | 0.26 U | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | 0.26 U | NA |
| Methane | ug/L | 10 U | 0.01 U | NA | 36.5 J | 7.194 = | 11.6 = | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | 154000 = | 2500 = | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 0.47 J | 1.5 J | NA | 2 U | 2.1 U | 0.99 J | NA |
| Arsenic, Dissolved | ug/L | 0.29 UJ | NA | 1.4 UJ | 2 U | 2.1 U | NA | 0.75 J |
| Copper | ug/L | 2.2 UJ | 0.3 UJ | NA | 2 J | 5 U | 25 U | NA |
| Copper, Dissolved | ug/L | 2.2 U | NA | 0.3 UJ | 2 U | NA | NA | 25 U |
| Iron | ug/L | 560 = | 730 = | NA | NA | 1040 = | 829 = | NA |
| Iron, Dissolved | ug/L | 230 = | NA | 300 = | 148 J | 50 U | NA | 25 U |
| Manganese | ug/L | 5.7 J | 6.5 J | NA | 17.8 = | NA | 32 = | NA |
| Manganese, Dissolved | ug/L | 4.6 J | NA | 4 J | NA | 5.3 = | NA | 27 = |
| Zinc | ug/L | 4.8 J | 2.8 J | NA | 7.4 = | 473 = | 25 U | NA |
| Zinc, Dissolved | ug/L | 3.9 J | NA | 0.98 U | 4.6 = | NA | NA | 25 U |
| Alkalinity, Total | mg/L | 350 = | 390 = | NA | 170 = | 122 = | 154 = | NA |
| Chloride | mg/L | 24 = | 21 = | NA | 4.2 = | 6.26 = | 3.25 = | NA |
| Hardness (As CaCO3) | mg/L | 400 J | 450 = | NA | NA | 147 = | 181 = | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | 1.1 = | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 3 J | 0.15 U | NA | 1.4 J | 3.55 = | 1.52 = | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 10 = | 10 = | NA | 4.5 = | 6.5 = | 7.47 J | NA |
| Total Organic Carbon | mg/L | 1.8 R | 1.5 = | NA | 2.3 J | 2.22 = | 1.46 = | NA |
| Pentachlorophenol | ug/Kg | 0.13 J | 0.03 J | NA | 1 U | 0.5 U | 0.2 = | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 0.24 U | 5 U | NA | NA | 10 U | 5 U | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-07 | MW-07 | MW-07 | MW-08 | MW-08 | MW-08 | MW-08 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 08/07/2002 | 08/07/2002 | 10/14/1997 | 04/05/2000 | 04/25/2001 | 04/25/2001 |
| **Field Sample Identification:** | | 01CB28-23 | 02CB18-21 | 02CB18-22 | 98ZR01-13 | 00CB09-08 | 01CB07-93 | 01CB07-94 |
| **Laboratory Sample Identification:** | | 913080-027 | 02081571-32 | 02081571-33 | 26308*19 | 200403807 | 210422715 | 210422716 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.44 U | 1 U | NA | 0.1 U | 0.15 U | 0.1 U | NA |
| Ethylbenzene | ug/L | 0.5 U | 5 U | NA | 1 U | 1 U | 1 U | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 2.5 U | NA | 1 U | 1 U | 2 U | NA |
| O-Xylene | ug/L | NA | 2.5 U | NA | 1 U | 1 U | 1 U | NA |
| Toluene | ug/L | 0.4 U | 5 U | NA | 1 U | 1 U | 1 U | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1.2 U | 5 U | NA | 1 U | 1 U | 1 U | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-08 | MW-08 | MW-08 | MW-08 | MW-08 | MW-09 | MW-09 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/25/2001 | 04/25/2001 | 09/11/2001 | 08/08/2002 | 08/08/2002 | 10/08/1997 | 04/05/2000 |
| **Field Sample Identification:** | | 01CB07-95 | 01CB07-96 | 01CB28-18 | 02CB18-23 | 02CB18-24 | 98ZR01-14 | 00CB09-09 |
| **Laboratory Sample Identification:** | | 210422717 | 210422718 | 913080-035 | 02081571-38 | 02081571-39 | 26300*2 | 200403803 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | NA | 0.93 J | 2 U | NA | NA | 1 U |
| Ethane | ug/L | 0.24 U | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | 0.25 U | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 12 = | NA | 10 U | 0.01 U | NA | 10 U | 0.396 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | 243000 = | 120330 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 0.97 J | NA | 1.2 J | 1.4 UJ | NA | 2 U | 2.1 U |
| Arsenic, Dissolved | ug/L | NA | 0.57 J | 1 J | NA | 1.8 J | NA | 3.9 = |
| Copper | ug/L | 25 U | NA | 2.2 UJ | 0.3 UJ | NA | 4.2 J | 6.8 = |
| Copper, Dissolved | ug/L | NA | 25 U | 2.2 UJ | NA | 0.27 UJ | NA | NA |
| Iron | ug/L | 711 = | NA | 350 = | 98 = | NA | NA | 757 = |
| Iron, Dissolved | ug/L | NA | 25 U | 70 J | NA | 11 =B | 20 U | 50 U |
| Manganese | ug/L | 25 = | NA | 19 J | 6.4 J | NA | 19.7 = | NA |
| Manganese, Dissolved | ug/L | NA | 22 = | 18 J | NA | 5.3 J | NA | 21.7 = |
| Zinc | ug/L | 25 U | NA | 3.7 UJ | 12 =B | NA | 5.6 J | 10 U |
| Zinc, Dissolved | ug/L | NA | 25 U | 4.3 J | NA | 2.3 =B | NA | NA |
| Alkalinity, Total | mg/L | 160 = | NA | 150 = | 180 = | NA | 60 = | 58 = |
| Chloride | mg/L | 3.19 = | NA | 3.8 = | 4.2 = | NA | 45 = | 3.15 = |
| Hardness (As CaCO3) | mg/L | 182 = | NA | 170 J | 310 = | NA | NA | 55.4 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | 0.14 = | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 1.5 = | NA | 1.5 J | 0.15 U | NA | 4.2 J | 1.97 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 6.76 J | NA | 7.6 U | 6 = | NA | 3.4 = | 8.46 = |
| Total Organic Carbon | mg/L | 1.35 = | NA | 1 R | 1.1 = | NA | 6.5 J | 5.46 = |
| Pentachlorophenol | ug/Kg | 0.1 U | NA | 0.062 J | 0.04 U | NA | 1 U | 0.6 = |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5.2 U | NA | 0.24 U | 5 U | NA | NA | 10 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-08 | MW-08 | MW-08 | MW-08 | MW-08 | MW-09 | MW-09 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water, Dup | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/25/2001 | 04/25/2001 | 09/11/2001 | 08/08/2002 | 08/08/2002 | 10/08/1997 | 04/05/2000 |
| **Field Sample Identification:** | | 01CB07-95 | 01CB07-96 | 01CB28-18 | 02CB18-23 | 02CB18-24 | 98ZR01-14 | 00CB09-09 |
| **Laboratory Sample Identification:** | | 210422717 | 210422718 | 913080-035 | 02081571-38 | 02081571-39 | 26300*2 | 200403803 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | NA | 0.44 U | 1 U | NA | 0.1 U | 0.15 U |
| Ethylbenzene | ug/L | 1 U | NA | 0.5 U | 5 U | NA | 1 U | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2 U | NA | NA | 2.5 U | NA | 1 U | 1 U |
| O-Xylene | ug/L | 1 U | NA | NA | 2.5 U | NA | 1 U | 1 U |
| Toluene | ug/L | 1 U | NA | 0.4 U | 5 U | NA | 1 U | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | NA | 1.2 U | 5 U | NA | 1 U | 1 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-09 | MW-09 | MW-09 | MW-09 | MW-09 | MW-10 | MW-10 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/23/2001 | 04/24/2001 | 09/12/2001 | 08/06/2002 | 08/06/2002 | 10/15/1997 | 04/06/2000 |
| **Field Sample Identification:** | | 01CB07-46 | 01CB07-47 | 01CB28-36 | 02CB18-25 | 02CB18-26 | 98ZR01-15 | 00CB09-10 |
| **Laboratory Sample Identification:** | | 210419501 | 210419504 | 913080-004 | 02081571-11 | 02081571-12 | 26308*23 | 200405118 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | NA | 1.3 = | 2 U | NA | NA | 1 U |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.12 U | NA | 10 U | 0.01 U | NA | 13.5 J | 3.067 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | 332000 = | 69370 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 0.38 J | NA | 0.43 J | 1.4 UJ | NA | 2 U | 2.1 U |
| Arsenic, Dissolved | ug/L | NA | 0.28 J | 0.34 J | NA | 1.4 UJ | 1.4 J | 5 = |
| Copper | ug/L | 25 U | NA | 6.1 J | 1.6 J | NA | 9.1 J | 12 = |
| Copper, Dissolved | ug/L | NA | 25 U | 2.2 U | NA | 0.3 UJ | 2.8 J | NA |
| Iron | ug/L | 470 = | NA | 300 = | 200 = | NA | NA | 3530 = |
| Iron, Dissolved | ug/L | NA | 25 U | 110 = | NA | 11 U | 2190 J | 115.9 J |
| Manganese | ug/L | 46 = | NA | 27 J | 14 J | NA | 2510 = | NA |
| Manganese, Dissolved | ug/L | NA | 34 = | 16 J | NA | 6.3 J | NA | 1590 = |
| Zinc | ug/L | 25 U | NA | 11 J | 6.4 J | NA | 4.4 = | 10 U |
| Zinc, Dissolved | ug/L | NA | 25 U | 6.6 J | NA | 9.6 =B | 9.2 = | NA |
| Alkalinity, Total | mg/L | 60 = | NA | 62 = | 64 = | NA | 340 = | 440 = |
| Chloride | mg/L | 3.22 = | NA | 6.5 = | 11 = | NA | 35 = | 55.9 = |
| Hardness (As CaCO3) | mg/L | 59 = | NA | 64 J | 95 = | NA | NA | 447 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | 0.1 U | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 2.46 = | NA | 3.3 = | 0.15 U | NA | 4.9 J | 1.72 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 27 = | NA | 6.8 U | 22 = | NA | 13 = | 13.8 = |
| Total Organic Carbon | mg/L | 9.94 = | NA | 5.1 = | 8.4 = | NA | 20 J | 31.8 = |
| Pentachlorophenol | ug/Kg | 0.12 = | NA | 0.76 = | 0.54 = | NA | 8200 = | 9530 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5.3 U | NA | 0.24 U | 5 U | NA | NA | 60 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-09 | MW-09 | MW-09 | MW-09 | MW-09 | MW-10 | MW-10 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/23/2001 | 04/24/2001 | 09/12/2001 | 08/06/2002 | 08/06/2002 | 10/15/1997 | 04/06/2000 |
| **Field Sample Identification:** | | 01CB07-46 | 01CB07-47 | 01CB28-36 | 02CB18-25 | 02CB18-26 | 98ZR01-15 | 00CB09-10 |
| **Laboratory Sample Identification:** | | 210419501 | 210419504 | 913080-004 | 02081571-11 | 02081571-12 | 26308*23 | 200405118 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | NA | 0.44 U | 1 U | NA | 0.2 J | 0.35 = |
| Ethylbenzene | ug/L | 1 U | NA | 0.5 U | 5 U | NA | 2 = | 4.4 = |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2 U | NA | NA | 2.5 U | NA | 10 = | 20 = |
| O-Xylene | ug/L | 1 U | NA | NA | 2.5 U | NA | 7 = | 14 = |
| Toluene | ug/L | 1 U | NA | 0.4 U | 5 U | NA | 3 = | 6.4 = |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | NA | 1.2 U | 5 U | NA | 17 = | 34 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-10 | MW-10 | MW-10 | MW-10 | MW-10 | MW-10S | MW-10S |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 | 10/15/1997 | 04/07/2000 |
| **Field Sample Identification:** | | 01CB07-97 | 01CB07-98 | 01CB28-32 | 02CB18-27 | 02CB18-28 | 98ZR01-16 | 00CB09-18 |
| **Laboratory Sample Identification:** | | 210423401 | 210423402 | 913080-007 | 02081836-1 | 02081836-2 | 26308*27 | 200405109 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1.25 = | NA | 1.1 J | 2 U | NA | NA | 1 U |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 2.9 = | NA | 10 U | 0.011 = | NA | 10 UJ | 1.567 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | 233000 = | 114570 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 3.1 = | NA | 4.5 J | 9.5 = | NA | 2 U | 5.3 = |
| Arsenic, Dissolved | ug/L | NA | 2.4 = | 3.9 J | NA | 7.3 = | 2 U | 2.1 U |
| Copper | ug/L | 98 = | NA | 40 J | 48.2 = | NA | 28.5 J | 199.2 = |
| Copper, Dissolved | ug/L | NA | 5.9 J | 3.9 J | NA | 10.1 =B | 10.9 J | NA |
| Iron | ug/L | 25200 = | NA | 20000 J | 24400 = | NA | NA | 32800 = |
| Iron, Dissolved | ug/L | NA | 5650 = | 2400 J | NA | 10700 = | 45.4 J | 50 U |
| Manganese | ug/L | 2560 = | NA | 3300 J | 2730 = | NA | 10700 = | NA |
| Manganese, Dissolved | ug/L | NA | 2380 = | 3200 J | NA | 2540 = | NA | 10100 = |
| Zinc | ug/L | 44 = | NA | 13 J | 2.8 UB | NA | 11.6 = | 73 = |
| Zinc, Dissolved | ug/L | NA | 25 U | 9.5 J | NA | 6.1 UB | 8.4 = | NA |
| Alkalinity, Total | mg/L | 472 = | NA | 540 J | 400 = | NA | 260 = | 218 = |
| Chloride | mg/L | 48 = | NA | 61 = | 56 = | NA | 38 = | 53 = |
| Hardness (As CaCO3) | mg/L | 505 = | NA | 630 J | 480 = | NA | NA | 359 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | 0.1 U | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.18 = | NA | 0.13 J | 0.15 U | NA | 0.1 UJ | 0.1 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 22 = | NA | 23 = | 20 = | NA | 23 = | 138 = |
| Total Organic Carbon | mg/L | 26 = | NA | 64 R | 110 = | NA | 49.7 J | 249 = |
| Pentachlorophenol | ug/Kg | 22800 = | NA | 21000 = | 22000 =B | NA | 30000 = | 56100 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5.2 U | NA | 130 = | 120 = | NA | NA | 512 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-10 | MW-10 | MW-10 | MW-10 | MW-10 | MW-10S | MW-10S |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 | 10/15/1997 | 04/07/2000 |
| **Field Sample Identification:** | | 01CB07-97 | 01CB07-98 | 01CB28-32 | 02CB18-27 | 02CB18-28 | 98ZR01-16 | 00CB09-18 |
| **Laboratory Sample Identification:** | | 210423401 | 210423402 | 913080-007 | 02081836-1 | 02081836-2 | 26308*27 | 200405109 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.4 = | NA | 0.44 U | 1 U | NA | 0.4 J | 0.1 U |
| Ethylbenzene | ug/L | 3.3 = | NA | 6.3 = | 7 = | NA | 0.9 J | 6.5 = |
| M,P-Xylene (Sum Of Isomers) | ug/L | 16 = | NA | NA | 32 = | NA | 4 = | 36 = |
| O-Xylene | ug/L | 11 = | NA | NA | 22 = | NA | 4 = | 28 = |
| Toluene | ug/L | 5.3 = | NA | 10 = | 11 = | NA | 1 = | 4.2 = |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 27 = | NA | 55 = | 54 = | NA | 8 = | 64 = |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-10S | MW-10S | MW-10S | MW-10S | MW-10S | MW-10S | MW-11 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 12/05/2000 | 04/25/2001 | 04/25/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 | 10/15/1997 |
| **Field Sample Identification:** | | 01CB01-44 | 01CB07-85 | 01CB07-86 | 01CB28-33 | 02CB18-29 | 02CB18-30 | 98ZR01-17 |
| **Laboratory Sample Identification:** | | 201202302 | 210422711 | 210422712 | 913080-008 | 02081836-5 | 02081836-6 | 26308*14 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | 1.15 = | NA | 1.3 J | 2 U | NA | NA |
| Ethane | ug/L | NA | 0.27 U | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | 0.27 U | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.57 = | 0.55 J | NA | 10 U | 0.01 U | NA | 10 UJ |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | 164000 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 9.36 = | 18 = | NA | 5.1 J | 3.9 = | NA | 2 U |
| Arsenic, Dissolved | ug/L | 0.74 J | NA | 2.3 = | 0.29 J | NA | 3.1 = | 2 U |
| Copper | ug/L | 160 = | 409 = | NA | 170 J | 53.3 = | NA | 4.2 J |
| Copper, Dissolved | ug/L | 13 J | NA | 46 = | 3.2 J | NA | 2.3 UB | 2 U |
| Iron | ug/L | 11000 = | 131000 = | NA | 35000 J | 9490 = | NA | NA |
| Iron, Dissolved | ug/L | 610 J | NA | 11300 = | 48 J | NA | 67.3 = | 10 UJ |
| Manganese | ug/L | 7100 = | 7990 = | NA | 8600 J | 7560 = | NA | 2 U |
| Manganese, Dissolved | ug/L | 6900 = | NA | 6030 = | 7600 J | NA | 7070 = | NA |
| Zinc | ug/L | 35 = | 216 = | NA | 100 J | 22.4 =B | NA | 10.3 = |
| Zinc, Dissolved | ug/L | 25 U | NA | 45 = | 3.7 UJ | NA | 0.98 U | 5.3 = |
| Alkalinity, Total | mg/L | 31 = | 142 = | NA | 270 J | 170 = | NA | 190 = |
| Chloride | mg/L | 15 = | 11 = | NA | 10 = | 10 = | NA | 7.5 = |
| Hardness (As CaCO3) | mg/L | 570 = | 425 = | NA | 260 J | 4 U | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | 0.1 U |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 1 = | 1.49 = | NA | 4.7 = | 0.11 J | NA | 5 J |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 11 = | 8.64 J | NA | 13 = | 14 = | NA | 12 = |
| Total Organic Carbon | mg/L | 300 = | 503 = | NA | 19 R | 10 = | NA | 1.3 J |
| Pentachlorophenol | ug/Kg | 3810 B | 49000 = | NA | 82000 = | 390 =B | NA | 1 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 152 = | 306 = | NA | 75 = | 5 U | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-10S | MW-10S | MW-10S | MW-10S | MW-10S | MW-10S | MW-11 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 12/05/2000 | 04/25/2001 | 04/25/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 | 10/15/1997 |
| **Field Sample Identification:** | | 01CB01-44 | 01CB07-85 | 01CB07-86 | 01CB28-33 | 02CB18-29 | 02CB18-30 | 98ZR01-17 |
| **Laboratory Sample Identification:** | | 201202302 | 210422711 | 210422712 | 913080-008 | 02081836-5 | 02081836-6 | 26308*14 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | 1 R | NA | 0.44 U | 1 U | NA | 0.3 J |
| Ethylbenzene | ug/L | 5.9 = | 3.5 R | NA | 0.94 J | 1 J | NA | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 24 R | NA | NA | 5 = | NA | 0.4 J |
| O-Xylene | ug/L | NA | 21 R | NA | NA | 5 = | NA | 0.2 J |
| Toluene | ug/L | 2.9 = | NA | NA | 0.41 J | 5 U | NA | 0.2 J |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 70 = | NA | NA | 15 = | 10 = | NA | 0.5 J |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/04/2000 | 04/24/2001 | 04/24/2001 | 04/24/2001 | 04/24/2001 | 09/10/2001 | 08/06/2002 |
| **Field Sample Identification:** | | 00CB09-11 | 01CB07-74 | 01CB07-75 | 01CB07-76 | 01CB07-77 | 01CB28-12 | 02CB18-31 |
| **Laboratory Sample Identification:** | | 200402509 | 210420914 | 210420915 | 210420916 | 210420917 | 913080-013 | 02081571-14 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | 1 U | NA | 1 U | NA | 1.3 J | 2 U |
| Ethane | ug/L | NA | 0.2 U | NA | 0.21 U | NA | NA | NA |
| Ethene | ug/L | NA | 0.21 U | NA | 0.22 U | NA | NA | NA |
| Methane | ug/L | 0.138 = | 0.1 U | NA | 0.11 U | NA | 10 U | 0.01 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 4150 = | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2.1 U | 1.4 = | NA | 1.4 = | NA | 1.4 J | 4.7 J |
| Arsenic, Dissolved | ug/L | 5 U | NA | 1.2 = | NA | 1.3 = | 1.1 J | NA |
| Copper | ug/L | 5.6 = | 25 U | NA | 25 U | NA | 2.9 J | 0.83 J |
| Copper, Dissolved | ug/L | NA | NA | 25 U | NA | 25 U | 2.2 U | NA |
| Iron | ug/L | 351 = | 58 = | NA | 151 = | NA | 66 J | 46 = |
| Iron, Dissolved | ug/L | 50 U | NA | 25 U | NA | 25 U | 35 U | NA |
| Manganese | ug/L | NA | 15 U | NA | 15 U | NA | 1.9 J | 2.3 J |
| Manganese, Dissolved | ug/L | 2 U | NA | 15 U | NA | 15 U | 0.45 J | NA |
| Zinc | ug/L | 16.4 = | 25 J | NA | 126 = | NA | 9.1 J | 6.4 J |
| Zinc, Dissolved | ug/L | NA | NA | 20 J | NA | 25 U | 3.7 UJ | NA |
| Alkalinity, Total | mg/L | 220 = | 185 = | NA | 225 = | NA | 190 = | 210 = |
| Chloride | mg/L | 6.98 = | 6.16 = | NA | 6.25 = | NA | 8 = | 7.8 = |
| Hardness (As CaCO3) | mg/L | 238 = | 231 = | NA | 231 = | NA | 220 J | 230 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 3.09 = | 3.59 = | NA | 3.74 = | NA | 3.1 J | 0.15 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 9.41 = | 4.57 J | NA | 3.48 J | NA | 7.4 U | 7.6 = |
| Total Organic Carbon | mg/L | 10.1 = | 7.9 = | NA | 4.67 = | NA | 4.2 R | 18 = |
| Pentachlorophenol | ug/Kg | 0.6 U | 0.1 U | NA | 0.11 U | NA | 0.091 J | 0.04 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 11 U | 5.3 R | NA | 5.4 U | NA | 0.24 U | 5 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 | MW-11 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water, Dup | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/04/2000 | 04/24/2001 | 04/24/2001 | 04/24/2001 | 04/24/2001 | 09/10/2001 | 08/06/2002 |
| **Field Sample Identification:** | | 00CB09-11 | 01CB07-74 | 01CB07-75 | 01CB07-76 | 01CB07-77 | 01CB28-12 | 02CB18-31 |
| **Laboratory Sample Identification:** | | 200402509 | 210420914 | 210420915 | 210420916 | 210420917 | 913080-013 | 02081571-14 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | 0.1 U | NA | 0.1 U | NA | 0.44 U | 1 U |
| Ethylbenzene | ug/L | 1 U | 1 U | NA | 1 U | NA | 0.5 U | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 1 U | 2 U | NA | 2 U | NA | NA | 2.5 U |
| O-Xylene | ug/L | 1 U | 1 U | NA | 1 U | NA | NA | 2.5 U |
| Toluene | ug/L | 1 U | 1 U | NA | 1 U | NA | 0.4 U | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | NA | NA | NA | NA | 1.2 U | 5 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-11 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 10/15/1997 | 04/06/2000 | 04/06/2000 | 04/26/2001 | 04/26/2001 | 09/13/2001 |
| **Field Sample Identification:** | | 02CB18-32 | 98ZR01-18 | 00CB09-12 | 00CB09-21 | 01CB08-03 | 01CB08-04 | 01CB28-45 |
| **Laboratory Sample Identification:** | | 02081571-15 | 26308*28 | 200405103 | 200405116 | 210423413 | 210423414 | 913103-005 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | 1 U | NA | NA | 1.3 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | 10 UJ | 1.553 = | 0.116 = | 0.99 = | NA | 10 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | 460000 = | 63440 = | 16970 = | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | 2 U | 2.1 U | 2.1 U | 1 J | NA | 1.1 J |
| Arsenic, Dissolved | ug/L | 1.5 J | 2 U | 5.8 = | 2.7 = | NA | 0.91 J | 0.95 J |
| Copper | ug/L | NA | 6.1 J | 9.4 = | 7.3 = | 25 U | NA | 5 J |
| Copper, Dissolved | ug/L | 0.3 UJ | 5 J | NA | NA | NA | 25 U | 6.8 J |
| Iron | ug/L | NA | NA | 222 = | 216 = | 151 = | NA | 770 J |
| Iron, Dissolved | ug/L | 11.2 U | 267 J | 112.8 J | 50 U | NA | 131 = | 740 = |
| Manganese | ug/L | NA | 1660 = | NA | NA | 1540 = | NA | 1300 J |
| Manganese, Dissolved | ug/L | 1.2 J | NA | 1590 = | 2 U | NA | 1570 = | 1400 J |
| Zinc | ug/L | NA | 16.3 = | 10 U | 10 U | 25 U | NA | 9.3 J |
| Zinc, Dissolved | ug/L | 8.5 =B | 10.6 = | NA | NA | NA | 25 U | 12 = |
| Alkalinity, Total | mg/L | NA | 490 = | 500 = | 528 = | 564 = | NA | 490 J |
| Chloride | mg/L | NA | 50 = | 54.5 = | 74.2 = | 48 = | NA | 47 = |
| Hardness (As CaCO3) | mg/L | NA | NA | 559 = | 557 = | 556 = | NA | 470 J |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 0.1 UJ | 0.483 = | 0.515 = | 0.43 = | NA | 0.53 U |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | 15 = | 11.9 = | 11.7 = | 16 = | NA | 16 J |
| Total Organic Carbon | mg/L | NA | 21.7 J | 24.9 = | 27.2 = | 23 = | NA | 25 R |
| Pentachlorophenol | ug/Kg | NA | 13000 = | 10300 J | 10600 J | 1500 = | NA | 18000 = |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 47 = | 45 = | 44 = | NA | 40 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-11 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 10/15/1997 | 04/06/2000 | 04/06/2000 | 04/26/2001 | 04/26/2001 | 09/13/2001 |
| **Field Sample Identification:** | | 02CB18-32 | 98ZR01-18 | 00CB09-12 | 00CB09-21 | 01CB08-03 | 01CB08-04 | 01CB28-45 |
| **Laboratory Sample Identification:** | | 02081571-15 | 26308*28 | 200405103 | 200405116 | 210423413 | 210423414 | 913103-005 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 1 J | 0.28 = | 0.3 = | 0.34 = | NA | 0.44 U |
| Ethylbenzene | ug/L | NA | 2 = | 2.8 = | 2.8 = | 2.5 = | NA | 2.3 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 8 = | 13 = | 13 = | 12 = | NA | NA |
| O-Xylene | ug/L | NA | 7 = | 9.6 = | 9.8 = | 9.7 = | NA | NA |
| Toluene | ug/L | NA | 3 = | 3.6 = | 3.7 = | 4.1 = | NA | 3.2 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 14 = | 22 = | 23 = | 22 = | NA | 20 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water, Dup | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 08/08/2002 |
| **Field Sample Identification:** | | 02CB14-03 | 02CB14-03 | 02CB14-04 | 02CB14-07 | 02CB14-07 | 02CB14-08 | 02CB18-33 |
| **Laboratory Sample Identification:** | | 02052485-11 | 0205385-05A | 02052485-12 | 02052485-9 | 0205385-04A | 02052485-10 | 02081836-12 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | 2 U | NA | 2 U | 2 U | NA | 2 U |
| Ethane | ug/L | 10 UJ | 10 UJ | NA | 10 UJ | 10 UJ | NA | NA |
| Ethene | ug/L | 10 UJ | 10 UJ | NA | 10 UJ | 10 UJ | NA | NA |
| Methane | ug/L | 10 UJ | 10 UJ | NA | 10 UJ | 10 UJ | NA | 0.01 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 1.4 U | 1.4 U | NA | 2 J | 2 J | NA | 2.8 = |
| Arsenic, Dissolved | ug/L | NA | NA | 1.5 J | NA | NA | 1.4 U | NA |
| Copper | ug/L | 5.3 J | 5.3 J | NA | 5.3 J | 5.3 J | NA | 5.6 =B |
| Copper, Dissolved | ug/L | NA | NA | 5 J | NA | NA | 4.9 J | NA |
| Iron | ug/L | 44.5 = | 44.5 = | NA | 67.6 = | 67.6 = | NA | 123 = |
| Iron, Dissolved | ug/L | NA | NA | 11.2 U | NA | NA | 11.2 U | NA |
| Manganese | ug/L | 1670 = | 1670 = | NA | 1670 = | 1670 = | NA | 1620 = |
| Manganese, Dissolved | ug/L | NA | NA | 1670 = | NA | NA | 1680 = | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | 7.7 =B |
| Zinc, Dissolved | ug/L | NA | NA | 9.3 J | NA | NA | 12 J | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | 460 = |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | 37 = |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | 4 U |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | 0.46 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | 15 = |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | 28 = |
| Pentachlorophenol | ug/Kg | NA | NA | NA | NA | NA | NA | 6400 =B |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | NA | NA | NA | NA | 28 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 | MW-12 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water, Dup | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 05/14/2002 | 08/08/2002 |
| **Field Sample Identification:** | | 02CB14-03 | 02CB14-03 | 02CB14-04 | 02CB14-07 | 02CB14-07 | 02CB14-08 | 02CB18-33 |
| **Laboratory Sample Identification:** | | 02052485-11 | 0205385-05A | 02052485-12 | 02052485-9 | 0205385-04A | 02052485-10 | 02081836-12 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | NA | NA | NA | NA | NA | 1 U |
| Ethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | 2 J |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | NA | NA | NA | 8 = |
| O-Xylene | ug/L | NA | NA | NA | NA | NA | NA | 7 = |
| Toluene | ug/L | NA | NA | NA | NA | NA | NA | 2 J |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | NA | NA | NA | NA | 15 = |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-12 | MW-13 | MW-13 | MW-13 | MW-13 | MW-13 | MW-13 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/08/2002 | 10/08/1997 | 04/05/2000 | 12/05/2000 | 01/10/2001 | 04/23/2001 | 04/23/2001 |
| **Field Sample Identification:** | | 02CB18-34 | 98ZR01-19 | 00CB09-13 | 01CB01-52 | 01CB01-64 | 01CB07-44 | 01CB07-45 |
| **Laboratory Sample Identification:** | | 02081836-13 | 26300*3 | 200403805 | 201202701 | 210109501 | 210419508 | 210419509 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | 1 U | NA | 8.48 = | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | 10 U | 0.291 = | 0.58 U | NA | 0.12 U | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | 361000 = | 258040 = | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | 27 = | 1 U | NA | 14 = | NA |
| Arsenic, Dissolved | ug/L | 1.4 U | 2 UJ | 3.8 = | NA | NA | NA | 0.24 J |
| Copper | ug/L | NA | NA | 429 = | 92 = | NA | 140 = | NA |
| Copper, Dissolved | ug/L | 2.9 UB | 3.32 J | NA | 25 U | NA | NA | 25 U |
| Iron | ug/L | NA | NA | 158000 = | 26000 = | NA | 56300 = | NA |
| Iron, Dissolved | ug/L | 105 = | 6.7 U | 50 U | 230 = | NA | NA | 25 U |
| Manganese | ug/L | NA | NA | NA | 870 = | NA | 1300 = | NA |
| Manganese, Dissolved | ug/L | 1600 = | 27.3 = | 111.8 = | 66 = | NA | NA | 110 = |
| Zinc | ug/L | NA | NA | 257 = | 52 = | NA | 89 = | NA |
| Zinc, Dissolved | ug/L | 3.3 UB | 2.7 J | NA | 25 U | NA | NA | 25 U |
| Alkalinity, Total | mg/L | NA | 70 = | 82000 = | 72 = | NA | 70 = | NA |
| Chloride | mg/L | NA | 2.7 = | 4.37 = | 4.2 = | NA | 3.52 = | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | 247 = | 140 = | NA | 146 = | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | 0.1 U | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 1.4 J | 0.1 U | 0.45 = | NA | 1.77 = | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | 1.4 = | 431 = | 8.2 J | NA | 35 = | NA |
| Total Organic Carbon | mg/L | NA | 17.9 J | 8.68 = | 7.9 = | NA | 18 = | NA |
| Pentachlorophenol | ug/Kg | NA | 0.7 J | 0.8 = | 114 B | 0.312 = | 0.18 = | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 10 U | 5.5 U | NA | 5.3 U | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-12 | MW-13 | MW-13 | MW-13 | MW-13 | MW-13 | MW-13 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/08/2002 | 10/08/1997 | 04/05/2000 | 12/05/2000 | 01/10/2001 | 04/23/2001 | 04/23/2001 |
| **Field Sample Identification:** | | 02CB18-34 | 98ZR01-19 | 00CB09-13 | 01CB01-52 | 01CB01-64 | 01CB07-44 | 01CB07-45 |
| **Laboratory Sample Identification:** | | 02081836-13 | 26300*3 | 200403805 | 201202701 | 210109501 | 210419508 | 210419509 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.1 U | 0.15 U | 0.1 U | NA | 0.1 U | NA |
| Ethylbenzene | ug/L | NA | 1 U | 1 U | 1 U | NA | 1 U | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 1 U | 1 U | NA | NA | 2 U | NA |
| O-Xylene | ug/L | NA | 1 U | 1 U | NA | NA | 1 U | NA |
| Toluene | ug/L | NA | 1 U | 1 U | 1 U | NA | 1 U | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 1 U | 1 U | 1 U | NA | 1 U | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-13 | MW-13 | MW-13 | MW-13 | MW-14 | MW-14 | MW-14 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 06/19/2001 | 09/10/2001 | 08/05/2002 | 08/05/2002 | 10/09/1997 | 04/06/2000 | 06/19/2001 |
| **Field Sample Identification:** | | 01CB08-69 | 01CB28-13 | 02CB18-03 | 02CB18-04 | 98ZR01-20 | 00CB09-14 | 01CB08-70 |
| **Laboratory Sample Identification:** | | 210613201 | 913080-014 | 02081571-6 | 02081571-7 | 26300*6 | 200405101 | 210613202 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | 0.93 J | 2 U | NA | NA | 1 U | 1 U |
| Ethane | ug/L | 0.23 U | NA | NA | NA | NA | NA | 0.21 U |
| Ethene | ug/L | 0.24 U | NA | NA | NA | NA | NA | 0.22 U |
| Methane | ug/L | 0.12 U | 10 U | 0.01 U | NA | 10 U | 0.159 = | 0.11 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | 104000 J | 1720 = | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 9.1 = | 3.9 J | 9.1 J | NA | 2 U | 2.1 U | 2 = |
| Arsenic, Dissolved | ug/L | 1.1 = | 0.54 J | NA | 2.2 J | 2 UJ | 2.6 = | 1.4 = |
| Copper | ug/L | 68 = | 49 J | 55.3 = | NA | 2 J | 5 U | 5.4 J |
| Copper, Dissolved | ug/L | 6.1 J | 2.8 J | NA | 2.5 J | 2 UJ | NA | 25 UJ |
| Iron | ug/L | 32800 = | 14000 J | 19000 = | NA | NA | 50 U | 1070 = |
| Iron, Dissolved | ug/L | 141 = | 52 J | NA | 1300 = | 20 U | 50 U | 25 U |
| Manganese | ug/L | 848 = | 510 J | 580 J | NA | 4 J | NA | 57 = |
| Manganese, Dissolved | ug/L | 26 = | 27 J | NA | 45 = | NA | 2 U | 4.4 J |
| Zinc | ug/L | 45 = | 37 J | 39.5 = | NA | 4 J | 10 U | 25 U |
| Zinc, Dissolved | ug/L | 25 U | 4.7 J | NA | 9.1 =B | 2 UJ | NA | 25 U |
| Alkalinity, Total | mg/L | 68 = | 75 = | 86 = | NA | 120 = | 112 = | 104 = |
| Chloride | mg/L | 5.73 = | 5.4 = | 6.8 = | NA | 8 = | 15.7 = | 12 = |
| Hardness (As CaCO3) | mg/L | 112 = | 100 J | 110 = | NA | NA | 140 = | 124 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | 0.1 U | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 2.87 = | 2.5 J | 0.15 U | NA | 1.6 J | 2.16 = | 2.06 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 11 = | 7.5 U | 8.4 = | NA | 2.4 = | 4.12 = | 3.48 J |
| Total Organic Carbon | mg/L | 13 = | 9.5 R | 6.3 = | NA | 1 UJ | 1.5 U | 6.41 = |
| Pentachlorophenol | ug/Kg | 0.11 U | 0.69 = | 0.64 = | NA | 1 U | 0.5 U | 0.96 = |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5.3 UJ | 0.24 U | 5 U | NA | NA | 11 U | 239 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-13 | MW-13 | MW-13 | MW-13 | MW-14 | MW-14 | MW-14 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 06/19/2001 | 09/10/2001 | 08/05/2002 | 08/05/2002 | 10/09/1997 | 04/06/2000 | 06/19/2001 |
| **Field Sample Identification:** | | 01CB08-69 | 01CB28-13 | 02CB18-03 | 02CB18-04 | 98ZR01-20 | 00CB09-14 | 01CB08-70 |
| **Laboratory Sample Identification:** | | 210613201 | 913080-014 | 02081571-6 | 02081571-7 | 26300*6 | 200405101 | 210613202 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.12 = | 0.44 U | 1 U | NA | 0.1 UJ | 0.1 U | 0.1 U |
| Ethylbenzene | ug/L | 1 U | 0.5 U | 5 U | NA | 1 UJ | 1 U | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2 U | NA | 2.5 U | NA | 1 UJ | 1 U | 2 U |
| O-Xylene | ug/L | 1 U | NA | 2.5 U | NA | 1 UJ | 1 U | 1 U |
| Toluene | ug/L | 1 U | 0.4 U | 5 U | NA | 1 UJ | 1 U | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | 1.2 U | 5 U | NA | 1 UJ | 1 U | 1 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water, Dup | Water, Dup | Water |
| **Sample Collection Date:** | | 10/16/1997 | 04/04/2000 | 04/25/2001 | 04/25/2001 | 04/25/2001 | 04/25/2001 | 09/12/2001 |
| **Field Sample Identification:** | | 98ZR01-21 | 00CB09-15 | 01CB07-70 | 01CB07-71 | 01CB07-72 | 01CB07-73 | 01CB28-35 |
| **Laboratory Sample Identification:** | | 26308*21 | 200402503 | 210422701 | 210422702 | 210422703 | 210422704 | 913080-002 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | 1 U | 1 U | NA | 1 U | NA | 0.8 U |
| Ethane | ug/L | NA | NA | 0.19 U | NA | 0.22 U | NA | NA |
| Ethene | ug/L | NA | NA | 0.2 U | NA | 0.23 U | NA | NA |
| Methane | ug/L | 10 UJ | 0.339 = | 0.1 U | NA | 0.12 U | NA | 10 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 165000 = | 6772 = | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2 U | 2.1 U | 0.5 J | NA | 0.56 J | NA | 0.95 J |
| Arsenic, Dissolved | ug/L | 2 U | 5 U | NA | 0.31 J | NA | 0.42 J | 0.95 J |
| Copper | ug/L | 3.5 J | 7.1 = | 25 U | NA | 25 U | NA | 5.7 J |
| Copper, Dissolved | ug/L | 2 U | NA | NA | 25 U | NA | 25 U | 2.9 J |
| Iron | ug/L | NA | 652 = | 58 = | NA | 174 = | NA | 63 J |
| Iron, Dissolved | ug/L | 8.2 J | 50 U | NA | 25 U | NA | 25 U | 35 U |
| Manganese | ug/L | 62.2 = | NA | 4.8 J | NA | 4.1 J | NA | 2.7 J |
| Manganese, Dissolved | ug/L | NA | 2 U | NA | 15 U | NA | 15 U | 0.31 J |
| Zinc | ug/L | 13.9 = | 13.9 = | 50 = | NA | 25 U | NA | 36 J |
| Zinc, Dissolved | ug/L | 2 U | NA | NA | 15 J | NA | 16 J | 35 J |
| Alkalinity, Total | mg/L | 190 = | 340 = | 240 = | NA | 246 = | NA | 240 = |
| Chloride | mg/L | 6.5 = | 12.3 = | 15 = | NA | 16 = | NA | 17 = |
| Hardness (As CaCO3) | mg/L | NA | 263 = | 276 = | NA | 276 = | NA | 270 J |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | 0.1 U | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 4.1 J | 3.52 = | 3.97 = | NA | 3.92 = | NA | 3.7 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 6.3 = | 10 = | 2.61 J | NA | 4.05 J | NA | 4.5 U |
| Total Organic Carbon | mg/L | 1.2 J | 2.05 = | 5.24 = | NA | 3.7 = | NA | 4.5 = |
| Pentachlorophenol | ug/Kg | 1 U | 0.5 U | 0.11 U | NA | 0.11 U | NA | 0.077 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | 11 U | 5.3 U | NA | 5.6 U | NA | 0.24 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 | MW-15 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water, Dup | Water, Dup | Water |
| **Sample Collection Date:** | | 10/16/1997 | 04/04/2000 | 04/25/2001 | 04/25/2001 | 04/25/2001 | 04/25/2001 | 09/12/2001 |
| **Field Sample Identification:** | | 98ZR01-21 | 00CB09-15 | 01CB07-70 | 01CB07-71 | 01CB07-72 | 01CB07-73 | 01CB28-35 |
| **Laboratory Sample Identification:** | | 26308*21 | 200402503 | 210422701 | 210422702 | 210422703 | 210422704 | 913080-002 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | 0.1 U | 0.1 U | NA | 0.1 U | NA | 0.44 U |
| Ethylbenzene | ug/L | 1 U | 1 U | 1 U | NA | 1 U | NA | 0.5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 1 U | 1 U | 2 U | NA | 2 U | NA | NA |
| O-Xylene | ug/L | 1 U | 1 U | 1 U | NA | 1 U | NA | NA |
| Toluene | ug/L | 1 U | 1 U | 1 U | NA | 1 U | NA | 0.4 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | 1 U | 1 U | NA | NA | NA | 1.2 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-15 | MW-15 | MW-16 | MW-16 | MW-16 | MW-16 | MW-16 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 10/14/1997 | 04/06/2000 | 04/23/2001 | 04/23/2001 | 09/10/2001 |
| **Field Sample Identification:** | | 02CB18-35 | 02CB18-36 | 98ZR01-22 | 00CB09-16 | 01CB07-58 | 01CB07-59 | 01CB28-16 |
| **Laboratory Sample Identification:** | | 02081571-24 | 02081571-25 | 26308*18 | 200405114 | 210419510 | 210419511 | 913080-019 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | NA | NA | 1 U | 8.56 = | NA | 0.8 J |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.01 U | NA | 10 UJ | 1.068 = | 0.12 U | NA | 10 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | 150000 = | 61230 = | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 3.7 J | NA | 17.1 = | 5.4 = | 6.5 = | NA | 1.8 J |
| Arsenic, Dissolved | ug/L | NA | 2.6 J | 2 U | 2.1 U | NA | 1 U | 0.29 J |
| Copper | ug/L | 1.6 J | NA | 438 J | 34.6 = | 62 = | NA | 23 J |
| Copper, Dissolved | ug/L | NA | 0.3 UJ | 2.7 J | NA | NA | 25 U | 2.2 U |
| Iron | ug/L | 130 = | NA | NA | 11800 = | 22300 = | NA | 5500 J |
| Iron, Dissolved | ug/L | NA | 11 U | 15.3 J | 50 U | NA | 26 = | 35 J |
| Manganese | ug/L | 2.8 J | NA | 10300 = | NA | 1460 = | NA | 520 J |
| Manganese, Dissolved | ug/L | NA | 0.42 UJ | NA | 1690 = | NA | 9.4 J | 0.82 J |
| Zinc | ug/L | 17 =B | NA | 210 = | 14.1 = | 136 = | NA | 19 J |
| Zinc, Dissolved | ug/L | NA | 11 =B | 1.9 J | NA | NA | 23 J | 4.5 J |
| Alkalinity, Total | mg/L | 230 = | NA | 170 = | 48 = | 90 = | NA | 79 = |
| Chloride | mg/L | 16 = | NA | 6.1 = | 6.45 = | 3.57 = | NA | 1.8 = |
| Hardness (As CaCO3) | mg/L | 250 = | NA | NA | 97.2 = | 164 = | NA | 120 J |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | 0.1 U | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.15 U | NA | 2.6 J | 3.86 = | 8.69 = | NA | 5.8 J |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 4.7 = | NA | 8.1 = | 24.1 = | 29 = | NA | 11 = |
| Total Organic Carbon | mg/L | 53 = | NA | 3 J | 2.5 = | 4.4 = | NA | 0.34 R |
| Pentachlorophenol | ug/Kg | 0.04 U | NA | 1 U | 0.5 U | 0.11 U | NA | 0.17 = |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | NA | 10 U | 5.6 U | NA | 0.24 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-15 | MW-15 | MW-16 | MW-16 | MW-16 | MW-16 | MW-16 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 10/14/1997 | 04/06/2000 | 04/23/2001 | 04/23/2001 | 09/10/2001 |
| **Field Sample Identification:** | | 02CB18-35 | 02CB18-36 | 98ZR01-22 | 00CB09-16 | 01CB07-58 | 01CB07-59 | 01CB28-16 |
| **Laboratory Sample Identification:** | | 02081571-24 | 02081571-25 | 26308*18 | 200405114 | 210419510 | 210419511 | 913080-019 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 U | NA | 0.1 U | 0.1 U | 0.1 U | NA | 0.44 U |
| Ethylbenzene | ug/L | 5 U | NA | 1 U | 1 U | 1 U | NA | 0.5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2.5 U | NA | 1 U | 1 U | 2 U | NA | NA |
| O-Xylene | ug/L | 2.5 U | NA | 1 U | 1 U | 1 U | NA | NA |
| Toluene | ug/L | 5 U | NA | 1 U | 1 U | 1 U | NA | 0.4 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 5 U | NA | 1 U | 1 U | 1 U | NA | 1.2 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-16 | MW-16 | MW-17 | MW-17 | MW-17 | MW-17 | MW-17 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 10/15/1997 | 10/28/1997 | 04/06/2000 | 04/26/2001 | 04/26/2001 |
| **Field Sample Identification:** | | 02CB18-37 | 02CB18-38 | 98ZR01-23 | 98ZR01-71 | 00CB09-17 | 01CB08-01 | 01CB08-02 |
| **Laboratory Sample Identification:** | | 02081571-19 | 02081571-20 | 26308*15 | 26341*8 | 200405107 | 210423411 | 210423412 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | NA | NA | NA | 1 U | 1 U | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.01 U | NA | 10 UJ | NA | 0.127 = | 0.12 U | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | 160000 = | NA | 3900 = | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 3.5 J | NA | 2 U | NA | 2.1 U | 0.6 J | NA |
| Arsenic, Dissolved | ug/L | NA | 1.4 UJ | 2 U | NA | 2.5 = | NA | 0.69 J |
| Copper | ug/L | 25 =B | NA | 2.3 J | NA | 5 U | 25 U | NA |
| Copper, Dissolved | ug/L | NA | 0.3 U | 2 U | NA | NA | NA | 25 U |
| Iron | ug/L | 6800 = | NA | NA | NA | 50 U | 33 = | NA |
| Iron, Dissolved | ug/L | NA | 78 = | 10 UJ | NA | 50 U | NA | 25 U |
| Manganese | ug/L | 14 J | NA | 2 U | NA | NA | 15 U | NA |
| Manganese, Dissolved | ug/L | NA | 9.1 J | NA | NA | 2 U | NA | 15 U |
| Zinc | ug/L | 760 =B | NA | 2.5 = | NA | 10 U | 12 J | NA |
| Zinc, Dissolved | ug/L | NA | 13 =B | 17.6 = | NA | NA | NA | 25 U |
| Alkalinity, Total | mg/L | 130 = | NA | 180 = | NA | 206 = | 202 = | NA |
| Chloride | mg/L | 2 = | NA | 4.8 = | NA | 4.89 = | 4.12 = | NA |
| Hardness (As CaCO3) | mg/L | 120 = | NA | NA | NA | 232 = | 228 = | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | 0.14 = | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.15 U | NA | 4.1 J | NA | 4.21 = | 4.98 = | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 13 = | NA | 10 = | NA | 3 U | 6.82 J | NA |
| Total Organic Carbon | mg/L | 1.3 = | NA | 0.7 J | NA | 1.5 U | 1.57 = | NA |
| Pentachlorophenol | ug/Kg | 0.035 J | NA | 1 U | 5 = | 0.5 U | 0.72 = | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | NA | NA | 11 U | 54 = | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-16 | MW-16 | MW-17 | MW-17 | MW-17 | MW-17 | MW-17 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 10/15/1997 | 10/28/1997 | 04/06/2000 | 04/26/2001 | 04/26/2001 |
| **Field Sample Identification:** | | 02CB18-37 | 02CB18-38 | 98ZR01-23 | 98ZR01-71 | 00CB09-17 | 01CB08-01 | 01CB08-02 |
| **Laboratory Sample Identification:** | | 02081571-19 | 02081571-20 | 26308*15 | 26341*8 | 200405107 | 210423411 | 210423412 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 U | NA | 0.1 U | NA | 0.1 U | 0.1 U | NA |
| Ethylbenzene | ug/L | 5 U | NA | 1 U | NA | 1 U | 1 U | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2.5 U | NA | 0.4 J | NA | 1 U | 2 U | NA |
| O-Xylene | ug/L | 2.5 U | NA | 0.2 J | NA | 1 U | 1 U | NA |
| Toluene | ug/L | 5 U | NA | 1 U | NA | 1 U | 1 U | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 5 U | NA | 0.6 J | NA | 1 U | 1 U | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-17 | MW-17 | MW-17 | MW-18 | MW-18 | MW-19 | MW-19 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 08/08/2002 | 08/08/2002 | 10/10/1997 | 06/19/2001 | 10/16/1997 | 04/07/2000 |
| **Field Sample Identification:** | | 01CB28-24 | 02CB18-39 | 02CB18-40 | 98ZR01-25 | 01CB08-71 | 98ZR01-44 | 00CB09-19 |
| **Laboratory Sample Identification:** | | 913080-028 | 02081571-46 | 02081571-47 | 26300*11 | 210613203 | 26308*25 | 200405111 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1.1 = | 2 U | NA | NA | 1.7 = | NA | 1 U |
| Ethane | ug/L | NA | NA | NA | NA | 0.25 U | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | 0.25 U | NA | NA |
| Methane | ug/L | 10 U | 0.01 U | NA | 10 U | 0.13 U | 10 UJ | 0.272 = |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | 432000 = | NA | 159000 = | 114670 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 0.94 J | 3 J | NA | 8.9 = | 4.9 = | 2 U | 3.4 = |
| Arsenic, Dissolved | ug/L | 1 J | NA | 1.9 J | 8.2 J | 5 = | 2 U | 3.7 = |
| Copper | ug/L | 2.2 UJ | 0.47 J | NA | 62.5 = | 43 = | 38 J | 96.8 = |
| Copper, Dissolved | ug/L | 2.2 UJ | NA | 0.3 UJ | 43.5 J | 21 J | 3.4 J | NA |
| Iron | ug/L | 330 J | 11 UJ | NA | NA | 15200 = | NA | 28300 = |
| Iron, Dissolved | ug/L | 310 = | NA | 11 U | 32000 = | 13700 = | 10 UJ | 50 U |
| Manganese | ug/L | 0.27 UJ | 0.42 UJ | NA | 10600 = | 6540 = | 2690 = | NA |
| Manganese, Dissolved | ug/L | 0.27 UJ | NA | 0.42 UJ | NA | 6650 = | NA | 2 U |
| Zinc | ug/L | 3.7 U | 0.98 U | NA | 5.3 J | 25 U | 46 = | 48.4 = |
| Zinc, Dissolved | ug/L | 3.7 U | NA | 15 =B | 2.6 J | 25 U | 2 U | NA |
| Alkalinity, Total | mg/L | 180 J | 200 = | NA | 260 = | 168 = | 180 = | 182 = |
| Chloride | mg/L | 4.8 = | 4.6 = | NA | 49 = | 19 = | 47 = | 37.4 = |
| Hardness (As CaCO3) | mg/L | 210 J | 210 = | NA | NA | 182 = | NA | 345 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | 0.14 = | NA | 0.28 = | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 4.4 J | 0.15 U | NA | 0.1 UJ | 0.13 U | 3.8 J | 6.97 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 9.3 U | 7.4 = | NA | 11 = | 33 J | 19 = | 90 = |
| Total Organic Carbon | mg/L | 1 R | 0.73 = | NA | 154 J | 6.63 = | 32.8 J | 54.2 = |
| Pentachlorophenol | ug/Kg | 0.059 U | 0.032 J | NA | 27000 = | 27400 = | 19000 = | 11000 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 0.29 U | 5 U | NA | NA | 5 U | NA | 22 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-17 | MW-17 | MW-17 | MW-18 | MW-18 | MW-19 | MW-19 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 08/08/2002 | 08/08/2002 | 10/10/1997 | 06/19/2001 | 10/16/1997 | 04/07/2000 |
| **Field Sample Identification:** | | 01CB28-24 | 02CB18-39 | 02CB18-40 | 98ZR01-25 | 01CB08-71 | 98ZR01-44 | 00CB09-19 |
| **Laboratory Sample Identification:** | | 913080-028 | 02081571-46 | 02081571-47 | 26300*11 | 210613203 | 26308*25 | 200405111 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.44 U | 1 U | NA | 0.1 U | 1.1 = | 0.2 J | 0.1 U |
| Ethylbenzene | ug/L | 0.5 U | 5 U | NA | 2 = | 14 = | 1 U | 1.3 = |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 2.5 U | NA | 11 = | 11 J | 1 U | 5.4 = |
| O-Xylene | ug/L | NA | 2.5 U | NA | 8 = | 9.3 J | 0.2 J | 6.7 = |
| Toluene | ug/L | 0.4 U | 5 U | NA | 16 = | 10 U | 1 U | 0.6 J |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1.2 U | 5 U | NA | 19 = | 20 = | 0.2 J | 12 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/26/2001 | 04/26/2001 | 09/12/2001 | 05/13/2002 | 05/13/2002 | 05/13/2002 | 08/08/2002 |
| **Field Sample Identification:** | | 01CB08-15 | 01CB08-16 | 01CB28-38 | 02CB14-09 | 02CB14-09 | 02CB14-10 | 02CB18-43 |
| **Laboratory Sample Identification:** | | 210423409 | 210423410 | 913080-010 | 02052485-6 | 0205385-03A | 02052485-7 | 02081836-14 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | NA | 1.7 J | 2 U | 2 U | NA | 2 U |
| Ethane | ug/L | NA | NA | NA | 10 UJ | 10 UJ | NA | NA |
| Ethene | ug/L | NA | NA | NA | 10 UJ | 10 UJ | NA | NA |
| Methane | ug/L | 0.5 = | NA | 16 = | 10 UJ | 10 UJ | NA | 0.01 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2.2 = | NA | 1.7 J | 1.9 J | 1.9 J | NA | 7 = |
| Arsenic, Dissolved | ug/L | NA | 1 U | 0.29 J | NA | NA | 1.4 U | NA |
| Copper | ug/L | 38 = | NA | 44 J | 12.9 J | 12.9 J | NA | 30.2 = |
| Copper, Dissolved | ug/L | NA | 25 U | 6.4 J | NA | NA | 5.1 J | NA |
| Iron | ug/L | 10000 = | NA | 5600 J | 108 = | 108 = | NA | 719 = |
| Iron, Dissolved | ug/L | NA | 25 U | 71 J | NA | NA | 11.2 U | NA |
| Manganese | ug/L | 1840 = | NA | 2100 J | 2110 = | 2110 = | NA | 3100 = |
| Manganese, Dissolved | ug/L | NA | 1790 = | 1800 J | NA | NA | 2070 = | NA |
| Zinc | ug/L | 27 = | NA | 53 J | NA | NA | NA | 290 = |
| Zinc, Dissolved | ug/L | NA | 25 U | 5.8 J | NA | NA | 9.4 J | NA |
| Alkalinity, Total | mg/L | 236 = | NA | 320 J | NA | NA | NA | 130 = |
| Chloride | mg/L | 39 = | NA | 19 = | NA | NA | NA | 22 = |
| Hardness (As CaCO3) | mg/L | 323 = | NA | 270 J | NA | NA | NA | 4 U |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 3.37 = | NA | 1.3 = | NA | NA | NA | 0.16 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 47 = | NA | 9.7 U | NA | NA | NA | 16 = |
| Total Organic Carbon | mg/L | 33 = | NA | 34 R | NA | NA | NA | 65 = |
| Pentachlorophenol | ug/Kg | 25600 = | NA | 400000 = | NA | NA | NA | 11000 =B |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 325 = | NA | 240 = | NA | NA | NA | 210 = |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 | MW-19 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 04/26/2001 | 04/26/2001 | 09/12/2001 | 05/13/2002 | 05/13/2002 | 05/13/2002 | 08/08/2002 |
| **Field Sample Identification:** | | 01CB08-15 | 01CB08-16 | 01CB28-38 | 02CB14-09 | 02CB14-09 | 02CB14-10 | 02CB18-43 |
| **Laboratory Sample Identification:** | | 210423409 | 210423410 | 913080-010 | 02052485-6 | 0205385-03A | 02052485-7 | 02081836-14 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 10 U | NA | 0.44 U | NA | NA | NA | 1 U |
| Ethylbenzene | ug/L | 100 U | NA | 1.9 U | NA | NA | NA | 2 J |
| M,P-Xylene (Sum Of Isomers) | ug/L | 200 U | NA | NA | NA | NA | NA | 12 = |
| O-Xylene | ug/L | 100 U | NA | NA | NA | NA | NA | 17 = |
| Toluene | ug/L | NA | NA | 1.7 U | NA | NA | NA | 1 J |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | 28 = | NA | NA | NA | 29 = |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-19 | MW-20 | MW-20 | MW-20 | MW-20 | MW-20 | MW-20 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/08/2002 | 10/15/1997 | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 |
| **Field Sample Identification:** | | 02CB18-44 | 98ZR01-45 | 01CB08-08 | 01CB08-09 | 01CB28-37 | 02CB18-45 | 02CB18-46 |
| **Laboratory Sample Identification:** | | 02081836-15 | 26308*26 | 210423407 | 210423408 | 913080-005 | 02081836-3 | 02081836-4 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | 1 U | NA | 3.3 J | 2 U | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | 10 UJ | 2.73 = | NA | 10 U | 0.01 U | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | 8.2 = | NA | 3.6 J | 8.9 = | NA |
| Arsenic, Dissolved | ug/L | 1.4 U | NA | NA | 1.1 = | 1.5 J | NA | 2.6 = |
| Copper | ug/L | NA | NA | 196 = | NA | 81 J | 87.4 = | NA |
| Copper, Dissolved | ug/L | 7.1 UB | NA | NA | 14 J | 15 U | NA | 5.8 UB |
| Iron | ug/L | NA | NA | 33200 = | NA | 7900 J | 4910 = | NA |
| Iron, Dissolved | ug/L | 218 = | NA | NA | 841 = | 35 U | NA | 206 = |
| Manganese | ug/L | NA | NA | 3120 = | NA | 3200 J | 3520 = | NA |
| Manganese, Dissolved | ug/L | 3110 = | NA | NA | 2250 = | 2800 J | NA | 3280 = |
| Zinc | ug/L | NA | NA | 126 = | NA | 36 J | 16.6 =B | NA |
| Zinc, Dissolved | ug/L | 5.7 UB | NA | NA | 23 J | 12 J | NA | 15.4 UB |
| Alkalinity, Total | mg/L | NA | NA | 198 = | NA | 260 J | 220 = | NA |
| Chloride | mg/L | NA | NA | 24 = | NA | 16 = | 22 = | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | 301 = | NA | 250 J | 4 U | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | 0.13 U | NA | 0.15 J | 0.15 U | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | 67 = | NA | 24 = | 25 = | NA |
| Total Organic Carbon | mg/L | NA | NA | 478 = | NA | 65 R | 71 = | NA |
| Pentachlorophenol | ug/Kg | NA | 29000 = | 36600 = | NA | 83000 = | 30000 =B | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | 9970 = | NA | 890 = | 1400 = | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-19 | MW-20 | MW-20 | MW-20 | MW-20 | MW-20 | MW-20 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/08/2002 | 10/15/1997 | 04/26/2001 | 04/26/2001 | 09/12/2001 | 08/07/2002 | 08/07/2002 |
| **Field Sample Identification:** | | 02CB18-44 | 98ZR01-45 | 01CB08-08 | 01CB08-09 | 01CB28-37 | 02CB18-45 | 02CB18-46 |
| **Laboratory Sample Identification:** | | 02081836-15 | 26308*26 | 210423407 | 210423408 | 913080-005 | 02081836-3 | 02081836-4 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.1 U | 10 U | NA | 0.44 U | 1 U | NA |
| Ethylbenzene | ug/L | NA | 1 U | 10 R | NA | 3.4 U | 12 = | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 1 U | 36 J | NA | NA | 68 = | NA |
| O-Xylene | ug/L | NA | 0.1 J | 35 J | NA | NA | 54 = | NA |
| Toluene | ug/L | NA | 1 U | NA | NA | 4.1 U | 9 = | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 0.1 J | NA | NA | 37 = | 120 = | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water, Dup | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 02/09/1998 | 02/09/1998 | 02/09/1998 | 02/09/1998 | 05/14/2002 | 05/14/2002 | 05/14/2002 |
| **Field Sample Identification:** | | 98ZR01-88 | 98ZR01-89 | 98ZR01-98 | 98ZR01-99 | 02CB14-11 | 02CB14-11 | 02CB14-12 |
| **Laboratory Sample Identification:** | | DA*26693*12 | DA*26693*13 | DA*26693*10 | DA*26693*11 | 02052485-3 | 0205385-02A | 02052485-4 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | 2 U | 2 U | NA |
| Ethane | ug/L | NA | NA | NA | NA | 10 UJ | 10 UJ | NA |
| Ethene | ug/L | NA | NA | NA | NA | 10 UJ | 10 UJ | NA |
| Methane | ug/L | 11 J | NA | 10 J | NA | 10 UJ | 10 UJ | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | 182000 = | NA | 192000 = | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 3 J | NA | 3.1 J | NA | 3.7 = | 3.7 = | NA |
| Arsenic, Dissolved | ug/L | NA | 2 U | NA | 2 U | NA | NA | 1.9 J |
| Copper | ug/L | 70.1 = | NA | 83.9 = | NA | 81.7 = | 81.7 = | NA |
| Copper, Dissolved | ug/L | NA | 9.5 U | NA | 9.5 U | NA | NA | 1.3 J |
| Iron | ug/L | NA | NA | NA | NA | 14200 = | 14200 = | NA |
| Iron, Dissolved | ug/L | NA | 5.5 U | NA | 7.3 J | NA | NA | 130 = |
| Manganese | ug/L | 1210 = | NA | 1380 = | NA | 1100 = | 1100 = | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | 9.7 J |
| Zinc | ug/L | 113 = | NA | 98.9 = | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | 32.6 = | NA | 33.8 = | NA | NA | 11 J |
| Alkalinity, Total | mg/L | 176 = | NA | 196 = | NA | NA | NA | NA |
| Chloride | mg/L | 70.6 = | NA | 67.3 = | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | 0.083 U | NA | 3.08 J | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | 4.23 J | NA | 4.17 J | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 9.1 = | NA | 8.9 = | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | 0.47 U | NA | 0.47 U | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 1 U | NA | 1 U | NA | NA | NA | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | NA | NA | NA | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 | MW-21 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water, Dup | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 02/09/1998 | 02/09/1998 | 02/09/1998 | 02/09/1998 | 05/14/2002 | 05/14/2002 | 05/14/2002 |
| **Field Sample Identification:** | | 98ZR01-88 | 98ZR01-89 | 98ZR01-98 | 98ZR01-99 | 02CB14-11 | 02CB14-11 | 02CB14-12 |
| **Laboratory Sample Identification:** | | DA*26693*12 | DA*26693*13 | DA*26693*10 | DA*26693*11 | 02052485-3 | 0205385-02A | 02052485-4 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 UJ | NA | 0.1 UJ | NA | NA | NA | NA |
| Ethylbenzene | ug/L | 1 UJ | NA | 1 UJ | NA | NA | NA | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Toluene | ug/L | 1 UJ | NA | 1 UJ | NA | NA | NA | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 UJ | NA | 1 UJ | NA | NA | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-21 | MW-22 | MW-22 | MW-22 | MW-22 | MW-22 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 02/09/1998 | 02/09/1998 | 05/14/2002 | 05/14/2002 | 05/14/2002 |
| **Field Sample Identification:** | | 02CB18-47 | 02CB18-48 | 98ZR01-90 | 98ZR01-91 | 02CB14-13 | 02CB14-13 | 02CB14-14 |
| **Laboratory Sample Identification:** | | 02081571-21 | 02081571-22 | DA*26693*6 | DA*26693*7 | 02052485-26 | 0205385-07A | 02052485-27 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | NA | NA | NA | 0.7 J | 0.7 J | NA |
| Ethane | ug/L | NA | NA | NA | NA | 10 UJ | 10 UJ | NA |
| Ethene | ug/L | NA | NA | NA | NA | 10 UJ | 10 UJ | NA |
| Methane | ug/L | NA | NA | 13 J | NA | 10 UJ | 10 UJ | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | 197000 = | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 4.4 J | NA | 4 = | NA | 7.2 = | 7.2 = | NA |
| Arsenic, Dissolved | ug/L | NA | 1.6 J | NA | 2 U | NA | NA | 1.4 U |
| Copper | ug/L | 50 = | NA | 255 = | NA | 73.2 = | 73.2 = | NA |
| Copper, Dissolved | ug/L | NA | 0.3 UJ | NA | 9.5 U | NA | NA | 0.3 U |
| Iron | ug/L | 10000 = | NA | NA | NA | 16900 = | 16900 = | NA |
| Iron, Dissolved | ug/L | NA | 11 U | NA | 5.5 U | NA | NA | 22.9 J |
| Manganese | ug/L | 930 J | NA | 3700 = | NA | 1080 = | 1080 = | NA |
| Manganese, Dissolved | ug/L | NA | 0.63 J | NA | NA | NA | NA | 3.5 J |
| Zinc | ug/L | 29 = | NA | 121 = | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | 6.8 =B | NA | 12.6 = | NA | NA | 2.7 J |
| Alkalinity, Total | mg/L | 120 = | NA | 186 = | NA | NA | NA | NA |
| Chloride | mg/L | 49 = | NA | 56.3 = | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | 150 = | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | 0.84 J | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.15 U | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | 6.52 J | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 9.6 = | NA | 17.9 = | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | 8.3 = | NA | 0.47 U | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 0.035 J | NA | 1 U | NA | NA | NA | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | NA | NA | NA | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-21 | MW-21 | MW-22 | MW-22 | MW-22 | MW-22 | MW-22 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 02/09/1998 | 02/09/1998 | 05/14/2002 | 05/14/2002 | 05/14/2002 |
| **Field Sample Identification:** | | 02CB18-47 | 02CB18-48 | 98ZR01-90 | 98ZR01-91 | 02CB14-13 | 02CB14-13 | 02CB14-14 |
| **Laboratory Sample Identification:** | | 02081571-21 | 02081571-22 | DA*26693*6 | DA*26693*7 | 02052485-26 | 0205385-07A | 02052485-27 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 U | NA | 0.1 UJ | NA | NA | NA | NA |
| Ethylbenzene | ug/L | 5 U | NA | 1 UJ | NA | NA | NA | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2.5 U | NA | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | 2.5 U | NA | NA | NA | NA | NA | NA |
| Toluene | ug/L | 5 U | NA | 1 UJ | NA | NA | NA | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 5 U | NA | 1 UJ | NA | NA | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-22 | MW-22 | MW-23 | MW-23 | MW-23 | MW-24 | MW-24 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | 17' - 19' | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Soil | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 02/26/1998 | 02/26/1998 | 09/11/2001 | 01/27/1998 | 02/08/1998 |
| **Field Sample Identification:** | | 02CB18-49 | 02CB18-50 | 98ZR01-92 | 98ZR01-93 | 01CB28-20 | 98ZR01-86 | 98ZR01-94 |
| **Laboratory Sample Identification:** | | 02081571-16 | 02081571-17 | DA*26782*1 | DA*26782*2 | 913080-023 | DA*26613*6 | DA*26693*1 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 2 U | NA | NA | NA | 1.3 J | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 0.01 U | NA | 57 J | NA | 10 U | NA | 10 UJ |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | 109000 J | NA | NA | NA | 277000 = |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 2.2 J | NA | 2 U | NA | 1.2 J | NA | 4.3 = |
| Arsenic, Dissolved | ug/L | NA | 1.4 UJ | NA | 2 U | 0.62 J | NA | NA |
| Copper | ug/L | 9.8 =B | NA | 17.6 J | NA | 6.3 J | NA | 53 = |
| Copper, Dissolved | ug/L | NA | 0.3 UJ | NA | 14.2 J | 2.2 U | NA | NA |
| Iron | ug/L | 2500 = | NA | NA | NA | 630 = | NA | NA |
| Iron, Dissolved | ug/L | NA | 25 =B | NA | 5.5 U | 35 U | NA | NA |
| Manganese | ug/L | 170 J | NA | 128 = | NA | 140 J | NA | 1030 = |
| Manganese, Dissolved | ug/L | NA | 0.42 UJ | NA | NA | 29 J | NA | NA |
| Zinc | ug/L | 7.3 =B | NA | 43.6 = | NA | 37 J | NA | 50.7 = |
| Zinc, Dissolved | ug/L | NA | 4.9 =B | NA | 6.6 = | 4.7 J | NA | NA |
| Alkalinity, Total | mg/L | 150 = | NA | 120 J | NA | 110 = | NA | 253 = |
| Chloride | mg/L | 7.2 = | NA | 8.7 J | NA | 10 = | NA | 18.7 = |
| Hardness (As CaCO3) | mg/L | 170 = | NA | NA | NA | 140 J | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | 9.9 = | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | 0.1 UJ | NA | NA | NA | 0.083 U |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 0.15 U | NA | NA | NA | 0.13 R | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | 1.47 J | NA | NA | NA | 3.93 J |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 12 = | NA | 7.6 J | NA | 8.2 U | NA | 5.2 = |
| Total Organic Carbon | mg/L | 1.3 = | NA | 0.47 UJ | NA | 5.6 R | NA | 1.8 = |
| Pentachlorophenol | ug/Kg | 0.078 = | NA | 1 UJ | NA | 0.49 = | 190000 = | 4 = |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | NA | NA | 0.24 U | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-22 | MW-22 | MW-23 | MW-23 | MW-23 | MW-24 | MW-24 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | 17' - 19' | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Soil | Water |
| **Sample Collection Date:** | | 08/06/2002 | 08/06/2002 | 02/26/1998 | 02/26/1998 | 09/11/2001 | 01/27/1998 | 02/08/1998 |
| **Field Sample Identification:** | | 02CB18-49 | 02CB18-50 | 98ZR01-92 | 98ZR01-93 | 01CB28-20 | 98ZR01-86 | 98ZR01-94 |
| **Laboratory Sample Identification:** | | 02081571-16 | 02081571-17 | DA*26782*1 | DA*26782*2 | 913080-023 | DA*26613*6 | DA*26693*1 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 U | NA | 2 J | NA | 0.44 U | NA | 3 J |
| Ethylbenzene | ug/L | 5 U | NA | 1 UJ | NA | 0.5 U | NA | 2 J |
| M,P-Xylene (Sum Of Isomers) | ug/L | 2.5 U | NA | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | 2.5 U | NA | NA | NA | NA | NA | NA |
| Toluene | ug/L | 5 U | NA | 77 J | NA | 0.4 U | NA | 3 J |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 5 U | NA | 2 J | NA | 1.2 U | NA | 5 J |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-24 | MW-24 | MW-24 | MW-24 | MW-25 | MW-25 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 02/08/1998 | 12/06/2000 | 04/24/2001 | 04/24/2001 | 02/09/1998 | 02/09/1998 | 12/06/2000 |
| **Field Sample Identification:** | | 98ZR01-95 | 01CB01-55 | 01CB07-68 | 01CB07-69 | 98ZR01-96 | 98ZR01-97 | 01CB01-53 |
| **Laboratory Sample Identification:** | | DA*26693*2 | 201206501 | 210420905 | 210420906 | DA*26693*8 | DA*26693*9 | 201205801 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | 1 U | 1 U | NA | NA | NA | 1 U |
| Ethane | ug/L | NA | NA | 0.19 U | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | 0.2 U | NA | NA | NA | NA |
| Methane | ug/L | NA | 0.53 U | 0.1 U | NA | 17 J | NA | 0.65 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | 460000 = | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | 1.6 = | 2.4 = | NA | 6.6 = | NA | 2.8 = |
| Arsenic, Dissolved | ug/L | 2 U | 0.29 J | NA | 0.29 J | NA | 2 U | 1.1 = |
| Copper | ug/L | NA | 27 = | 30 = | NA | 462 = | NA | 27 = |
| Copper, Dissolved | ug/L | 9.5 U | 25 U | NA | 5.2 J | NA | 9.5 U | 21 J |
| Iron | ug/L | NA | 6500 = | 7310 = | NA | NA | NA | 16000 = |
| Iron, Dissolved | ug/L | 5.5 U | 25 U | NA | 25 U | NA | 30.2 J | 25 U |
| Manganese | ug/L | NA | 530 = | 508 = | NA | 4480 = | NA | 300 = |
| Manganese, Dissolved | ug/L | NA | 15 U | NA | 2.4 J | NA | NA | 94 = |
| Zinc | ug/L | NA | 11 J | 23 J | NA | 321 = | NA | 35 = |
| Zinc, Dissolved | ug/L | 23 = | 25 U | NA | 11 J | NA | 16.4 = | 17 J |
| Alkalinity, Total | mg/L | NA | 180 = | 256 = | NA | 455 = | NA | 230 = |
| Chloride | mg/L | NA | 21 = | 36 = | NA | 15.6 = | NA | 29 = |
| Hardness (As CaCO3) | mg/L | NA | 310 = | 348 = | NA | NA | NA | 350 = |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | 0.84 J | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | 2.3 = | 3.64 = | NA | NA | NA | 2.8 = |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | 3.96 J | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | 7.1 J | 12 = | NA | 9.9 = | NA | 540 J |
| Total Organic Carbon | mg/L | NA | 5.5 = | 3.36 = | NA | 0.47 U | NA | 8 = |
| Pentachlorophenol | ug/Kg | NA | 123 B | 0.11 = | NA | 1 U | NA | 118 B |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | 5.9 U | 5.3 U | NA | NA | NA | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-24 | MW-24 | MW-24 | MW-24 | MW-25 | MW-25 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 02/08/1998 | 12/06/2000 | 04/24/2001 | 04/24/2001 | 02/09/1998 | 02/09/1998 | 12/06/2000 |
| **Field Sample Identification:** | | 98ZR01-95 | 01CB01-55 | 01CB07-68 | 01CB07-69 | 98ZR01-96 | 98ZR01-97 | 01CB01-53 |
| **Laboratory Sample Identification:** | | DA*26693*2 | 201206501 | 210420905 | 210420906 | DA*26693*8 | DA*26693*9 | 201205801 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.1 U | 0.1 U | NA | 0.1 UJ | NA | 0.1 U |
| Ethylbenzene | ug/L | NA | 1 U | 1 U | NA | 1 UJ | NA | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | 2 U | NA | NA | NA | NA |
| O-Xylene | ug/L | NA | NA | 1 U | NA | NA | NA | NA |
| Toluene | ug/L | NA | 0.29 J | 1 U | NA | 1 UJ | NA | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | 1 U | NA | NA | 1 UJ | NA | 1 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 12/06/2000 | 01/10/2001 | 01/10/2001 | 04/24/2001 | 04/24/2001 | 06/18/2001 | 09/10/2001 |
| **Field Sample Identification:** | | 01CB01-54 | 01CB01-60 | 01CB01-61 | 01CB07-66 | 01CB07-67 | 01CB08-67 | 01CB28-10 |
| **Laboratory Sample Identification:** | | 201205802 | 210107204 | 210107201 | 210420907 | 210420910 | 210611202 | 913080-016 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1 U | NA | NA | 1 U | NA | 1 U | 1.1 J |
| Ethane | ug/L | NA | NA | NA | 0.2 U | NA | 0.19 U | NA |
| Ethene | ug/L | NA | NA | NA | 0.21 U | NA | 0.2 U | NA |
| Methane | ug/L | 0.7 U | NA | NA | 0.1 U | NA | 0.1 U | 10 U |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 4 = | NA | NA | 3 = | NA | 3.6 = | 1.5 J |
| Arsenic, Dissolved | ug/L | 1.1 = | NA | NA | NA | 0.24 J | 1.1 = | 0.8 J |
| Copper | ug/L | 25 J | NA | NA | 13 J | NA | 18 J | 10 J |
| Copper, Dissolved | ug/L | 25 U | NA | NA | NA | 25 U | 25 U | 4 J |
| Iron | ug/L | 16000 = | NA | NA | 6980 = | NA | 9140 = | 2300 J |
| Iron, Dissolved | ug/L | 25 U | NA | NA | NA | 36 = | 25 UJ | 100 J |
| Manganese | ug/L | 290 = | NA | NA | 132 = | NA | 232 = | 94 J |
| Manganese, Dissolved | ug/L | 89 = | NA | NA | NA | 15 U | 15 U | 4 J |
| Zinc | ug/L | 33 = | NA | NA | 24 J | NA | 28 = | 24 J |
| Zinc, Dissolved | ug/L | 25 U | NA | NA | NA | 19700 = | 25 U | 3.8 J |
| Alkalinity, Total | mg/L | 270 = | NA | NA | 240 = | NA | 230 = | 260 = |
| Chloride | mg/L | 28 = | NA | NA | 22 = | NA | 27 = | 30 = |
| Hardness (As CaCO3) | mg/L | 330 = | NA | NA | 294 = | NA | 326 = | 300 J |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 2.8 = | NA | NA | 5 = | NA | 30 = | 3.2 J |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 770 J | NA | NA | 10 J | NA | 13 = | 12 = |
| Total Organic Carbon | mg/L | 6.1 = | NA | NA | 2.79 = | NA | 6.67 = | 0.34 R |
| Pentachlorophenol | ug/Kg | 115 B | 0.1 U | 0.16 = | 0.1 U | NA | 1 UJ | 0.16 J |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | NA | 5.4 U | NA | 5 U | 0.24 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water, Dup | Water | Water | Water | Water |
| **Sample Collection Date:** | | 12/06/2000 | 01/10/2001 | 01/10/2001 | 04/24/2001 | 04/24/2001 | 06/18/2001 | 09/10/2001 |
| **Field Sample Identification:** | | 01CB01-54 | 01CB01-60 | 01CB01-61 | 01CB07-66 | 01CB07-67 | 01CB08-67 | 01CB28-10 |
| **Laboratory Sample Identification:** | | 201205802 | 210107204 | 210107201 | 210420907 | 210420910 | 210611202 | 913080-016 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.1 U | NA | NA | 0.1 U | NA | 0.1 U | 0.44 U |
| Ethylbenzene | ug/L | 1 U | NA | NA | 1 U | NA | 1 U | 0.5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | 2 U | NA | 2 U | NA |
| O-Xylene | ug/L | NA | NA | NA | 1 U | NA | 1 U | NA |
| Toluene | ug/L | 1 U | NA | NA | 1 U | NA | 1 U | 0.4 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1 U | NA | NA | 1 U | NA | 1 U | 1.2 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water | Water | Water | Water, Dup | Water, Dup |
| **Sample Collection Date:** | | 09/10/2001 | 05/14/2002 | 05/14/2002 | 08/05/2002 | 08/05/2002 | 08/05/2002 | 08/05/2002 |
| **Field Sample Identification:** | | 01CB28-11 | 02CB14-15 | 02CB14-16 | 02CB18-01 | 02CB18-02 | 02CB18-53 | 02CB18-54 |
| **Laboratory Sample Identification:** | | 913080-017 | 02052485-19 | 02052485-23 | 02081571-3 | 02081571-4 | 02081571-1 | 02081571-2 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | 1.2 J | 2 U | NA | 2 U | NA | 2 U | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | 10 U | NA | NA | 0.01 U | NA | 0.01 U | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | 1.6 J | 1.4 J | NA | 3 J | NA | 2.7 J | NA |
| Arsenic, Dissolved | ug/L | 0.75 J | NA | 1.4 U | NA | 1.4 UJ | NA | 3.2 J |
| Copper | ug/L | 13 J | 5 J | NA | 2.5 J | NA | 3.9 J | NA |
| Copper, Dissolved | ug/L | 2.9 J | NA | 1.2 J | NA | 0.3 UJ | NA | 0.3 UJ |
| Iron | ug/L | 2500 J | 1530 = | NA | 385 = | NA | 728 = | NA |
| Iron, Dissolved | ug/L | 55 J | NA | 11.2 U | NA | 11.2 U | NA | 11.2 U |
| Manganese | ug/L | 96 J | 57.2 = | NA | 17.2 J | NA | 26 J | NA |
| Manganese, Dissolved | ug/L | 1.5 J | NA | 0.73 J | NA | 0.56 J | NA | 0.42 UJ |
| Zinc | ug/L | 24 J | 9.7 J | NA | 16.3 =B | NA | 18.7 =B | NA |
| Zinc, Dissolved | ug/L | 3.7 UJ | NA | 9.3 J | NA | 13.7 =B | NA | 7.4 =B |
| Alkalinity, Total | mg/L | 260 = | 260 = | NA | 270 = | NA | 280 = | NA |
| Chloride | mg/L | 29 = | 27 = | NA | 18 = | NA | 19 = | NA |
| Hardness (As CaCO3) | mg/L | 310 J | 300 = | NA | 310 = | NA | 310 = | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | 3.2 J | 3 J | NA | 0.15 U | NA | 0.15 U | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | 12 = | 15 = | NA | 14 = | NA | 11 = | NA |
| Total Organic Carbon | mg/L | 2.7 R | 5 = | NA | 4.5 = | NA | 24 = | NA |
| Pentachlorophenol | ug/Kg | 0.16 J | 0.1 = | NA | 0.03 J | NA | 0.035 J | NA |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 0.24 U | 5 U | NA | 5 U | NA | 5 U | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 | MW-26 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water, Dup | Water | Water | Water | Water | Water, Dup | Water, Dup |
| **Sample Collection Date:** | | 09/10/2001 | 05/14/2002 | 05/14/2002 | 08/05/2002 | 08/05/2002 | 08/05/2002 | 08/05/2002 |
| **Field Sample Identification:** | | 01CB28-11 | 02CB14-15 | 02CB14-16 | 02CB18-01 | 02CB18-02 | 02CB18-53 | 02CB18-54 |
| **Laboratory Sample Identification:** | | 913080-017 | 02052485-19 | 02052485-23 | 02081571-3 | 02081571-4 | 02081571-1 | 02081571-2 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.44 U | 1 UJ | NA | 1 U | NA | 1 U | NA |
| Ethylbenzene | ug/L | 0.5 U | 5 U | NA | 5 U | NA | 5 U | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | 2.5 U | NA | 2.5 U | NA |
| O-Xylene | ug/L | NA | NA | NA | 2.5 U | NA | 2.5 U | NA |
| Toluene | ug/L | 0.4 U | 5 U | NA | 5 U | NA | 5 U | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1.2 U | 5 U | NA | 5 U | NA | 5 U | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26FIL | MW-26FIL | RW-01 | RW-01 | RW-01 | RW-01 | RW-01 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Soil | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 01/10/2001 | 01/10/2001 | 10/09/1997 | 04/23/2001 | 09/11/2001 | 09/28/2001 | 09/28/2001 |
| **Field Sample Identification:** | | 01CB01-62S | 01CB01-62W | 98ZR01-01 | 01CB07-62 | 01CB28-27 | 01CB28-53 | 01CB28-59 |
| **Laboratory Sample Identification:** | | 210107206 | 210107202 | 26300*15 | 210419612 | 913080-032 | 210916201 | 913316-001 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 12 = | 1.6 = | 1 U | 0.1 U | 0.071 J | 0.1 UJ | 0.05 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | NA | NA | 5.3 U | 0.26 U | NA | NA |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | MW-26FIL | MW-26FIL | RW-01 | RW-01 | RW-01 | RW-01 | RW-01 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Soil | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 01/10/2001 | 01/10/2001 | 10/09/1997 | 04/23/2001 | 09/11/2001 | 09/28/2001 | 09/28/2001 |
| **Field Sample Identification:** | | 01CB01-62S | 01CB01-62W | 98ZR01-01 | 01CB07-62 | 01CB28-27 | 01CB28-53 | 01CB28-59 |
| **Laboratory Sample Identification:** | | 210107206 | 210107202 | 26300*15 | 210419612 | 913080-032 | 210916201 | 913316-001 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | 5 U | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | 5 U | NA | NA | NA |
| Benzene | ug/L | NA | NA | NA | 0.5 U | 0.44 U | NA | NA |
| Ethylbenzene | ug/L | NA | NA | NA | 5 U | 0.5 U | NA | NA |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | 5 U | NA | NA | NA |
| O-Xylene | ug/L | NA | NA | NA | 5 U | NA | NA | NA |
| Toluene | ug/L | NA | NA | NA | 5 U | 0.4 U | NA | NA |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | 10 U | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | NA | NA | 1.2 U | NA | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-01 | RW-01 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 05/14/2002 | 08/06/2002 | 10/09/1997 | 10/09/1997 | 10/24/1997 | 04/08/1998 | 04/24/2001 |
| **Field Sample Identification:** | | 02CB14-17 | 02CB18-55 | 98ZR01-02 | 98ZR01-24 | 98ZR01-67 | 98ZR02-58 | 01CB07-80 |
| **Laboratory Sample Identification:** | | 02052485-14 | 02081721-5 | 26300*16 | 26300*17 | 26341*5 | 26951*6 | 210420904 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 0.23 = | 0.04 = | 0.9 J | 2 = | 1 U | 1 U | 0.1 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | 5 U | NA | NA | NA | NA | 5.4 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-01 | RW-01 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water, Dup | Water | Water | Water |
| **Sample Collection Date:** | | 05/14/2002 | 08/06/2002 | 10/09/1997 | 10/09/1997 | 10/24/1997 | 04/08/1998 | 04/24/2001 |
| **Field Sample Identification:** | | 02CB14-17 | 02CB18-55 | 98ZR01-02 | 98ZR01-24 | 98ZR01-67 | 98ZR02-58 | 01CB07-80 |
| **Laboratory Sample Identification:** | | 02052485-14 | 02081721-5 | 26300*16 | 26300*17 | 26341*5 | 26951*6 | 210420904 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 UJ | 1 U | NA | NA | NA | NA | 0.1 U |
| Ethylbenzene | ug/L | 5 U | 5 U | NA | NA | NA | NA | 1 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | NA | NA | NA | 2 U |
| O-Xylene | ug/L | NA | NA | NA | NA | NA | NA | 1 U |
| Toluene | ug/L | 2 J | 5 U | NA | NA | NA | NA | 1 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 2 J | 5 U | NA | NA | NA | NA | 1 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water, Dup | Water | Water, Dup | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 09/28/2001 | 09/28/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 01CB28-28 | 01CB28-54 | 01CB28-55 | 01CB28-60 | 01CB28-61 | 02CB14-18 | 02CB18-57 |
| **Laboratory Sample Identification:** | | 913080-033 | 210916202 | 210916203 | 913316-002 | 913316-003 | 02052485-15 | 02081721-2 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 9.5 = | 0.1 UJ | 0.1 UJ | 0.05 U | 0.05 U | 0.1 = | 0.04 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 0.25 U | NA | NA | NA | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 | RW-02 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water, Dup | Water | Water, Dup | Water | Water |
| **Sample Collection Date:** | | 09/11/2001 | 09/28/2001 | 09/28/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 01CB28-28 | 01CB28-54 | 01CB28-55 | 01CB28-60 | 01CB28-61 | 02CB14-18 | 02CB18-57 |
| **Laboratory Sample Identification:** | | 913080-033 | 210916202 | 210916203 | 913316-002 | 913316-003 | 02052485-15 | 02081721-2 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 0.44 U | NA | NA | NA | NA | 1 UJ | 1 U |
| Ethylbenzene | ug/L | 0.5 U | NA | NA | NA | NA | 5 U | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Toluene | ug/L | 0.4 U | NA | NA | NA | NA | 5 U | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 1.2 U | NA | NA | NA | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-02 | RW-03 | RW-03 | RW-03 | RW-03 | RW-03 | RW-03 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 10/09/1997 | 09/11/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 02CB18-99 | 98ZR01-03 | 01CB28-25 | 01CB28-56 | 01CB28-62 | 02CB14-19 | 02CB18-59 |
| **Laboratory Sample Identification:** | | 02081721-3 | 26300*18 | 913080-030 | 210916204 | 913316-004 | 02052485-16 | 02081721-6 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 0.04 U | 1 U | 0.1 J | 0.1 UJ | 0.05 U | 0.094 J | 0.04 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | 5 U | NA | 0.28 U | NA | NA | 5 U | 5 U |

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# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-02 | RW-03 | RW-03 | RW-03 | RW-03 | RW-03 | RW-03 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 08/06/2002 | 10/09/1997 | 09/11/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 02CB18-99 | 98ZR01-03 | 01CB28-25 | 01CB28-56 | 01CB28-62 | 02CB14-19 | 02CB18-59 |
| **Laboratory Sample Identification:** | | 02081721-3 | 26300*18 | 913080-030 | 210916204 | 913316-004 | 02052485-16 | 02081721-6 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Benzene | ug/L | 1 U | NA | 0.44 U | NA | NA | 1 UJ | 1 U |
| Ethylbenzene | ug/L | 5 U | NA | 0.5 U | NA | NA | 5 U | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Toluene | ug/L | 5 U | NA | 0.4 U | NA | NA | 5 U | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | 5 U | NA | 1.2 U | NA | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/09/1997 | 04/23/2001 | 09/11/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 98ZR01-04 | 01CB07-61 | 01CB28-26 | 01CB28-57 | 01CB28-63 | 02CB14-20 | 02CB18-61 |
| **Laboratory Sample Identification:** | | 26300*19 | 210419611 | 913080-031 | 210916205 | 913316-005 | 02052485-17 | 02081721-1 |
| **Parameter** | **Units** | | | | | | | |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/ml | NA | NA | NA | NA | NA | NA | NA |
| Carbon Dioxide | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Ethene | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Methane | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Copper, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Iron, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Alkalinity, Total | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Chloride | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Moisture, Percent | percent | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfide | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Sulfate | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Total Organic Carbon | mg/L | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | ug/Kg | 1 U | 0.1 U | 0.073 J | 0.1 UJ | 0.05 U | 0.13 = | 0.04 U |
| Pentachlorophenol | ug/L | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | ug/L | NA | 5 U | 0.25 U | NA | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA | PENTA |
| **Field Sample Location:** | | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 | RW-04 |
| **Sample Interval:** | | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| **Matrix:** | | Water | Water | Water | Water | Water | Water | Water |
| **Sample Collection Date:** | | 10/09/1997 | 04/23/2001 | 09/11/2001 | 09/28/2001 | 09/28/2001 | 05/14/2002 | 08/06/2002 |
| **Field Sample Identification:** | | 98ZR01-04 | 01CB07-61 | 01CB28-26 | 01CB28-57 | 01CB28-63 | 02CB14-20 | 02CB18-61 |
| **Laboratory Sample Identification:** | | 26300*19 | 210419611 | 913080-031 | 210916205 | 913316-005 | 02052485-17 | 02081721-1 |
| **Parameter** | **Units** | | | | | | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | 5 U | NA | NA | NA | NA | NA |
| 1,3,5-Trimethylbenzene | ug/L | NA | 5 U | NA | NA | NA | NA | NA |
| Benzene | ug/L | NA | 0.5 U | 0.44 U | NA | NA | 1 UJ | 1 U |
| Ethylbenzene | ug/L | NA | 5 U | 0.5 U | NA | NA | 5 U | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 5 U | NA | NA | NA | NA | NA |
| O-Xylene | ug/L | NA | 5 U | NA | NA | NA | NA | NA |
| Toluene | ug/L | NA | 5 U | 0.4 U | NA | NA | 5 U | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | 10 U | NA | NA | NA | NA | NA |
| Xylenes (Total) | ug/L | NA | NA | 1.2 U | NA | NA | 5 U | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | |
|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA |
| **Field Sample Location:** | | RW-05 | RW-05 |
| **Sample Interval:** | | N/A | N/A |
| **Matrix:** | | Water | Water |
| **Sample Collection Date:** | | 10/15/1997 | 04/23/2001 |
| **Field Sample Identification:** | | 98ZR01-65 | 01CB07-63 |
| **Laboratory Sample Identification:** | | 26308*24 | 210419613 |
| **Parameter** | **Units** | | |
| Sulfide | mg/L | NA | NA |
| Ethane | ug/L | NA | NA |
| Ethene | ug/L | NA | NA |
| Methane | ug/L | NA | NA |
| Methane | ug/ml | NA | NA |
| Carbon Dioxide | ug/L | NA | NA |
| Ethane | ug/L | NA | NA |
| Ethene | ug/L | NA | NA |
| Methane | ug/L | NA | NA |
| Arsenic | ug/L | NA | NA |
| Arsenic, Dissolved | ug/L | NA | NA |
| Copper | ug/L | NA | NA |
| Copper, Dissolved | ug/L | NA | NA |
| Iron | ug/L | NA | NA |
| Iron, Dissolved | ug/L | NA | NA |
| Manganese | ug/L | NA | NA |
| Manganese, Dissolved | ug/L | NA | NA |
| Zinc | ug/L | NA | NA |
| Zinc, Dissolved | ug/L | NA | NA |
| Alkalinity, Total | mg/L | NA | NA |
| Chloride | mg/L | NA | NA |
| Hardness (As CaCO3) | mg/L | NA | NA |
| Moisture, Percent | percent | NA | NA |
| Nitrogen, Ammonia (As N) | mg/L | NA | NA |
| Nitrogen, Nitrite | mg/L | NA | NA |
| Nitrogen, Nitrate (As N) | mg/L | NA | NA |
| Nitrogen, Nitrate-Nitrite | mg/L | NA | NA |
| Sulfide | mg/L | NA | NA |
| Sulfate | mg/L | NA | NA |
| Total Organic Carbon | mg/L | NA | NA |
| Pentachlorophenol | ug/Kg | 1 U | 0.1 U |
| Pentachlorophenol | ug/L | NA | NA |
| Naphthalene | ug/L | NA | 5 U |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

# Penta Wood Products
# Historical Groundwater Sampling
# Analytical Results

| | | | |
|---|---|---|---|
| **Field Site Identifier:** | | PENTA | PENTA |
| **Field Sample Location:** | | RW-05 | RW-05 |
| **Sample Interval:** | | N/A | N/A |
| **Matrix:** | | Water | Water |
| **Sample Collection Date:** | | 10/15/1997 | 04/23/2001 |
| **Field Sample Identification:** | | 98ZR01-65 | 01CB07-63 |
| **Laboratory Sample Identification:** | | 26308*24 | 210419613 |
| **Parameter** | **Units** | | |
| 1,2,4-Trimethylbenzene | ug/L | NA | 5 U |
| 1,3,5-Trimethylbenzene | ug/L | NA | 5 U |
| Benzene | ug/L | NA | 0.5 U |
| Ethylbenzene | ug/L | NA | 5 U |
| M,P-Xylene (Sum Of Isomers) | ug/L | NA | 5 U |
| O-Xylene | ug/L | NA | 5 U |
| Toluene | ug/L | NA | 5 U |
| Trimethylbenzene (Total) | ug/L | NA | 10 U |
| Xylenes (Total) | ug/L | NA | NA |

*QUALIFIER KEY: "U" - Analyte not found at the listed detection limit; "J" - Estimated Result; "B" - Analyte detected in Blank; "=" - Analyte found; "R" - Rejected; "NA" - Not Analyzed*

Attachment 2

# Groundwater Contour Maps
# Groundwater Elevations and Observations
# Oil Measurements

I:\141158\CAD\DRAWINGS\RI\ pw_2003-pcp_1000 in gw fig01.dgn 09-FEB-2004

N

0 100' 200'

N 2200
N 2000
N 1800
N 1600
N 1400
N 1200
N 1000
N 800
N 600

E 400 E 600 E 800 E 1000 E 1200 E 1400 E 1600 E 1800 E 2000 E 2200 E 2400 E 2600

INFILTRATION BASIN

EXISTING TREATMENT BUILDING

PROPOSED LOCATION OF NEW TREATMENT BUILDING

NEW ROAD

DANIELS 70

PROPERTY BOUNDARY

CAMU OUTLINE

MW 11
*0.04 U*
**0.091**
**1 U**
**0.11 U**

MW-08
*0.04 U*
**0.062**
**1 U**
**0.11 U**

MW26
*0.03*
**0.16**
**NT**
**0.11 U**

MW 17
*0.032*
**0.059**
**5**
**0.46**

MW24

MW 7
*0.03*
**0.083**
**1 U**
**0.044 J**

MW 20
*30,000*
**83,000**
**29,000**
**13000**

MW 16
*0.035*
**0.17**
**1 U**
**0.089 J**

MW 12
*64,000*
**18,000**
**13,000**
**10000**

MW 13
*0.64*
**0.69**
**0.7**
**2.9**

MW23
*NT*
**0.49**
**NT**
**NT**

MW
**2.3**

EW11

MW 10
*22,000*
**21,000**
**82,000**
**9000**

EW02

SG04

MW 10S
*390*
**82,000**
**30,000**
**2200**

EW03

EW05

SG05

EW10

MW 14

EW04

EW06

MW 2
*0.12*
**0.51**
**1 U**
**0.28**

MW 5
*510*
**63,000**
**28,000**
**1100**

MW 18
*NT*
**NT**
**27,000**
**NT**

MW 19
*11,000*
**400,000**
**19,000**
**15000**

MW 1
*0.067*
**0.5**
**NT**
**0.13**

SG07

MW 6

SG06

BV08

SG22

BV09

EW07

MW22
*0.078*
**NT**
**NT**
**0.34**

PW 01
*NT*
**NT**
**6**

MW 6S
*88*
**1.1**
**1.1**
**0.33**

MW 4
*NT*
**NT**
**1 U**
**NT**

MW21
*0.035*
**NT**
**NT**
**0.063 J**

MW 3
*0.11*
**0.092**
**1 U**
**0.31**

MW 15
*0.04 U*
**0.77**
**1 U**
**0.1 U**

LEGEND

| | |
|---|---|
| EW11 | EXTRACTION WELL NEST |
| BV09 | BIOVENTING WELL NEST |
| SG05 | SOIL GAS WELL NEST |
| | UNCONFINED MONITORING WELL LOCATION |
| | SEMICONFINED MONITORING WELL LOCATION |
| **0.044 J** | PCP CONCENTRATIONS IN GROUNDWATER ( 2003) |
| *0.03* | PCP CONCENTRATIONS IN GROUNDWATER (AUGUST, 2002) |
| **0.083** | PCP CONCENTRATIONS IN GROUNDWATER (SEPTEMBER, 2001) |
| **1 U** | PCP CONCENTRATIONS IN GROUNDWATER (1997) |
| NT | NOT TESTED FOR OR NOT DETECTED |
| ---·--- | APPROXIMATE EXTENT OF 1000 ug/L PCP CONCENTRATIONS, 2003 |
| ——— | APPROXIMATE EXTENT OF 1000 ug/L PCP CONCENTRATIONS, 2002 |
| — — — | APPROXIMATE EXTENT OF 1000 ug/L PCP CONCENTRATIONS, 2001 |
| ——·—— | APPROXIMATE EXTENT OF 1000 ug/L PCP CONCENTRATIONS, 1997 |

FIGURE 1
PENTACHLOROPHENOL
CONCENTRATION CONTOURS
2003, 2002, 2001, AND 1997

CH2MHILL

I:\141158\CAD\DRAWINGS\RI\ pw_082002-pcp in gw fig01.dgn 09-FEB-2004

N

0 100' 200'

N 2200
N 2000
N 1800
N 1600
N 1400
N 1200
N 1000
N 800
N 600

E 400
E 600
E 800
E 1000
E 1200
E 1400
E 1600
E 1800
E 2000
E 2200
E 2400
E 2600

INFILTRATION BASIN

PROPOSED LOCATION OF NEW TREATMENT BUILDING

NEW ROAD

EXISTING TREATMENT BUILDING

PROPERTY BOUNDARY

CAMU OUTLINE

DANIELS 70

MW 11
*0.04 U*
**0.091**
**1 U**
**0.11 U**

MW-08
*0.04 U*
**0.062**
**1 U**
**0.11 U**

MW26
*0.03*
**0.16**
**NT**
**0.11 U**

MW 17
*0.032*
**0.059**
**5**
**0.46**

MW 16
*0.035*
**0.17**
**1 U**
**0.089 J**

MW23
*NT*
**0.49**
**NT**
**NT**

MW 13
*0.64*
**0.69**
**0.7**
**2.9**

MW 9
**2.3**

EW11

MW24

MW 10
*22,000*
**21,000**
**82,000**
**9000**

MW 12
*64,000*
**18,000**
**13,000**
**10000**

EW02

SG04

MW 10S
*390*
**82,000**
**30,000**
**2200**

EW03

EW05

MW 2
*0.12*
**0.51**
**1 U**
**0.28**

MW 5
*510*
**63,000**
**28,000**
**1100**

MW 18
*NT*
**NT**
**27,000**
**NT**

MW 7
*0.03*
**0.083**
**1 U**
**0.044 J**

EW10

SG05

MW 20
*30,000*
**83,000**
**29,000**
**13000**

EW06

MW 14

EW04

MW 1
*0.067*
**0.5**
**NT**
**0.13**

MW 6

SG07

SG06

MW 19
*11,000*
**400,000**
**19,000**
**15000**

BV08

SG22

EW07

MW 4
*NT*
**NT**
**1 U**
**NT**

BV09

MW 6S
*88*
**1.1**
**1.1**
**0.33**

MW21
*0.035*
**NT**
**NT**
**0.063 J**

MW22
*0.078*
**NT**
**NT**
**0.34**

PW 01
*NT*
**NT**
**5**

MW 3
*0.11*
**0.092**
**1 U**
**0.31**

MW 15
*0.04 U*
**0.77**
**1 U**
**0.1 U**

LEGEND

| | |
|---|---|
| EW11 | EXTRACTION WELL NEST |
| BV09 | BIOVENTING WELL NEST |
| SG05 | SOIL GAS WELL NEST |
| ◆ | UNCONFINED MONITORING WELL LOCATION |
| ● | SEMICONFINED MONITORING WELL LOCATION |
| **0.044 J** | PCP CONCENTRATIONS IN GROUNDWATER (2003) |
| *0.03* | PCP CONCENTRATIONS IN GROUNDWATER (AUGUST, 2002) |
| **0.083** | PCP CONCENTRATIONS IN GROUNDWATER (SEPTEMBER, 2001) |
| **1 U** | PCP CONCENTRATIONS IN GROUNDWATER (1997) |
| NT | NOT TESTED FOR OR NOT DETECTED |
| — · — · — | APPROXIMATE EXTENT OF 1.0 ug/L PCP CONCENTRATIONS, 2003 |
| ——— | APPROXIMATE EXTENT OF 1.0 ug/L PCP CONCENTRATIONS, 2002 |
| — — — | APPROXIMATE EXTENT OF 1.0 ug/L PCP CONCENTRATIONS, 2001 |
| — · · — · · | APPROXIMATE EXTENT OF 1.0 ug/L PCP CONCENTRATIONS, 1997 |

FIGURE 2
PENTACHLOROPHENOL
CONCENTRATION CONTOURS
2003, 2002, 2001, AND 1997

CH2MHILL

Penta Wood Products Site
Groundwater Elevations
*May and Sept 2003*

| Well | Casing Dia. (inches) | Aquifer | May-2003 New TOC Elev. (ft MSL) | May-2003 Depth to Water - TOC (ft) | May-2003 GW Elev. (ft MSL) | May-2003 GW Elev Corrected (ft MSL) | May-2003 Comments | Sep-2003 New TOC Elev. (ft MSL) | Sep-2003 Depth to Water - TOC (ft) | Sep-2003 GW Elev. (ft MSL) | Sep-2003 GW Elev Corrected (ft MSL) | Sep-2003 Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-01 | 2 | UC | 1072.32 | 86.3 | 986.02 | | | 1072.32 | 85.4 | 986.92 | | |
| MW-02 | 2 | UC | 1064.85 | 80.21 | 984.64 | | | 1064.85 | 78.31 | 986.54 | | |
| MW-03 | 4 | SC | 1129.5 | 143.79 | 985.71 | | | 1129.5 | 142.81 | 986.69 | | |
| MW-04 | 4 | SC | 1087.81 | 102.69 | 985.12 | | | 1087.81 | 101.85 | 985.96 | | |
| MW-05 | 4 | UC | 1071.73 | 85.97 | 985.76 | | | 1071.73 | 85.26 | 986.47 | | |
| MW-06 | | | | 123.75 | | | | | 122.89 | | | |
| MW-06 S | 2 | UC | 1108.63 | 122.53 | 986.1 | | | 1108.63 | 121.66 | 986.97 | | |
| MW-07 | 4 | SC | 1096.39 | 110.79 | 985.6 | | | 1096.39 | 109.92 | 986.47 | | |
| MW-08 | 4 | SC | 1091.28 | 105.58 | 985.7 | | | 1091.28 | 104.67 | 986.61 | | |
| MW-09 | 2 | UC | 1020.71 | 34.56 | 986.15 | | | 1020.71 | 33.63 | 987.08 | | |
| MW-10 | 4 | SC | 1089.74 | 104.06 | 985.68 | | | 1089.74 | 103.21 | 986.53 | | |
| MW-10 S (a) | 2 | UC | 1090.43 | 104.8 | 985.63 | | | 1090.43 | 103.65 | 986.78 | | |
| MW-11 | 2 | SC | 1085.58 | 100.39 | 985.19 | | | 1085.58 | 99.52 | 986.06 | | |
| MW-12 | 2 | SC | 1081.99 | 96.43 | 985.56 | | | 1081.99 | 95.53 | 986.46 | | |
| MW-13 | 2 | UC | 1006.1 | 20.5 | 985.6 | | | 1006.1 | 19.54 | 986.56 | | |
| MW-14 | 2 | SC | 1078.5 | 93.33 | 985.17 | | | 1078.5 | 92.63 | 985.87 | | |
| MW-15 | 2 | SC | 1127.22 | 141.42 | 985.8 | | | 1127.22 | 140.32 | 986.9 | | |
| MW-16 | 2 | UC | 1081.92 | 95.75 | 986.17 | | | 1081.92 | 94.75 | 987.17 | | |
| MW-17 | 2 | SC | 1084.5 | 98.88 | 985.62 | | | 1084.5 | 97.99 | 986.51 | | |
| MW-18 | 6 | UC | 1072.44 | 86.6 | | 986.09 | | 1072.44 | 85.89 | | 986.83 | DTP 85.57 |
| MW-19 (b) | 2 | UC | 1088.17 | 103.15 | | 985.22 | | 1088.17 | 101.99 | | 986.39 | DTP 101.75 |
| MW-20 (c) | 2 | UC | 1097.76 | 111.77 | 985.99 | | | 1097.76 | 110.95 | | 986.84 | DTP 110.91 |
| MW-21 | 2 | UC | 1095.7 | 109.77 | 985.93 | | | 1095.7 | 108.88 | 986.82 | | |
| MW-22 | 2 | UC | 1084.7 | 98.69 | 986.01 | | | 1084.7 | 97.78 | 986.92 | | |
| MW-23 | 2 | SC | 1017.57 | 32.28 | 985.29 | | | 1017.57 | 31.62 | 985.95 | | |
| MW-24 | 2 | UC | 1084.1 | 98.31 | 985.79 | | | 1084.1 | 97.33 | 986.77 | | |
| MW-25 | 2 | UC | 1095.24 | | | | | 1095.24 | | | | |
| MW-26 | 2 | UC | 1087.07 | 101.5 | 985.57 | | | 1087.07 | 100.6 | 986.47 | | |
| PW-01 | 4 | | | | | | | | | | | |
| PZ-03 | 2 | | | | | | | | | | | |

(a) MW-10S LNAPL thickness
(b) MW-19 LNAPL thickness
(c) MW-20 LNAPL thickness
UC Unconfined aquifer
SC Semiconfined aquifer

Attachment 3

# Natural Attenuation Data

Penta Wood Products Site
Natural Attenuation Trend Data
*Anuual Groundwater Sampling*

| Well | Sample Date | Temp. (C) | Specific Cond. (umhos/cm²) | DO (mg/L) | DO (%) | pH | ORP (mV) | Nitrate (mg/L) | Dissolved Manganese (mg/L) | Dissolved Iron (mg/L) | Sulfate (mg/L) | Methane (mg/L) | PCP (ug/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DW-01 | 09/24/2003 | | | | | | | 1.48 | <0.005 | <0.05 | <2 | <0.5 | <0.05 | 66.9 |
| MW-01 | 10/09/1997 | 8.46 | 475 | 11.23 | 96.2 | 7.32 | 171.0 | 6.5 | NT | <0.02 | 6.3 | <0.01 | 2.0 | 18 |
| MW-01 | 04/05/2000 | 8.56 | 416 | 10.34 | 86.5 | 7.14 | 290.6 | 1.6 | <0.002 | <0.05 | 2.5 | 0.0003 | <0.5 | 8.7 |
| MW-01 | 04/24/2001 | 8.69 | 431 | 9.83 | 84.6 | 7.08 | 168.7 | 6.5 | <0.015 | <0.025 | 13.0 | <0.00011 | <0.1 | 24 |
| MW-01 | 09/11/2001 | 10.18 | 370 | 10.63 | NR | 7.00 | 235.8 | 2.6 | 0.001 | <0.035 | <8.2 | <0.01 | 0.5 | 10 |
| MW-01 | 05/14/2002 | 8.89 | 541 | 9.68 | 83.6 | 7.17 | 113.7 | 2.7 | 0.005 | <0.011 | 7.8 | | 0.1 | 9 |
| MW-01 | 08/06/2002 | 8.82 | 439 | NR | 89.2 | 7.33 | 241.1 | <0.15 | 0.00095 B | <0.011 | 7.9 | <0.01 | 0.1 | 7 |
| MW-01 | 04/29/2003 | 9.03 | 383 | 3.03 | 26.5 | 7.13 | 151.8 | 2.6 | <0.005 UJ | <0.025 | 10.0 | <0.0005 | <0.1 UJ | 4.3 |
| MW-01 | 09/24/2003 | 9.22 | 349 | 10.23 | 89.2 | 7.16 | 322.6 | 2.61 | 0.036 | 0.1 J | <2 | <0.0005 | 0.1 | 3.3 |
| MW-02 | 10/09/1997 | 9.49 | 143 | 8.82 | 77.2 | 6.42 | 274.1 | 1.1 | NT | <0.02 | 17.0 | <0.01 | <1.0 | 4 |
| MW-02 | 04/05/2000 | 9.47 | 111 | 9.59 | 81.4 | 6.85 | 305.8 | <0.1 | 0.003 | <0.05 | 58.3 | 0.0003 | <0.5 | 1 |
| MW-02 | 09/12/2001 | 12.00 | 172 | 11.50 | 99.8 | 7.62 | 96.9 | 2.3 | 0.057 | <0.035 | 10 | <0.01 | 0.51 | 6.2 |
| MW-02 | 08/06/2002 | 9.96 | 128 | 6.31 | NR | 5.41 | 380.5 | <0.15 | 0.018 | 0.0 | 10.0 | <0.01 | 0.1 | 3 |
| MW-02 | 09/24/2003 | 9.85 | 172 | 7.07 | 62.8 | 6.19 | 326.2 | 2.02 | 0.443 | 3.03 | 3 J | <0.0005 | 0.28 | 1 J |
| MW-03 | 10/08/1997 | 10.34 | 696 | 3.52 | 31.5 | 6.91 | 38.4 | 4.4 | 0.011 | 0.3 | 16.0 | <0.01 | <1.0 | 42 |
| MW-03 | 04/04/2000 | | Parameters not recorded. | | | | | 2.8 | 0.010 | 0.5 | 12.5 | 0.0016 | <0.6 | 64 |
| MW-03 | 04/25/2001 | 10.27 | 1039 | 3.77 | 33.8 | 6.83 | 169.1 | 4.42 | 0.008 | 0.1 | 11.0 | NT | <0.11 | 47 |
| MW-03 | 09/13/2001 | 11.53 | 1118 | 16.44 | NR | 6.93 | 99.0 | 4 | 0.031 | 0.9 | 14.0 | <0.01 | 0.093 | 58 |
| MW-03 | 08/07/2002 | 10.36 | 1007 | 4.50 | NR | 6.74 | 165.1 | <0.15 | 0.011 | 0.2 | 16.0 | <0.01 | 0.1 | 69 |
| MW-03 | 09/23/2003 | 10.32 | 873 | 5.68 | 50.9 | 7.06 | 147.3 | 4.43 | 0.008 J | <0.001 | <2 | 0.0025 | 0.31 | 52.4 |
| MW-04 | 10/09/1997 | 9.61 | 228 | 1.09 | 8.0 | 8.41 | -137.9 | <0.1 | NT | 0.04 | 6.3 | 0.139 | <1.0 | 7.3 |
| MW-04 | 04/04/2000 | 9.43 | 237 | 1.38 | NR | 8.49 | NR | <0.1 | 0.047 | <0.05 | 10.8 | 0.0008 | <0.5 | 9.6 |
| MW-05 | 10/10/1997 | 10.68 | 887 | 0.38 | 3.4 | 6.24 | 28.8 | <0.1 | NT | 4.9 | 15.0 | <0.01 | 28000.0 | 50 |
| MW-05 | 04/07/2000 | 8.76 | 737 | 4.81 | 39.3 | 6.03 | 119.4 | <0.1 | 3.350 | 3.4 | 34.3 | 0.0009 | 20600.0 | 49 |
| MW-05 | 04/26/2001 | 12.29 | 1018 | 3.71 | 36.0 | 6.40 | -39.7 | <0.13 | 11.300 | 7.6 | 28.0 | NT | 20600.0 | 42 |
| MW-05 | 09/13/2001 | 11.45 | 698 | 10.19 | 97.0 | 6.80 | -68.6 | 0.17 | 8.500 | 4.1 | 22.0 | <0.01 | 6300 | 29 |
| MW-05 | 08/07/2002 | 11.80 | 589 | 5.02 | NR | 6.15 | 35.2 | <0.15 | 7.840 | 7.9 | 21.0 | | 510.0 | 26 |
| MW-05 | 09/25/2003 | 10.60 | 559 | 2.99 | 27.0 | 6.54 | -21.3 | <0.05 | 8.320 | 13.4 | 20.0 | 0.00047 J | 1100.0 | 22.1 |
| MW-06S | 10/09/1997 | 11.26 | 792 | 5.25 | 48.0 | 6.21 | 232.1 | 4.5 | NT | 0.02 | 0.9 | <0.01 | <1.0 | 72 |
| MW-06S | 04/07/2000 | | Well sampled for VOCs only. | | | | | | | | | | | |
| MW-06S | 04/26/2001 | 12.03 | 453 | 2.78 | 26.7 | 5.92 | 142.2 | 0.87 | 0.347 | <0.025 | 12 | NT | 3 | 14 |
| MW-06S | 09/12/2001 | | Not collected due to product in the well. | | | | | 1.1 | 0.8 | <0.035 | 16 | <0.01 | 1.1 | 12 |
| MW-06S | 08/07/2002 | 12.75 | 583 | NR | 41.4 | 6.08 | 77.8 | <0.15 | 1.790 | 3.33 | 18 | 0.2700 | 88 B | 17 |
| MW-06S | 09/25/2003 | | Not collected due to product in the well. | | | | | 1.01 | 0.961 | 1.10 | 17 | 0.1300 | 0.33 | 23.9 |

Penta Wood Products Site
Natural Attenuation Trend Data
*Anuual Groundwater Sampling*

| Well | Sample Date | Temp. (C) | Specific Cond. (umhos/cm²) | DO (mg/L) | DO (%) | pH | ORP (mV) | Nitrate (mg/L) | Dissolved Manganese (mg/L) | Dissolved Iron (mg/L) | Sulfate (mg/L) | Methane (mg/L) | PCP (ug/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-07 | 10/14/1997 | 10.13 | 709 | 8.2 | 73.0 | 6.86 | 6.0 | 4.9 | NT | 0.62 | 6.0 | <0.01 | <1.0 | 7.6 |
| MW-07 | 04/04/2000 | 9.87 | 693 | 5.8 | 51.5 | 7.01 | 156.1 | 2.7 | 0.026 | 0.36 | 6.1 | 0.004 | <0.5 | 4.8 |
| MW-07 | 04/25/2001 | 12.60 | 721 | 7.5 | 71.2 | 6.89 | 127.5 | 3.6 | 0.007 | 0.15 | 6.5 | 0.0047 | <0.1 | 8.4 |
| MW-07 | 09/11/2001 | 11.04 | 824 | 8.36 | 74.5 | 6.27 | 208 | 3 | 0.0044 | 0.23 | 10 | 0.012 | 0.083 | 23 |
| MW-07 | 08/07/2002 | 12.68 | 812 | NR | 93.7 | 6.71 | 256.3 | <0.15 | 0.004 B | 0.305 | 10 | <0.01 | 0.03 | 21 |
| MW-07 | 09/24/2003 | 10.38 | 680 | 6.85 | 61.6 | 6.90 | 98.7 | 2.97 | <0.005 | 0.09 J | <2 | 0.0049 | 0.044 J | 12.2 |
| MW-08 | 10/14/1997 | 9.73 | 363 | 4.28 | 37.2 | 7.93 | 12.2 | 1.4 | NT | 0.148 | 4.5 | 0.0365 | <1.0 | 4.2 |
| MW-08 | 04/05/2000 | 10.07 | 295 | 3.78 | 33.5 | 6.91 | 252.3 | 3.5 | 0.0053 | <0.05 | 6.5 | 0.0072 | <0.5 | 6.26 |
| MW-08 | 04/26/2001 | 11.08 | 358 | 5.5 | 52.3 | 7.94 | 151.3 | 1.52 | 0.027 | <0.025 | 7.47 | 0.0116 | 0.2 | 3.25 |
| MW-08 | 09/11/2001 | 10.49 | 386 | 4.08 | NR | 7.77 | 29.3 | 1.5 | 0.018 | 0.07 | <7.6 | <0.01 | 0.062 | 3.8 |
| MW-08 | 08/08/2002 | 11.80 | 375 | NR | 75.2 | 7.56 | 160.9 | <0.15 | 0.0053 B | 0.011 B | 6 | <0.01 | <0.04 | 4.2 |
| MW-08 | 09/25/2003 | 10.67 | 414 | 6.2 | 57.8 | 7.79 | 125.4 | 2.6 | 0.006 J | <0.05 | <2 | 0.0092 | <0.11 | 11 |
| MW-09 | 10/08/1997 | 10.59 | 171 | 6.3 | 54.9 | 5.63 | 217.6 | 4.2 | NT | <0.0001 | 3.4 | <0.01 | <1.0 | 45 |
| MW-09 | 04/05/2000 | 9.65 | 153 | 6.36 | 44.7 | 5.78 | 321.7 | 1.97 | 0.0217 | <0.05 | 8.46 | 0.000396 | 0.6 | 3.15 |
| MW-09 | 04/23/2001 | 9.62 | 172 | 5.21 | 43.1 | 5.72 | 162.7 | 2.46 | 0.034 | <0.025 | 27 | <0.00012 | 0.12 | 3.22 |
| MW-09 | 09/12/2001 | 11.23 | 206 | 5.75 | NR | 5.54 | 309.8 | 3.3 | 0.016 | 0.11 | <6.8 | <0.01 | 0.76 | 6.5 |
| MW-09 | 08/06/2002 | 9.21 | 253 | 1.96 | 17.3 | 5.27 | 391.9 | <0.15 | 0.0063 B | <0.011 | 22 | <0.01 | 0.54 | 11 |
| MW-09 | 09/25/2003 | 9.22 | 206 | 3.53 | 34.3 | 5.62 | 278.7 | 2.36 | 0.016 | 0.24 | 24 | <0.0005 | 2.3 | 4.4 |
| MW-10 | 10/15/1997 | 10.88 | 803 | 0.38 | 3.4 | 6.83 | -33.2 | 4.9 | NT | 0.00219 | 13 | 0.0135 | 3400 | 35 |
| MW-10 | 04/06/2000 | 10.76 | 988 | 0.47 | 4.2 | 6.82 | 27.4 | 1.72 | 1.59 | 0.1159 | 13.8 | 0.003067 | 9530 | 55.9 |
| MW-10 | 04/26/2001 | 12.31 | 1029 | 4.52 | 42.8 | 6.89 | -103.5 | 0.18 | 2.38 | 5.65 | 22 | NT | 22800 | 48 |
| MW-10 | 09/12/2001 | 11.18 | 1188 | 6.55 | 63.1 | 6.89 | -71.1 | 0.13 | 3.2 | 2.4 | 23 | <0.01 | 21000 | 61 |
| MW-10 | 08/07/2002 | 14.24 | 1010 | NR | 60.9 | 6.30 | -147.8 | <0.15 | 2.54 | 10.7 | 20 | 0.011 | 22000 | 56 |
| MW-10 | 10/01/2003 | | | | | | | <0.05 | 1.85 | 2.59 | 3 | 0.00062 | 9000 | 22 |
| MW-10S | 10/15/1997 | 13.18 | 339 | 10.49 | 100 | 7.55 | 135.6 | <0.1 | NT | 0.0000454 | 23 | <0.01 | 12000 | 38 |
| MW-10S | 04/07/2000 | 9.41 | 599 | 5.02 | 41.5 | 6.37 | 331.6 | <100 | 10.1 | <0.05 | 138 | 0.001567 | 56100 | 53 |
| MW-10S | 04/25/2001 | | Not collected due to product in the well. | | | | | 1.5 | 6.03 | 11.30 | 8.6 | 0.0006 | 49000 | 11 |
| MW-10S | 09/12/2001 | | Not collected due to product in the well. | | | | | 4.7 | 7.60 | 0.048 | 13 | <0.01 | 82000 | 10 |
| MW-10S | 08/07/2002 | 13.62 | 431 | NR | 66.1 | 6.31 | 303.8 | 0.11 | 7.07 | 0.0673 | 14 | <0.01 | 390 | 10 |
| MW-10S | 09/25/2003 | | Not collected due to product in the well. | | | | | 3.41 | 5.9 | <0.05 | 2 | <0.0005 | 2200 | 6.7 |

Penta Wood Products Site
Natural Attenuation Trend Data
*Anuual Groundwater Sampling*

| Well | Sample Date | Temp. (C) | Specific Cond. (umhos/cm²) | DO (mg/L) | DO (%) | pH | ORP (mV) | Nitrate (mg/L) | Dissolved Manganese (mg/L) | Dissolved Iron (mg/L) | Sulfate (mg/L) | Methane (mg/L) | PCP (ug/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-11 | 10/15/1997 | 13.98 | 398 | 4.86 | 47.2 | 7.94 | 144.3 | 3.4 | NT | <0.0001 | 12 | <0.01 | <1.0 | 7.5 |
| MW-11 | 04/04/2000 | 13.24 | 427 | 6.57 | 61.9 | 7.80 | 215.5 | 3.09 | <0.002 | <0.05 | 9.41 | 0.000138 | <0.6 | 6.98 |
| MW-11 | 04/04/2001 | 12.98 | 337 | 6.98 | 67.6 | 7.86 | 138.5 | 3.74 | <0.015 | <0.025 | 3.48 | <0.00011 | <0.11 | 6.25 |
| MW-11 | 09/10/2001 | 13.13 | 414 | 9.09 | NR | 7.77 | 100 | 3.1 | 0.00045 | <0.035 | <7.4 | <0.010 | 0.091 | 8 |
| MW-11 | 08/06/2002 | 13.12 | 455 | 5.37 | NR | 7.58 | 240.6 | <0.15 | 0.0012 B | <0.011 | 7.6 | <0.01 | <0.04 | 7.8 |
| MW-11 | 09/23/2003 | 12.66 | 396 | 6.29 | 60.7 | 7.81 | 245.9 | 2.94 | <0.005 | <0.05 | <2 | <0.0005 | <0.11 | 6.7 |
| MW-12 | 10/15/1997 | 10.16 | 1044 | 2.86 | 25 | 6.93 | 41.2 | <0.1 | NT | 0.000267 | 15 | <0.01 | 5000 | 48 |
| MW-12 | 04/06/2000 | 10.10 | 1097 | 0.63 | 5.6 | 6.89 | 169.9 | 0.483 | 1.59 | 0.1128 | 11.9 | 0.001553 | 10300 | 54.5 |
| MW-12 | 04/06/2001 | Parameters not recorded. | | | | | | 0.43 | 1.57 | 0.131 | 16 | 0.048 | 1500 | 48 |
| MW-12 | 09/13/2001 | 11.02 | 1142 | 3.95 | 36.7 | 6.84 | 22.2 | <0.53 | 1.4 | 0.74 | 16 | <0.01 | 18000 | 47 |
| MW-12 | 05/14/2002 | 10.28 | 933 | 0.75 | 7 | 6.72 | 110 | 0.67 | 1.68 | <0.011 | 17 | | 4300 | 40 |
| MW-12 | 08/07/2002 | 12.21 | 920 | NR | 45.9 | 6.69 | 150 | 0.46 | 1.6 | 0.105 | 15 | <0.01 | 6400 | 37 |
| MW-12 | 04/29/2003 | 10.95 | 982 | 5.24 | 47.2 | 6.80 | 126.1 | 0.8 | 1.56 | <0.025 | 20 | <0.05 | 3000 | 31 |
| MW-12 | 09/23/2003 | 10.89 | 864 | 3.07 | 27.8 | 6.62 | 306.1 | 1.17 | 1.53 | <0.05 | <2 | 0.00049 J | 10000 | 30.8 |
| MW-13 | 10/08/1997 | 12.79 | 185 | 6 | 54.1 | 6.19 | 206.7 | 1.3 | 0.000027 | 0.0000067 | 1.4 | <0.01 | 0.7 | 2.7 |
| MW-13 | 04/05/2000 | 9.67 | 189 | 8.29 | 51.5 | 5.49 | 296.7 | <100 | 0.112 | <0.05 | 431 | 0.0003 | 0.8 | 4.4 |
| MW-13 | 04/23/2001 | 9.08 | 140 | 3.44 | 26.8 | 5.59 | 207.9 | 1.8 | 0.110 | <0.025 | 35 | <0.00012 | 0.2 | 3.5 |
| MW-13 | 09/10/2001 | 10.69 | 203 | NR | NR | 5.54 | 196.0 | 2.5 | 0.027 | 0.052 | <7.5 | <0.01 | 0.69 | 5.4 |
| MW-13 | 08/05/2002 | 11.49 | 223 | 5.36 | 48.3 | 5.38 | 333.1 | <0.15 | 0.045 | 1.31 | 8.4 | <0.01 | 0.64 | 6.8 |
| MW-13 | 09/23/2003 | 11.16 | 195 | 3.50 | 32.3 | 5.80 | 317.0 | 1.86 | 0.182 | 0.96 | 7 | <0.0005 | 2.9 | 5.1 |
| MW-14 | 10/09/1997 | 9.32 | 252 | 6.43 | 56.2 | 8.09 | 108.9 | 1.6 | NT | <0.0001 | 2.4 | <0.01 | <1.0 | 8.0 |
| MW-14 | 04/06/2000 | 9.10 | 283 | 6.92 | 60.0 | 7.42 | 257.3 | 2.2 | <0.002 | <0.05 | 4.1 | 0.0002 | <0.5 | 15.7 |
| MW-15 | 10/16/1997 | 9.29 | 409 | 4.49 | 39.1 | 8.22 | 149.8 | 4.1 | NT | 0.00001 | 6.3 | <0.01 | <1 | 6.5 |
| MW-15 | 04/04/2000 | 8.08 | 483 | 10.72 | 85.1 | 7.69 | 284.1 | 3.5 | <0.002 | <0.05 | 10 | 0.0003 | <0.5 | 12.3 |
| MW-15 | 04/25/2001 | 11.79 | 675 | 8.73 | 81.3 | 7.73 | 179.4 | 4.0 | <0.015 | <0.025 | 3 | <0.0001 | <0.11 | 15.0 |
| MW-15 | 09/12/2001 | 9.74 | 548 | 9.80 | NR | 8.00 | 153.3 | 3.7 | 0.000 | <0.035 | <4.5 | <0.01 | 0.077 | 17.0 |
| MW-15 | 08/06/2002 | 10.24 | 508 | NR | 101.4 | 7.72 | 285.7 | <0.15 | <0.00042 | <0.011 | 5 | <0.01 | <0.04 | 16.0 |
| MW-15 | 09/23/2003 | 9.74 | 483 | 9.14 | 81.7 | 7.90 | 213.6 | 3.8 | <0.005 | <0.05 | <2 | <0.0005 | <0.1 | 17.4 |
| MW-16 | 10/14/1997 | 9.86 | 409 | 8.57 | 74.8 | 6.82 | 99.4 | 3.2 | NT | 0.00002 | 8.10 | <0.01 | <1 | 6.1 |
| MW-16 | 04/06/2000 | 9.77 | 169 | 8.16 | 70.0 | 6.63 | 310.9 | 3.9 | 1.69 | <0.05 | 24.1 | <0.001068 | <0.5 | 6.5 |
| MW-16 | 04/26/2001 | 10.46 | 1102 | 4.72 | 43.2 | 6.81 | 75.6 | 8.7 | 0.009 | 0.03 | 29.0 | <0.00012 | <0.11 | 3.6 |
| MW-16 | 09/10/2001 | Parameters not recorded. | | | | | | 5.8 | 0.00082 | <0.035 | 11.0 | <0.01 | 0.17 | 1.8 |
| MW-16 | 08/06/2002 | 11.70 | 247 | 10.86 | NR | 6.11 | 331.3 | <0.15 | 0.0091 B | 0.08 | 13.0 | <0.01 | 0.0 | 2.0 |
| MW-16 | 09/23/2003 | 10.97 | 216 | 10.27 | 93.2 | 6.34 | 349.1 | 3.5 | <0.005 | <0.05 | 3 J | <0.0005 | 0.089 J | 6.2 |

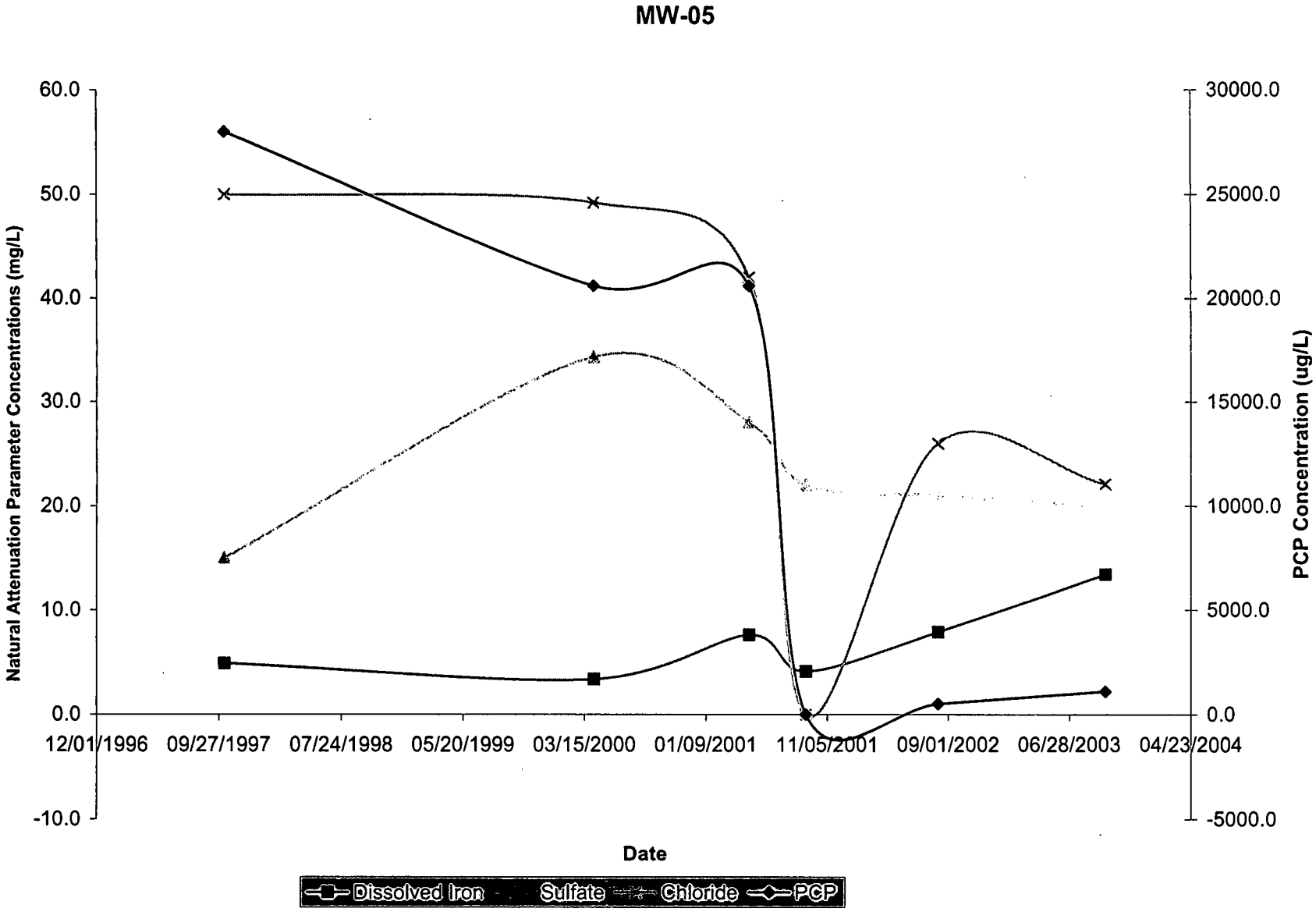
Penta Wood Products Site
Natural Attenuation Trend Data
*Anuual Groundwater Sampling*

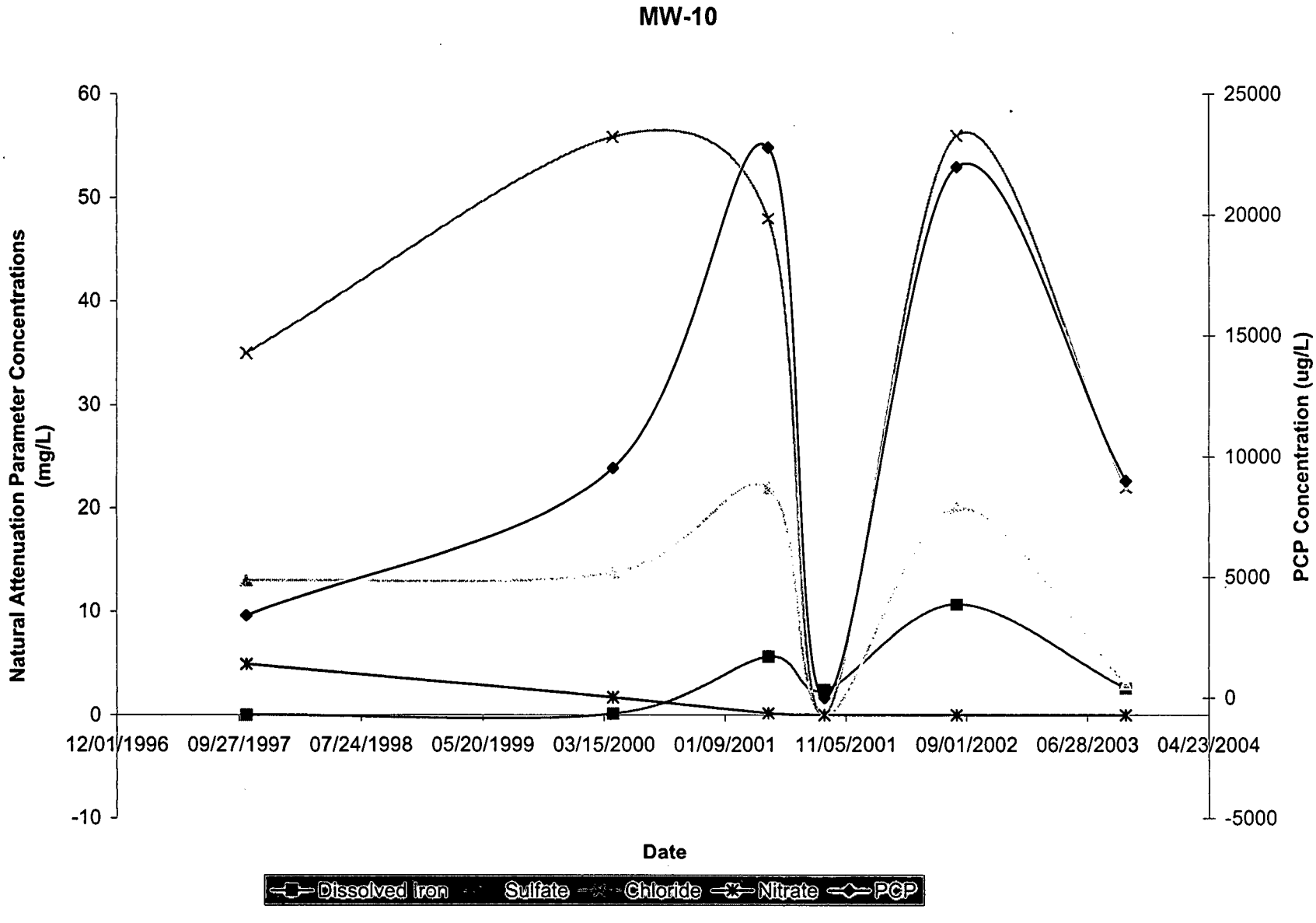
| Well | Sample Date | Temp. (C) | Specific Cond. (umhos/cm²) | DO (mg/L) | DO (%) | pH | ORP (mV) | Nitrate (mg/L) | Dissolved Manganese (mg/L) | Dissolved Iron (mg/L) | Sulfate (mg/L) | Methane (mg/L) | PCP (ug/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-17 | 10/15/1997 | 9.26 | 399 | 4.53 | 39.0 | 7.89 | 147.2 | 4.1 | NT | <0.0001 | 10 | <0.01 | <1 | 4.8 |
| MW-17 | 04/06/2000 | 9.15 | 438 | 4.81 | 41.8 | 7.73 | 254.9 | 4.2 | <0.002 | <0.05 | <3 | 0.0001 | <0.5 | 4.9 |
| MW-17 | 04/26/2001 | 10.38 | 412 | 9.64 | 85.7 | 7.77 | 58.6 | 5.0 | <0.015 | <0.025 | 6.8 | NT | 0.7 | 4.1 |
| MW-17 | 09/11/2001 | 11.44 | 457 | 6.96 | 62.9 | 7.49 | 262 | 4.4 | <0.00027 | 0.31 | <9.3 | <0.01 | <0.059 | 4.8 |
| MW-17 | 08/08/2002 | 12.88 | 425 | NR | 65.8 | 7.64 | 204.5 | <0.15 | <0.00042 | <0.011 | 7.4 | <0.01 | 0.032 | 4.6 |
| MW-17 | 09/25/2003 | 9.80 | 405 | 6.45 | 57.3 | 7.80 | 206 | 5.1 | <0.005 | <0.05 | <2 | <0.0005 | 0.46 | 4.4 |
| MW-18 | 10/10/1997 | 11.51 | 777 | 1.03 | 9.2 | 6.13 | -12.1 | <0.1 | NT | 0.03 | 11.0 | <0.01 | 8800 | 49 |
| MW-19 | 10/16/1997 | 8.43 | 662 | 12.11 | 103.4 | 8.23 | 133.6 | 3.8 | NT | <0.0001 | 19 | <0.01 | 8900 | 47 |
| MW-19 | 04/07/2000 | 7.80 | 650 | 5.02 | 40.3 | 6.75 | 323.2 | 7.0 | <0.002 | <0.05 | 90 | 0.0003 | 11000 | 37.4 |
| MW-19 | 04/07/2001 | Not collected due to product in the well. | | | | | | 3.37 | 1.79 | <0.025 | 47 | NT | 25600 | 39 |
| MW-19 | 09/12/2001 | Not collected due to product in the well. | | | | | | 1.3 | 1.8 | 0.071 | <9.7 | 0.0160 | 400000 | 19 |
| MW-19 | 05/13/2002 | Not collected due to product in the well. | | | | | | 2 | 2.07 | <0.011 | 16 | | 14000 | 33 |
| MW-19 | 08/08/2002 | Not collected due to product in the well. | | | | | | 0.16 | 3.11 | 0.218 | 16 | <0.01 | 11000 | 22 |
| MW-19 | 04/29/2003 | Not collected due to product in the well. | | | | | | 3 | 3.59 | <0.025 | 27 | 0.0024 | 4900 | 20 |
| MW-19 | 09/25/2003 | Not collected due to product in the well. | | | | | | 2 | 4.47 | 0.05 J | 90 | 0.0057 | 15000 | 17.5 |
| MW-20 | 10/15/1997 | Dry. Could not collect parameter sample. | | | | | | NT | NT | NT | NT | <0.01 | 11000 | NT |
| MW-20 | 04/26/2001 | Parameters not recorded. | | | | | | <0.13 | 2.25 | 0.84 | 67 | NT | 36600 | 24 |
| MW-20 | 09/12/2001 | Not collected due to product in the well. | | | | | | 0.15 | 2.8 | <0.035 | 24 | <0.01 | 83000 | 16 |
| MW-20 | 08/07/2002 | Not collected due to product in the well. | | | | | | <0.15 | 3.28 | 0.206 | 25 | <0.01 | 30000 B | 22 |
| MW-20 | 09/25/2003 | Not collected due to product in the well. | | | | | | <1.25 | 3.25 | 0.35 | 80 J | 0.0054 | 13000 | 19.4 J |
| MW-21 | 02/09/1998 | 8.50 | 559 | 8.35 | NT | 7.05 | 177.5 | NT | NT | <0.1 | 9.1 | 0.011 | <1.0 | 71 |
| MW-21 | 05/14/2002 | 9.29 | 457 | 10.66 | 93.5 | 5.86 | 152.0 | 2.0 | | 0.130 | 7.3 | | 0.1 | 69 |
| MW-21 | 08/06/2002 | 10.72 | 444 | NR | 99.0 | 6.79 | 297.6 | <0.15 | 0.00063 B | <0.011 | 9.6 | | 0.0 | 49 |
| MW-21 | 04/29/2003 | 9.91 | 473 | 3.72 | NR | 6.65 | 144.9 | 2.5 | <0.005 | <0.025 | 12.0 | <0.0005 | 0.2 | 41 |
| MW-21 | 09/24/2003 | 9.30 | 491 | 11.13 | 97.7 | 6.74 | 326.0 | 2.6 | <0.005 | <0.05 | <2 | <0.0005 | 0.063 J | 48 |
| MW-22 | 02/09/1998 | 8.70 | 558 | 7.50 | NT | 6.86 | 119.5 | NT | NT | <0.1 | 18 | 0.013 | <1.0 | 56 |
| MW-22 | 05/14/2002 | 9.91 | 423 | 10.25 | 91.3 | 6.77 | 85.5 | 3.7 J | 0.0035 | 0.023 | 14 | | 0.1 | 18 |
| MW-22 | 08/06/2002 | 11.37 | 343 | NR | 101.6 | 6.86 | 323.7 | <0.15 | <0.00042 | 0.025 B | 12 | <0.01 | 0.1 | 7 |
| MW-22 | 09/24/2003 | 9.70 | 303 | 10.92 | 96.4 | 6.89 | 345.4 | 2.2 | 0.542 | 2.77 | 3 J | <0.0005 | 0.3 | 5 |
| MW-23 | 02/27/1998 | 9.63 | 270 | 13.68 | 122.3 | 7.93 | 159.0 | NT | NT | <0.1 | 7.6 | 0.0566 | <1.0 | 8.7 |
| MW-23 | 09/11/2001 | 11.57 | 322 | 3.21 | 28.8 | 7.46 | 112.6 | <0.13 | 0.029 | <0.035 | <8.2 | <0.01 | 0.49 | 10 |
| MW-24 | 02/08/1998 | 13.80 | 524 | 5.35 | NT | 6.62 | 80.0 | NT | NT | <0.1 | 5.2 | <0.01 | <1 | 19 |
| MW-24 | 04/24/2001 | 15.30 | 634 | 3.67 | 34.9 | 6.28 | 209.2 | 3.6 | 0.0024 | <0.025 | 12 | <0.0001 | 0.1 | 36 |

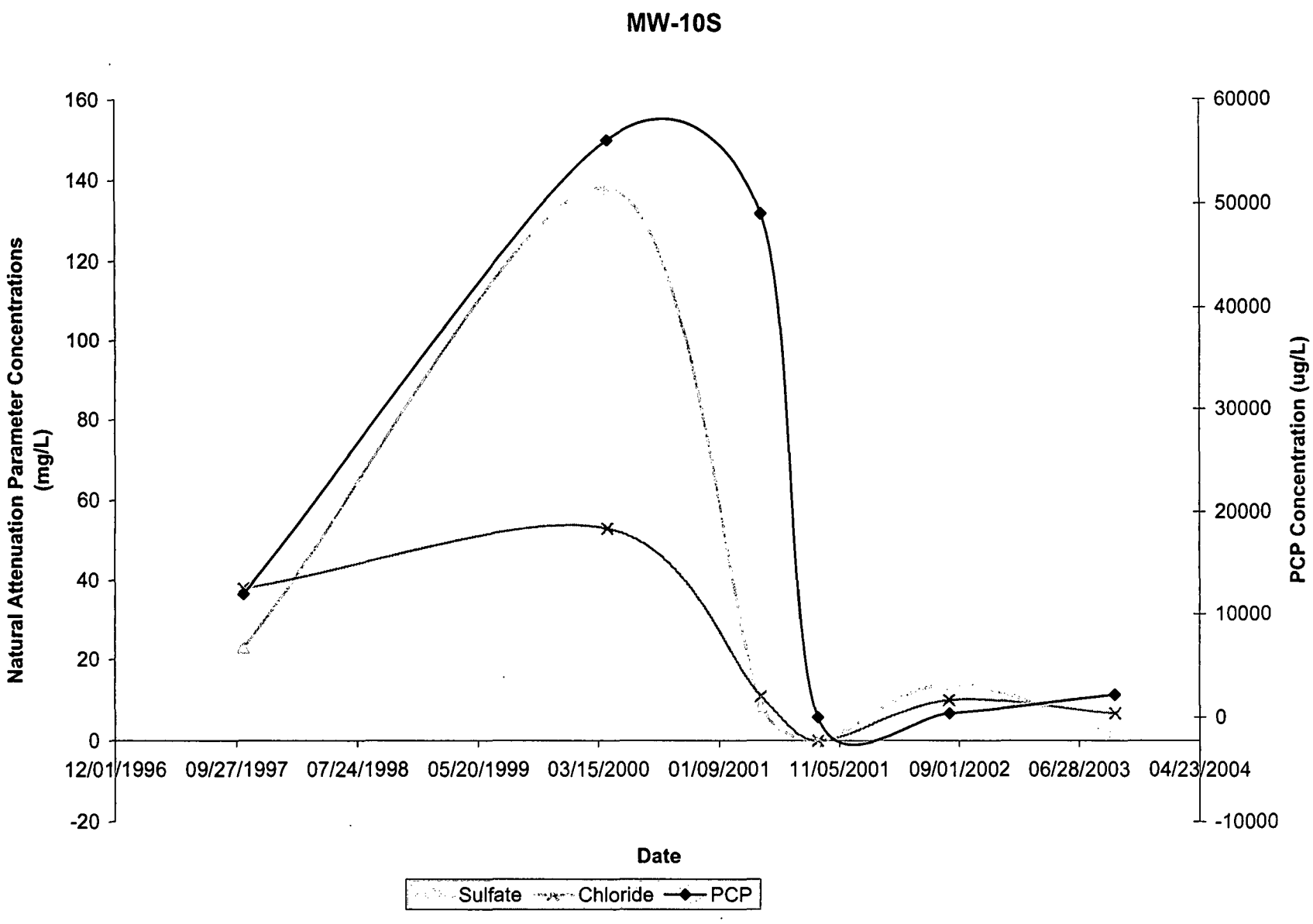
Penta Wood Products Site
Natural Attenuation Trend Data
*Anuual Groundwater Sampling*

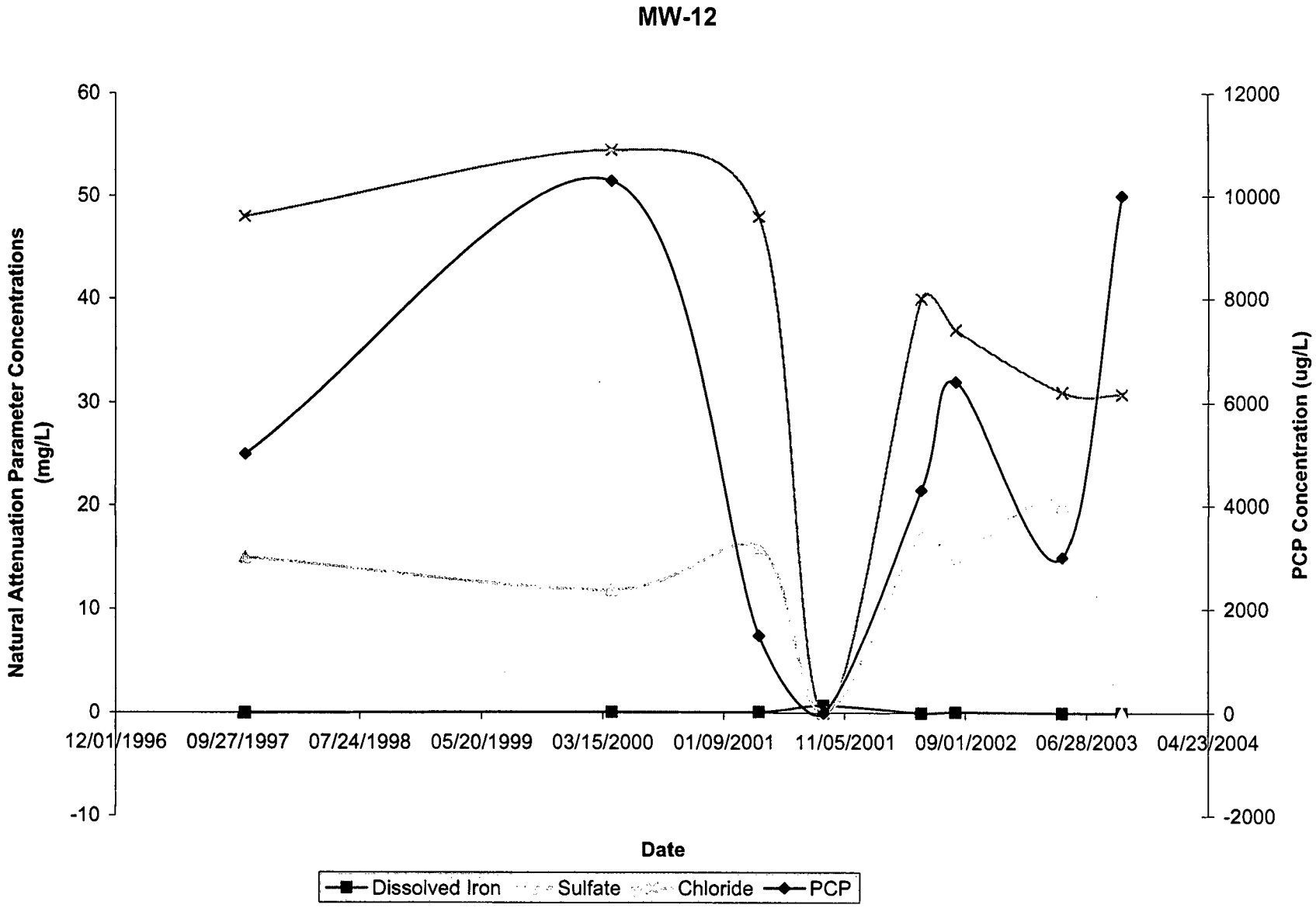
| Well | Sample Date | Temp. (C) | Specific Cond. (umhos/cm$^2$) | DO (mg/L) | DO (%) | pH | ORP (mV) | Nitrate (mg/L) | Dissolved Manganese (mg/L) | Dissolved Iron (mg/L) | Sulfate (mg/L) | Methane (mg/L) | PCP (ug/L) | Chloride (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-25 | 02/09/1998 | 8.69 | 808 | 8.16 | NT | 6.95 | 55.0 | NT | NT | <0.1 | 9.9 | 0.017 | <1.0 | 16 |
| MW-26 | 04/24/2001 | 11.24 | 646 | 7.73 | 71.8 | 7.05 | 190.2 | 5.0 | <0.015 | 0.04 | 10 | <0.0001 | <0.1 | 22 |
| MW-26 | 09/10/2001 | Parameters not recorded. | | | | | | 3.2 | <0.004 | 0.1 | 12 | <0.01 | 0.16 | 30 |
| MW-26 | 05/14/2002 | 12.28 | 588.00 | 7.55 | 72.80 | 7.11 | 17.8 | 3 J | 0.00073 | <0.011 | 15 | | 0.1 | 27 |
| MW-26 | 08/05/2002 | 11.30 | 588.00 | NR | 66.30 | 6.52 | 280.1 | <0.15 | 0.00056 B | <0.011 | 14 | <0.01 | 0.03 | 18 |
| MW-26 | 04/29/2003 | 10.58 | 621.00 | 8.68 | 79.20 | 6.53 | 157.3 | 3.5 | <0.005 | <0.025 | 14 | <0.0005 | <0.1 | 18 |
| MW-26 | 09/23/2003 | 10.84 | 513 | 7.41 | 67.70 | 6.7 | 279.8 | 3.74 | <0.005 | <0.05 | <2 | <0.0005 | <0.11 | 11 |
| PW-01 | 10/23/1997 | 11.10 | 550 | 5.00 | NT | 8.92 | 185.0 | 7.7 | NT | 0.0012 | 10 | 0.0195 | 5 | 48 |
| PZ-03 | 02/09/1998 | 7.50 | 212 | 11.02 | NT | 6.91 | 164.0 | NT | NT | NT | NT | NT | <1 | NT |

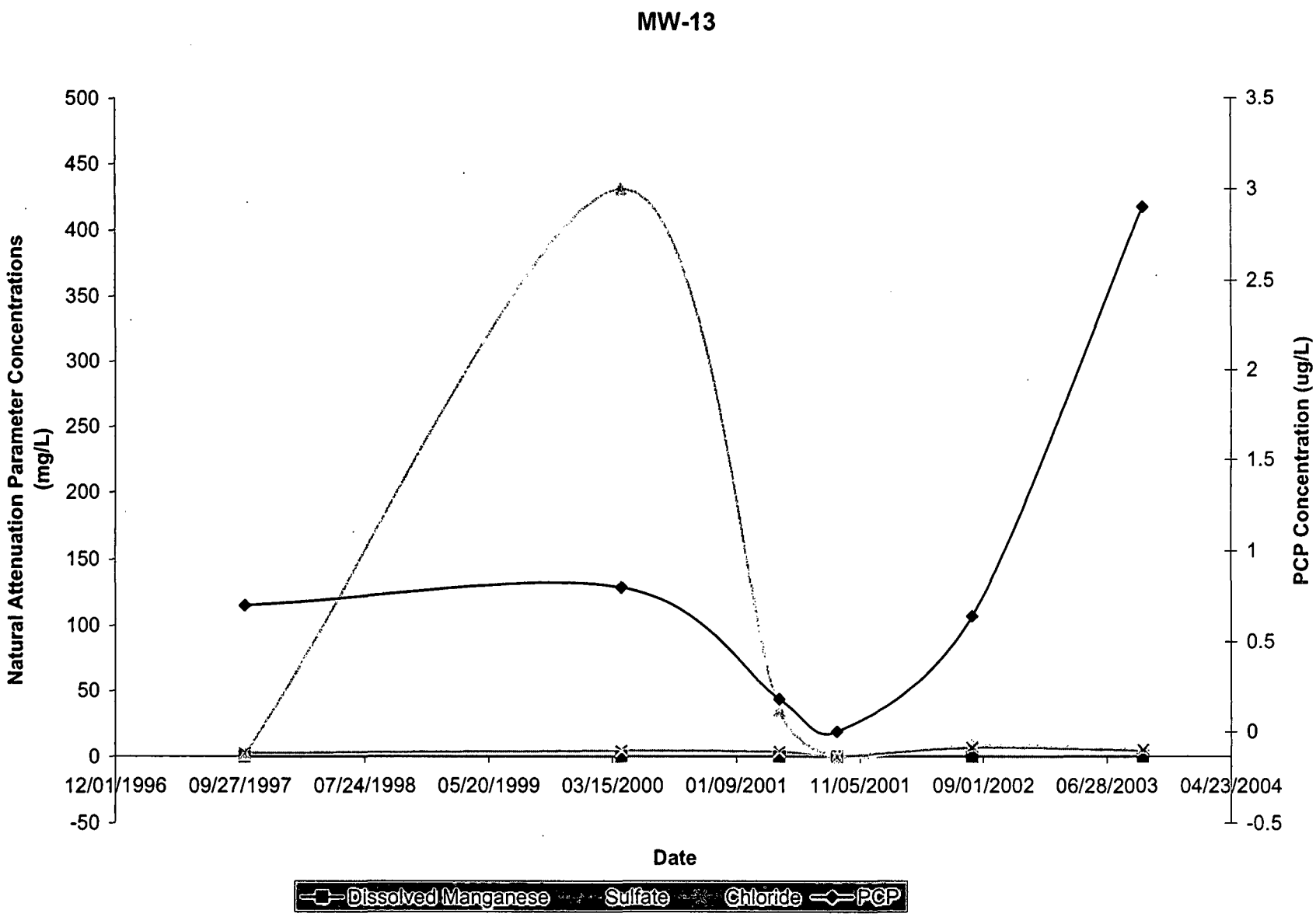
NR - Parameter not Recorded.
NT - Parameter not tested.

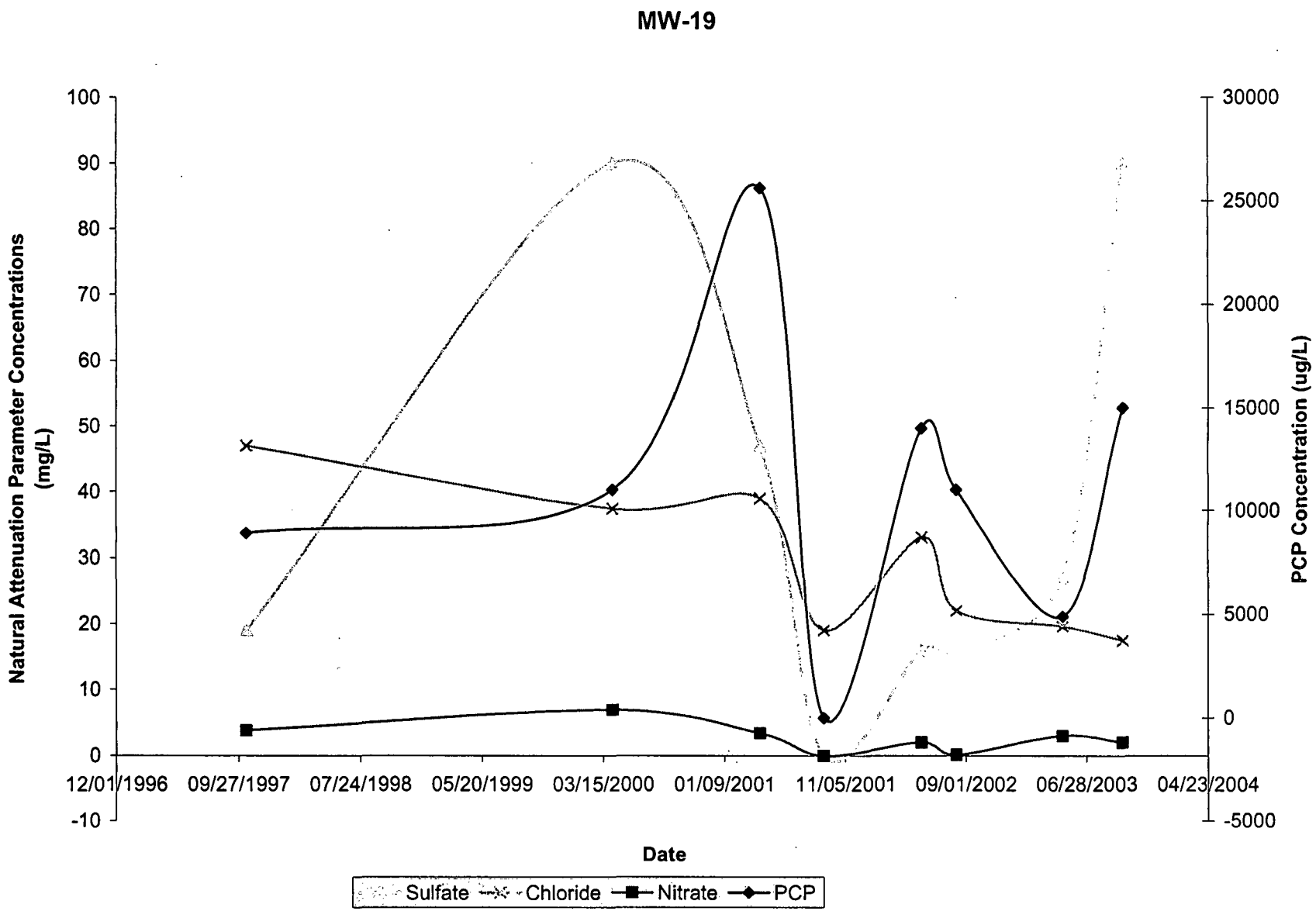

MW-05
60.0
50.0
40.0
30.0
20.0
10.0
0.0
-10.0
30000.0
25000.0
20000.0
15000.0
10000.0
5000.0
0.0
-5000.0
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Dissolved Iron
Sulfate
Chloride
PCP


MW-10
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
60
50
40
30
20
10
0
-10
25000
20000
15000
10000
5000
0
-5000
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Dissolved iron
Sulfate
Chloride
Nitrate
PCP


MW-10S
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
160
140
120
100
80
60
40
20
0
-20
60000
50000
40000
30000
20000
10000
0
-10000
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Sulfate
Chloride
PCP


MW-12
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
60
50
40
30
20
10
0
-10
12000
10000
8000
6000
4000
2000
0
-2000
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Dissolved Iron
Sulfate
Chloride
PCP


MW-13
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
500
450
400
350
300
250
200
150
100
50
0
-50
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Dissolved Manganese
Sulfate
Chloride
PCP


MW-19
Natural Attenuation Parameter Concentrations (mg/L)
PCP Concentration (ug/L)
100
90
80
70
60
50
40
30
20
10
0
-10
30000
25000
20000
15000
10000
5000
0
-5000
12/01/1996
09/27/1997
07/24/1998
05/20/1999
03/15/2000
01/09/2001
11/05/2001
09/01/2002
06/28/2003
04/23/2004
Date
Sulfate
Chloride
Nitrate
PCP

Attachment 4

# Residential Well Memorandum

CH2M HILL
135 South 84th Street
Suite 325
Milwaukee, WI 53214-1456
Tel 414.272.2426
Fax 414.272.4408

CH2MHILL

July 3, 2003

Tony Rutter
US EPA Region V
77 W. Jackson Blvd (SR-6J)

Chicago, IL 60604-3590

Subject: Residential Well Samples – April 2003 Sampling Results

Dear Tony:

Attached are the BTEX, napthalene, and pentachlorophenol (PCP) analytical results for the residential well sampling that took place on April 29, 2003. The residential wells and field blanks were found to be non-detect for PCP, naphthalene, and BTEX with the exception of PCP at residential well RW01 (Ellis residence). The laboratory reported an estimated concentration of PCP at the reproting limit, 0.10 J ug/L. When this detection was looked into further, the quantitation report indicated an analytical value of 0.0997 J ug/L which is less than the reporting limit. However, when reporting to two significant figures which is customarily done by a laboratory, the result of 0.0997 J ug/L was rounded to 0.10 J ug/L, the value that was reported for RW01. This analytical result is at a level that may contain an amount of analytical bias which was discussed in a previous technical memorandum submitted to the EPA on August 2, 2002 (PCP WPDES Permit Effluent Critera at PentaWood Products Superfund Site, Town of Daniels, WI).

Severn Trent Laboratories of Chicago, IL, a lower tier sub to White Water Associates of Amasa, Michigan,performed the sample analyses. They are a Wisconsin-certified laboratory.

At location RW02 (Brethorst residence) a new well had been installed, reported by the resident to be 240 feet deep. The sample descriptions are as follows:

LTRA Residential Well Information
*Pentawood Products – Siren, Wisconsin*

| Location ID | Resident Name | Resident Address | Resident Phone Number | WI Well # |
|---|---|---|---|---|
| RW01 | Bill Ellis (formerly Skold) | 8713 Daniels 70 | (715) 349-5840 | FG508 |

| | | | | |
|---|---|---|---|---|
| RW02 | LaVonne Brethorst | 8627 Daniels 70 | (715) 349-5237 | Unknown |
| RW03 | Ken and Sheri Nelson | Daniels 70 (same driveway as V. Engstrom) | (715) 349-8070 | JB 251 |
| RW04 | Vayne Engstrom | 8526 Daniels 70 | (715) 349-5212 | AN547 |

If you have any questions or comments please give me a call at 414.272.1052 ext. 476, or Gina Bayer at (920) 727-4717.

Sincerely,

CH2M HILL

Steven Paukner
Project Chemist

c: Gina Bayer/MKE
Dave Shekoski/MKE
Paul Arps/MKE
PentaWood project files/MKE

Bill Ellis
8713 Daniels 70
715-349-5840
WI Well ID FG508.

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LABORATORY TEST RESULTS

Job Number: 217157

Date:05/15/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-13 PWP-RW01
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:45
Sample Matrix.....: Water

Laboratory Sample ID: 217157-15
Date Received.....: 05/03/2003
Time Received.....: 10:00

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8260B | Volatile Organics | | | | | | | | | | | |
| | Benzene | 0.50 | U | | 0.20 | 0.50 | 1.00000 | ug/L | 83871 | | 05/13/03 1833 | ema |
| | Toluene | 5.0 | U | | 0.21 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1833 | ema |
| | Ethylbenzene | 5.0 | U | | 0.20 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1833 | ema |
| | Xylenes (total) | 5.0 | U | | 0.28 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1833 | ema |

* In Description = Dry Wgt.

La Vonne Brethorst
8627 Daniels 70
(715) 349-5237
WI Well ID# Unknown

105

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LABORATORY TEST RESULTS

Job Number: 217157

Date:05/15/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-14 PWP-RW02
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:20
Sample Matrix.....: Water

Laboratory Sample ID: 217157-16
Date Received.....: 05/03/2003
Time Received.....: 10:00

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8260B | Volatile Organics | | | | | | | | | | | |
| | Benzene | 0.50 | U | | 0.20 | 0.50 | 1.00000 | ug/L | 83871 | | 05/13/03 1901 | ema |
| | Toluene | 5.0 | U | | 0.21 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1901 | ema |
| | Ethylbenzene | 5.0 | U | | 0.20 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1901 | ema |
| | Xylenes (total) | 5.0 | U | | 0.28 | 5.0 | 1.00000 | ug/L | 83871 | | 05/13/03 1901 | ema |

* In Description = Dry Wgt.

Ken and Sheri Nelson
Daniels 70
(715) 349-8090
WI Well ID# JB 251

71

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LABORATORY TEST RESULTS

Job Number: 217157 Date:05/15/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-15 PWP-RW03
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:22
Sample Matrix.....: Water

Laboratory Sample ID: 217157-6
Date Received.....: 05/03/2003
Time Received.....: 10:00

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8260B | Volatile Organics | | | | | | | | | | | |
| | Benzene | 0.50 | U | | 0.20 | 0.50 | 1.00000 | ug/L | 83863 | | 05/13/03 0213 | ema |
| | Toluene | 5.0 | U | | 0.21 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0213 | ema |
| | Ethylbenzene | 5.0 | U | | 0.20 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0213 | ema |
| | Xylenes (total) | 5.0 | U | | 0.28 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0213 | ema |

* In Description = Dry Wgt.

Vayne Engstrom
8526 Daniels 70
(715) 349-5212
WI well ID# AN547

88

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LABORATORY TEST RESULTS

Job Number: 217157

Date:05/15/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-16 PWP-RW04
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:50
Sample Matrix.....: Water

Laboratory Sample ID: 217157-5
Date Received.....: 05/03/2003
Time Received.....: 10:00

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8260B | Volatile Organics | | | | | | | | | | | |
| | Benzene | 0.50 | U | | 0.20 | 0.50 | 1.00000 | ug/L | 83863 | | 05/13/03 0145 | ema |
| | Toluene | 5.0 | U | | 0.21 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0145 | ema |
| | Ethylbenzene | 5.0 | U | | 0.20 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0145 | ema |
| | Xylenes (total) | 5.0 | U | | 0.28 | 5.0 | 1.00000 | ug/L | 83863 | | 05/13/03 0145 | ema |

* In Description = Dry Wgt.

Bill Ellis
8713 Daniels 70
(715) 349-5840
WI Well ID# FG508

74

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-13
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:45
Sample Matrix.....: Water

Laboratory Sample ID: 217123-7
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 7.1 | U | * | 0.16 | 7.1 | 1.00000 | ug/L | 84123 | | 05/15/03 1836 | dpk |

* In Description = Dry Wgt.



STL Chicago

La Vonne Brethorst
8627 Daniels 70
(715) 349-5237
WI Well ID # Unknown

78

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-14
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:20
Sample Matrix.....: Water

Laboratory Sample ID: 217123-8
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 6.8 | U | * | 0.16 | 6.8 | 1.00000 | ug/L | 84123 | | 05/15/03 1901 | dpk |

* In Description = Dry Wgt.



STL Chicago

Ken and Sheri Nelson
Daniels 70
(715) 349-8070
WI Well ID # JB 251

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LABORATORY TEST RESULTS

Job Number: 217123 Date:05/19/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-15
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:22
Sample Matrix.....: Water

Laboratory Sample ID: 217123-9
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 6.8 | U | * | 0.16 | 6.8 | 1.00000 | ug/L | 84123 | | 05/15/03 1927 | dpk |

* In Description = Dry Wgt.



STL Chicago

Vayne Engstrom
8526 Daniels '70
(715) 349-5212
WI well ID# AN547

86

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc.

PROJECT: CH2M HILL-PENTA WOOD

ATTN: Bette Premo

Customer Sample ID: 03CB08-16
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:50
Sample Matrix.....: Water

Laboratory Sample ID: 217123-10
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 7.4 | U | * | 0.17 | 7.4 | 1.00000 | ug/L | 84123 | | 05/15/03 1952 | dpk |

* In Description = Dry Wgt.



STL Chicago

Bill Ellis
8713 Daniels 70
(715) 349-5840
WI Well ID# FG508

56

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-13
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:45
Sample Matrix.....: Water

Laboratory Sample ID: 217123-7
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.10 | J | | 0.010 | 0.10 | 1.00000 | ug/L | 84168 | | 05/19/03 1152 | kdl |

* In Description = Dry Wgt.

La Vonne Brethorst
8627 Daniels 70
(715) 349-5237
WI Well ID# Unknown

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LABORATORY TEST RESULTS

Job Number: 217123 Date:05/19/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB08-14
Date Sampled.....: 04/29/2003
Time Sampled.....: 10:20
Sample Matrix.....: Water

Laboratory Sample ID: 217123-8
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.011 | 0.11 | 1.00000 | ug/L | 84168 | | 05/19/03 1219 | kdl |

* In Description = Dry Wgt.

Ken and Sheri Nelson
Daniels 70
(715) 349-8070
WI Well ID # JB 251

66

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc.

PROJECT: CH2M HILL-PENTA WOOD

ATTN: Bette Premo

Customer Sample ID: 03CB08-15
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:22
Sample Matrix.....: Water

Laboratory Sample ID: 217123-9
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.011 | 0.11 | 1.00000 | ug/L | 84168 | | 05/19/03 1245 | kdl |

* In Description = Dry Wgt.

Vayne Engstrom
8526 Daniels 70
(715) 349-5212
WI Well ID # AN547

T2

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LABORATORY TEST RESULTS

Job Number: 217123

Date:05/19/2003

CUSTOMER: White Water Associates, Inc.

PROJECT: CH2M HILL-PENTA WOOD

ATTN: Bette Premo

Customer Sample ID: 03CB08-16
Date Sampled.....: 04/29/2003
Time Sampled.....: 09:50
Sample Matrix.....: Water

Laboratory Sample ID: 217123-10
Date Received.....: 05/02/2003
Time Received.....: 09:45

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.011 | 0.11 | 1.00000 | ug/L | 84168 | | 05/19/03 1312 | kdl |

* In Description = Dry Wgt.

CH2M HILL
135 South 84th Street
Suite 325
Milwaukee, WI 53214-1456
Tel 414.272.2426
Fax 414.272.4408

CH2MHILL

January 13, 2004

184202.CV.04

Mr. Tony Rutter
US EPA Region V
77 W. Jackson Blvd (SR-6J)

Chicago, IL 60604-3590

Subject: Residential Well Samples – September 2003 Sampling Results

Dear Tony:

Attached are the BTEX, napthalene, and pentachlorophenol (PCP) analytical results for the residential well sampling that took place September 23rd and 24th, 2003.
Also included are the sample results from the residential well that was resampled on November 20th, 2003. The residential wells and field blanks collected in September were observed to be non-detect for PCP, naphthalene, and BTEX with the exception of PCP at residential well RW01 (Ellis residence). The laboratory reported an initial concentration of PCP in well RW01 at 0.28 ug/L. Further review of the September analytical results determined the sample run prior to RW01 contained a high level of PCP at 10,000 ug/L. Due to the potential laboratory contamination of the RW01 sample, CH2M HILL re-sampled RW01 on November 20th, 2003 and requested the laboratory to analyze the sample for PCP in an analytical batch by itself along with the appropriate QC samples. The November analytical results from RW01 indicate a PCP concentration at 0.24 ug/L. The presence of similar PCP concentrations in RW01 samples from both sampling events confirms that the presence of PCP at RW01 is likely.

Severn Trent Laboratories of Chicago, IL, a lower tier sub to White Water Associates of Amasa, Michigan,performed the sample analyses. They are a Wisconsin-certified laboratory.

LTRA Residential Well Information
*Pentawood Products – Siren, Wisconsin*

| Location ID | Resident Name | Resident Address | Resident Phone Number | WI Well # |
|---|---|---|---|---|
| RW01 | Bill Ellis (formerly Skold) | 8713 Daniels 70 | (715) 349-5840 | FG508 |
| RW02 | LaVonne Brethorst | 8627 Daniels 70 | (715) 349-5237 | Unknown |
| RW03 | Ken and Sheri Nelson | Daniels 70 (same driveway as V. Engstrom) | (715) 349-8070 | JB 251 |
| RW04 | Vayne Engstrom | 8526 Daniels 70 | (715) 349-5212 | AN547 |

If you have any questions or comments please give me a call at 414.272.1052 ext. 476, or Gina Bayer at (920) 730-9503.

Sincerely,

CH2M HILL

Steven Paukner
Project Chemist

c: Gina Bayer/MKE
Dave Shekoski/MKE
PentaWood project files/MKE

RW-01 (Resampk)
Bill Ellis
8713 Daniels 70
WI Well # FG508

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LABORATORY TEST RESULTS

Job Number: 222528

Date: 12/04/2003

CUSTOMER: White Water Associates, Inc. PROJECT: PENTA WOOD RESAMPLE ATTN: Bette Premo

Customer Sample ID: 03CB14-71
Date Sampled.....: 11/20/2003
Time Sampled.....: 10:10
Sample Matrix.....: Water

Laboratory Sample ID: 222528-2
Date Received.....: 11/21/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.24 | | | 0.018 | 0.11 | 1.00000 | ug/L | 103393 | | 12/02/03 2237 | pjg |

* In Description = Dry Wgt.

KW-01
Bill Ellis
8713 Daniels 70
WI Well # FG508

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-51
Date Sampled.....: 09/23/2003
Time Sampled.....: 15:45
Sample Matrix.....: Water

Laboratory Sample ID: 220845-8
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.28 | | | 0.018 | 0.11 | 1.00000 | ug/L | 98522 | | 10/13/03 1516 | pjg |

* In Description = Dry Wgt.



STL Chicago

KW-OC
LaVonne Brethorst
8627 Daniels TO
WI Well # Unknown

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LABORATORY TEST RESULTS

Job Number: 220845 Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Prema

Customer Sample ID: 03CB14-52
Date Sampled.....: 09/24/2003
Time Sampled.....: 10:25
Sample Matrix.....: Water

Laboratory Sample ID: 220845-3
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.018 | 0.11 | 1.00000 | ug/L | 98522 | | 10/11/03 0153 | pjg |

* In Description = Dry Wgt.

RW-22 (continued)
LaVonne Brethorst
8627 Daniels 70
WI Well # unknown

43

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Prema

Customer Sample ID: 03CB14-53
Date Sampled.....: 09/24/2003
Time Sampled.....: 10:25
Sample Matrix.....: Water

Laboratory Sample ID: 220845-4
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.018 | 0.11 | 1.00000 | ug/L | 98522 | | 10/11/03 0224 | pjg |

* In Description = Dry Wgt.



STL Chicago

AW-03
Ken and Sheri Nelson
Daniels 70
WI Well # JB 251

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LABORATORY TEST RESULTS

Job Number: 220845 Date: 10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-54
Date Sampled.....: 09/23/2003
Time Sampled.....: 15:20
Sample Matrix.....: Water

Laboratory Sample ID: 220845-9
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.018 | 0.11 | 1.00000 | ug/L | 98522 | | 10/11/03 0531 | pjg |

*_In Description = Dry Wgt.



STL Chicago

AN-1
Vayne Engstrom
8526 Daniels 70
WI Well # AN547

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-55
Date Sampled.....: 09/23/2003
Time Sampled.....: 14:50
Sample Matrix.....: Water

Laboratory Sample ID: 220845-10
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8151A | Herbicides<br>Pentachlorophenol | 0.11 | U | | 0.018 | 0.11 | 1.00000 | ug/L | 98522 | | 10/11/03 0603 | pjg |

* In Description = Dry Wgt.



STL Chicago

KW-01
Bill Ellis
8713 Daniels 70
WI Well # FG508

55

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-51
Date Sampled.....: 09/23/2003
Time Sampled.....: 15:45
Sample Matrix.....: Water

Laboratory Sample ID: 220845-8
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 0.97 | U | | 0.16 | 0.97 | 1.00000 | ug/L | 98479 | | 10/07/03 1910 | dpk |

* In Description = Dry Wgt.



STL Chicago

La Vonne Brethorst
8627 Daniels 70
WI Well # Unknown

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-52
Date Sampled.....: 09/24/2003
Time Sampled.....: 10:25
Sample Matrix.....: Water

Laboratory Sample ID: 220845-3
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 0.97 | U | | 0.16 | 0.97 | 1.00000 | ug/L | 98479 | | 10/07/03 1652 | dpk |

* In Description = Dry Wgt.



STL Chicago

LaVonne Brethorst
8627 Daniels 70
WI Well # Unknown

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-53
Date Sampled.....: 09/24/2003
Time Sampled.....: 10:25
Sample Matrix.....: Water

Laboratory Sample ID: 220845-4
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 0.96 | U | | 0.15 | 0.96 | 1.00000 | ug/L | 98479 | | 10/07/03 1720 | dpk |

* In Description = Dry Wgt.



STL Chicago

KW-03
Ken and Sheri Nelson
Daniels 70
WI Well # JB 251

58

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LABORATORY TEST RESULTS

Job Number: 220845

Date:10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-54
Date Sampled.....: 09/23/2003
Time Sampled.....: 15:20
Sample Matrix.....: Water

Laboratory Sample ID: 220845-9
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 0.96 | U | | 0.15 | 0.96 | 1.00000 | ug/L | 98479 | | 10/07/03 1938 | dpk |

* In Description = Dry Wgt.



STL Chicago

RW-04
Vayne Engstrom
8526 Daniels TO
WI Well # AN547

61

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LABORATORY TEST RESULTS

Job Number: 220845

Date: 10/14/2003

CUSTOMER: White Water Associates, Inc. PROJECT: CH2M HILL-PENTA WOOD ATTN: Bette Premo

Customer Sample ID: 03CB14-55
Date Sampled.....: 09/23/2003
Time Sampled.....: 14:50
Sample Matrix.....: Water

Laboratory Sample ID: 220845-10
Date Received.....: 09/26/2003
Time Received.....: 09:30

| TEST METHOD | PARAMETER/TEST DESCRIPTION | SAMPLE RESULT | Q | FLAGS | MDL | RL | DILUTION | UNITS | BATCH | DT | DATE/TIME | TECH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8270C | Semivolatile Organics<br>Naphthalene, Low Level Water | 0.99 | U | | 0.16 | 0.99 | 1.00000 | ug/L | 98479 | | 10/07/03 2005 | dpk |

* In Description = Dry Wgt.



STL Chicago

RW-01
Bill Ellis
8713 Daniels 70
WI Well # FG508

ECOLOGICAL CONSULTING AND
ENVIRONMENTAL LABORATORY SERVICES

WHITE WATER ASSOCIATES, INC.

Client: CH2M HILL Project: Penta Wood Project WWA Job #: 19255

**Lab Sample ID: 19255-024**

| | | | |
|---|---|---|---|
| **Date Sampled:** | September 23, 2003 | **Sample Matrix:** | Water |
| **Date Received:** | September 25, 2003 | **Date Reported:** | October 27, 2003 |
| **Site ID (Client ID):** | 03CB14-51 | **Sample Type:** | |
| **LOCID (Description):** | PWP-RW01 | **Client COC ID:** | NA |
| **Run Number ID:** | 1 | **Date Prepped:** | NA |
| **Analytical Batch ID:** | V031001MS2 | **Units:** | ug/l |
| **Analysis Date/Time:** | October 02, 2003 5:40 | **Method:** | 8260B |

## Volatile Organics

| BTEX in Water - 8260B | Result | Flags | Dilution | DL | RL |
|---|---|---|---|---|---|
| Benzene | 0.25 | U | | 0.25 | 0.50 |
| Toluene | 2.5 | U | | 2.5 | 5.0 |
| Ethyl Benzene | 2.5 | U | | 2.5 | 5.0 |
| Xylenes, Total | 2.5 | U | | 2.5 | 5.0 |

| GC-MS SURROGATE RECOVERY | Result | Flags | Units | Low Lim. | High Lim. |
|---|---|---|---|---|---|
| Dibromofluoromethane | 103 | | % | 75 | 135 |
| 1,2-Dichloroethane-D4 | 105 | | % | 75 | 135 |
| Toluene-D8 | 94 | | % | 75 | 135 |
| 4-Bromofluorobenzene | 93 | | % | 75 | 135 |

ND = Not Detected MDL = Method Detection Limit RL = Reporting Limit
ppm = mg/l (liquid) or mg/kg (solid) ppb = ug/l (liquid) or ug/kg (solid)



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# ANALYTICAL REPORT

RW-02
LaVonne Bretherst
8627 Daniels 70
WI Well # Unknown

ECOLOGICAL CONSULTING AND
ENVIRONMENTAL LABORATORY SERVICES

**WHITE WATER ASSOCIATES, INC.**

| | | |
|---|---|---|
| **Client:** CH2M HILL | **Project:** Penta Wood Project | **WWA Job #:** 19255 |

**Lab Sample ID: 19255-012**

| | | | |
|---|---|---|---|
| **Date Sampled:** | September 24, 2003 | **Sample Matrix:** | Water |
| **Date Received:** | September 25, 2003 | **Date Reported:** | October 27, 2003 |
| **Site ID (Client ID):** | 03CB14-52 | **Sample Type:** | |
| **LOCID (Description):** | PWP-RW02 | **Client COC ID:** | NA |
| **Run Number ID:** | 1 | **Date Prepped:** | NA |
| **Analytical Batch ID:** | V031001MS2 | **Units:** | ug/l |
| **Analysis Date/Time:** | October 02, 2003 0:57 | **Method:** | 8260B |

## Volatile Organics

| BTEX in Water - 8260B | Result | Flags | Dilution | DL | RL |
|---|---|---|---|---|---|
| Benzene | 0.25 | U | | 0.25 | 0.50 |
| Toluene | 2.5 | U | | 2.5 | 5.0 |
| Ethyl Benzene | 2.5 | U | | 2.5 | 5.0 |
| Xylenes, Total | 2.5 | U | | 2.5 | 5.0 |

| GC-MS SURROGATE RECOVERY | Result | Flags | Units | Low Lim. | High Lim. |
|---|---|---|---|---|---|
| Dibromofluoromethane | 96 | | % | 75 | 135 |
| 1,2-Dichloroethane-D4 | 97 | | % | 75 | 135 |
| Toluene-D8 | 86 | | % | 75 | 135 |
| 4-Bromofluorobenzene | 92 | | % | 75 | 135 |

ND = Not Detected MDL = Method Detection Limit RL = Reporting Limit
ppm = mg/l (liquid) or mg/kg (solid) ppb = ug/l (liquid) or ug/kg (solid)



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# ANALYTICAL REPORT

RW-02 (duplicate)
La Vonne Brethorst
8627 Daniels 70
WI Well # Unknown

ECOLOGICAL CONSULTING AND
ENVIRONMENTAL LABORATORY SERVICES

**WHITE WATER ASSOCIATES, INC.**

| | | |
|---|---|---|
| **Client:** CH2M HILL | **Project:** Penta Wood Project | **WWA Job #:** 19255 |

**Lab Sample ID: 19255-011**

| | | | |
|---|---|---|---|
| **Date Sampled:** | September 24, 2003 | **Sample Matrix:** | Water |
| **Date Received:** | September 25, 2003 | **Date Reported:** | October 27, 2003 |
| **Site ID (Client ID):** | 03CB14-53 | **Sample Type:** | |
| **LOCID (Description):** | PWP-RW02FR | **Client COC ID:** | NA |
| **Run Number ID:** | 1 | **Date Prepped:** | NA |
| **Analytical Batch ID:** | V031001MS2 | **Units:** | ug/l |
| **Analysis Date/Time:** | October 01, 2003 22:01 | **Method:** | 8260B |

## Volatile Organics

| BTEX in Water - 8260B | Result | Flags | Dilution | DL | RL |
|---|---|---|---|---|---|
| Benzene | 0.25 | U | | 0.25 | 0.50 |
| Toluene | 2.5 | U | | 2.5 | 5.0 |
| Ethyl Benzene | 2.5 | U | | 2.5 | 5.0 |
| Xylenes, Total | 2.5 | U | | 2.5 | 5.0 |

| GC-MS SURROGATE RECOVERY | Result | Flags | Units | Low Lim. | High Lim. |
|---|---|---|---|---|---|
| Dibromofluoromethane | 109 | | % | 75 | 135 |
| 1,2-Dichloroethane-D4 | 111 | | % | 75 | 135 |
| Toluene-D8 | 92 | | % | 75 | 135 |
| 4-Bromofluorobenzene | 100 | | % | 75 | 135 |

ND = Not Detected MDL = Method Detection Limit RL = Reporting Limit
ppm = mg/l (liquid) or mg/kg (solid) ppb = ug/l (liquid) or ug/kg (solid)



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# ANALYTICAL REPORT

RW-03
Ken & Sheri Nelson
Daniels 70
WI Well # JB251

ECOLOGICAL CONSULTING AND
ENVIRONMENTAL LABORATORY SERVICES

**WHITE WATER ASSOCIATES, INC.**

Client: CH2M HILL | Project: Penta Wood Project | WWA Job #: 19255

Lab Sample ID: 19255-025

| | | | |
|---|---|---|---|
| Date Sampled: | September 23, 2003 | Sample Matrix: | Water |
| Date Received: | September 25, 2003 | Date Reported: | October 27, 2003 |
| Site ID (Client ID): | 03CB14-54 | Sample Type: | |
| LOCID (Description): | PWP-RW03 | Client COC ID: | NA |
| Run Number ID: | 1 | Date Prepped: | NA |
| Analytical Batch ID: | V031001MS2 | Units: | ug/l |
| Analysis Date/Time: | October 02, 2003 6:15 | Method: | 8260B |

## Volatile Organics

| BTEX in Water - 8260B | Result | Flags | Dilution | DL | RL |
|---|---|---|---|---|---|
| Benzene | 0.25 | U | | 0.25 | 0.50 |
| Toluene | 2.5 | U | | 2.5 | 5.0 |
| Ethyl Benzene | 2.5 | U | | 2.5 | 5.0 |
| Xylenes, Total | 2.5 | U | | 2.5 | 5.0 |

| GC-MS SURROGATE RECOVERY | Result | Flags | Units | Low Lim. | High Lim. |
|---|---|---|---|---|---|
| Dibromofluoromethane | 111 | | % | 75 | 135 |
| 1,2-Dichloroethane-D4 | 111 | | % | 75 | 135 |
| Toluene-D8 | 90 | | % | 75 | 135 |
| 4-Bromofluorobenzene | 89 | | % | 75 | 135 |

ND = Not Detected MDL = Method Detection Limit RL = Reporting Limit
ppm = mg/l (liquid) or mg/kg (solid) ppb = ug/l (liquid) or ug/kg (solid)



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# ANALYTICAL REPORT

RW-04
Vayne Engstrom
8526 Daniels TO
WI Well # AN547

ECOLOGICAL CONSULTING AND
ENVIRONMENTAL LABORATORY SERVICES

**WHITE WATER ASSOCIATES, INC.**

Client: CH2M HILL | Project: Penta Wood Project | WWA Job #: 19255

**Lab Sample ID: 19255-026**

| | | | |
|---|---|---|---|
| **Date Sampled:** | September 23, 2003 | **Sample Matrix:** | Water |
| **Date Received:** | September 25, 2003 | **Date Reported:** | October 27, 2003 |
| **Site ID (Client ID):** | 03CB14-55 | **Sample Type:** | |
| **LOCID (Description):** | PWP-RW04 | **Client COC ID:** | NA |
| **Run Number ID:** | 1 | **Date Prepped:** | NA |
| **Analytical Batch ID:** | V031002MS2 | **Units:** | ug/l |
| **Analysis Date/Time:** | October 02, 2003 21:31 | **Method:** | 8260B |

## Volatile Organics

| BTEX in Water - 8260B | Result | Flags | Dilution | DL | RL |
|---|---|---|---|---|---|
| Benzene | 0.25 | U | | 0.25 | 0.50 |
| Toluene | 2.5 | U | | 2.5 | 5.0 |
| Ethyl Benzene | 2.5 | U | | 2.5 | 5.0 |
| Xylenes, Total | 2.5 | U | | 2.5 | 5.0 |

| GC-MS SURROGATE RECOVERY | Result | Flags | Units | Low Lim. | High Lim. |
|---|---|---|---|---|---|
| Dibromofluoromethane | 96 | | % | 75 | 135 |
| 1,2-Dichloroethane-D4 | 90 | | % | 75 | 135 |
| Toluene-D8 | 90 | | % | 75 | 135 |
| 4-Bromofluorobenzene | 79 | | % | 75 | 135 |

ND = Not Detected MDL = Method Detection Limit RL = Reporting Limit
ppm = mg/l (liquid) or mg/kg (solid) ppb = ug/l (liquid) or ug/kg (solid)



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