RAC2 TECHNICAL STATUS REPORT

January 27, 2007 to February 23, 2007

WORK ASSIGNMENT NUMBER: 004-LRLR-05WE

SITE NAME: Penta Wood Products-OU1, WI

ACTIVITY: Long-Term Response Action

CH2M HILL JOB NUMBER: 344511

PREPARED BY: Bill Andrae/MKE, Site Manager

PERIOD ENDING: February 23, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed routine monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.08 million gallons (MG) of groundwater during the reporting period. To date, a total of 56.81 MG of water have been treated. An estimated 597 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 20,721 gallons.
- On February 22 and 23, North Shore Environmental was onsite for hazardous waste pickup. The waste consisted of 14 supersacks of carbon and 3 drums of debris.
- On January 29 and February 12, DR Tech was onsite for troubleshooting of EW11. Troubleshooting will continue since further evaluation is required.
- Summarized the status of recommendations presented in the Remediation System Evaluation which are presented in a table located at the end of this document.
- Summarized the results of the Wisconsin Pollutant Discharge Eliminations System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- The remaining validated data was received from USEPA on February 2.
- After receipt of the validated results, the validator qualifiers were manually entered into the EQuIS database. A 10 percent check of electronic data against hardcopy reports was performed and the tables for the report were generated.

Task D (PC):

- The draft *2006 Annual Report* was submitted electronically on February 20. Hard copy reports were submitted to USEPA and WDNR on February 21. The report was submitted within 19 days of receipt of the final validated data.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		16	0
B (PJ)	07/29/06	07/29/06	03/14/11		16	0
C (CV)	07/29/06	07/29/06	03/14/11		7	0
D (PC)	07/29/06	07/29/06	03/14/11		15	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

Operating difficulties resulted from the extreme cold temperatures experienced at the site. Over the weekend of February 2, the effluent discharge pipe froze, which resulted in water backing up into the old treatment building. The effluent discharge pipe was thawed, and water was pumped from the building. There was no water damage.

While the HVAC system was operating normally, the temperatures experienced were -20 degrees Fahrenheit or colder for several consecutive days. A small potable water pipe burst near the safety shower after the pipes froze along the exterior wall in the RDVF room. The line was isolated and the pipe was repaired. There was no water damage that resulted from the leak. The exhaust fans were turned off to warm the building. Subsequently, the treatment system had to be shut down to prevent the build-up of odors within the building.

On February 14, the propane regulator broke. Larry's LP was able to come to the site that day to replace the regulator and return the heat to operation. The propane line and regulator will be moved away from the igniter in the spring since the heat from the igniter is suspected to be resulting in a shortened lifespan of the regulators.

3. Problem Areas and Recommended Solutions

None.

4. **Deliverables Submitted**

Task	Milestone	Due Date	Date Received by USEPA	Variance	Note
D (PC)	Draft 2006 Annual Report	03/04/07	02/20/07	12	Due date was 30 days from the receipt of final validated results.

The draft *2006 Annual Report* was submitted electronically on February 20. Hard copy reports were submitted to USEPA and WDNR on February 21. The report was submitted within 19 days of receipt of the final validated data.

5. **Activities Planned Next Reporting Period**

Task A (PP): CH2M HILL plans to perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task.

Task C (CV): CH2M HILL will continue to conduct operational monitoring.

Task D (PC): CH2M HILL will incorporate USEPA comments and finalize the *2006 Annual Report.*

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services	Siemens Water Technologies

8. **Travel**

None.

9. **Laboratories**

The 2006–2008 analytical services subcontract has been awarded to STL of Chicago, Illinois. They are a Wisconsin-certified laboratory.

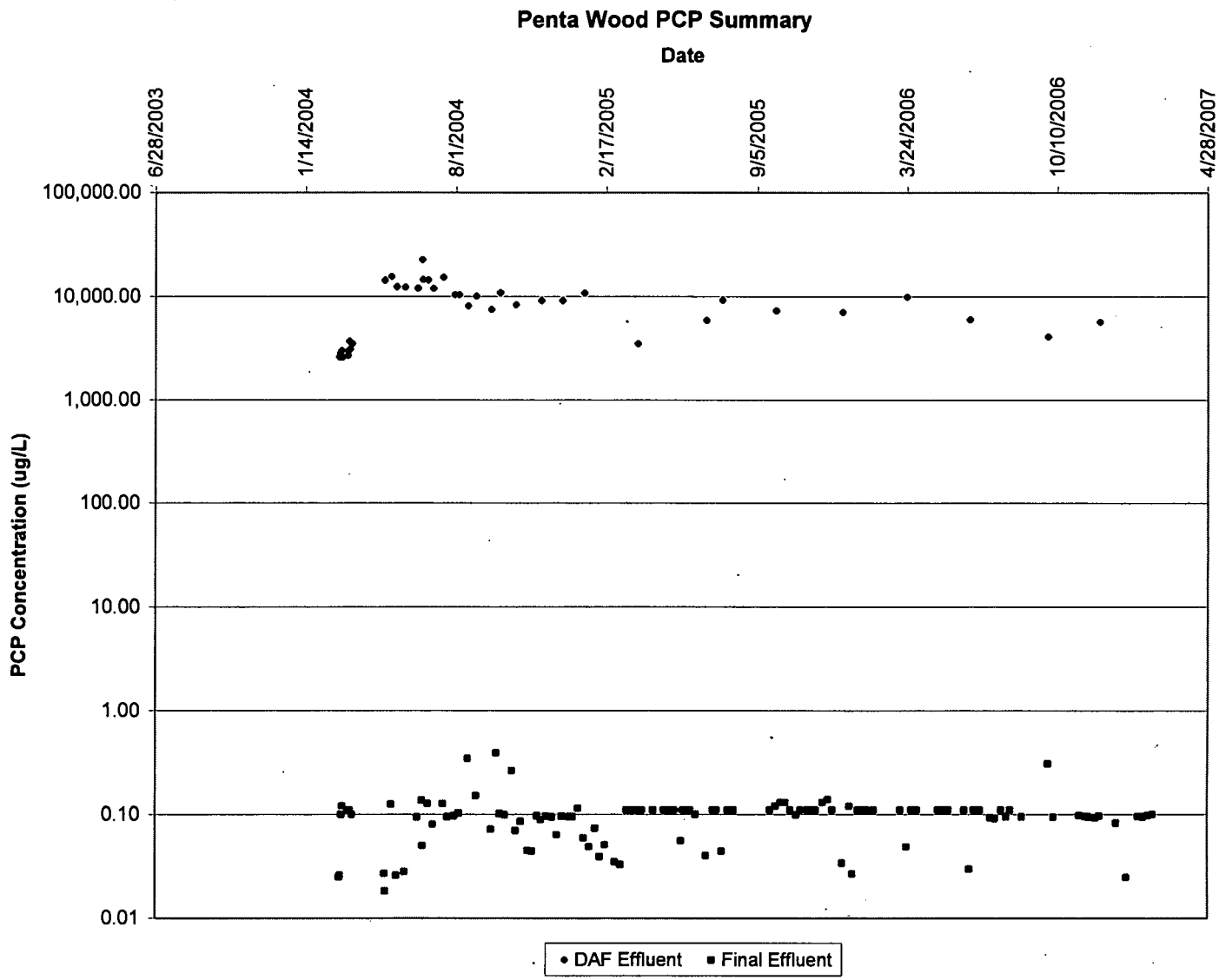
10. Project Performance

The carbon beds are continuing to effectively adsorb dissolved PCP. Concentrations of PCP in the effluent are consistently below the target concentration of 0.1 µg/L.

The *2006 Annual Report* was submitted significantly ahead of schedule (within 19 days of receipt of the final validated data).

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL will continue to evaluate the PCP data for MW-13 and the site to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for the new LTRA Work Plan will be more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL has requested preliminary cost information for the installation of backwash piping for the 10,000 pound units. The backwash pump installed in April 2005 is capable of supplying the necessary flow rate to backwash the larger GAC units.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume.
Savings From the Use of Dedicated Pumps in Monitoring Wells	CH2M HILL is reducing the field staff for the 2007 spring sampling event and will evaluate the overall level of effort versus previous sampling events. CH2M HILL will also evaluate the potential for the plant operator to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during the new LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For the new LTRA work assignment, CH2M HILL will develop a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for the new LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	As part of the new LTRA work assignment, CH2M HILL will review and reevaluate subsurface conditions and the potential impacts of operating the bioventing system concurrently with the groundwater and LNAPL extraction systems and present a recommendation to USEPA for review and possible implementation.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7.0	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04		7.0									0.137													
17-Jun-04		7.0									0.050U													
23-Jun-04		7.0									*NA													
24-Jun-04		7.0									0.127													
01-Jul-04		7.0									0.081JB													
14-Jul-04		7.0									0.126													
20-Jul-04	--	7.0	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04		7.0									0.0971U													
04-Aug-04		7.0									0.103													
16-Aug-04		7.0									0.348													
27-Aug-04	--	7.0	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04		7.0									0.0724JB													
23-Sep-04		7.0									0.393B													
28-Sep-04	10,900B	7.0	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
05-Oct-04		7.0									0.0990													
14-Oct-04		7.0									0.265B													
19-Oct-04	8,310B	7.0	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04		7.0									0.0861J													
04-Nov-04		7.0									0.0447J													

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10-Nov-04		7.0									0.0442J													
17-Nov-04		7.0									0.0971U													
22-Nov-04	9,140	7.0	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04		7.0									0.0962U													
07-Dec-04		7.0									0.0943U													
13-Dec-04		7.0									0.0637J													
20-Dec-04	9,100	7.0	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2670	--	--
30-Dec-04		7.0									0.0952U													
03-Jan-05		7.0									0.0952U													
10-Jan-05		7.0									0.114B													
18-Jan-05	10,800B	7.0	--	--	0.120	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05		7.0									0.049J													
02-Feb-05		7.0									0.074J													
08-Feb-05		7.0									0.039J													
15-Feb-05		7.0									0.051J													
28-Feb-05	--	7.0	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
08-Mar-05	--	7.0	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05		7.0									0.11U													
22-Mar-05	3,500	7.0	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	ND	ND
30-Mar-05		7.0									0.11U													

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05-Apr-05		7.0									0.11U													
20-Apr-05	--	7.0	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
04-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7.0	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
01-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7.0	6.0	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
08-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7.0	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
04-Aug-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sept-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sept-05	7,300	7.0	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
06-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

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27-Oct-05	--	7.0	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
01-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7.0	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7.0	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5.0	2.5B	72	390	3,600	--	--
06-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06		7.0	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-06	--	7.0	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	ND	ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
06-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
04-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
08-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3.0	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
03-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sept-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
05-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
05-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.50	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
*NR = Sample results are not yet available from the laboratory.
*ND = Compound not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

February 24, 2007 to March 30, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Bill Andrae/MKE, Site Manager
PERIOD ENDING:	March 30, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed routine monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.19 million gallons (MG) of groundwater during the reporting period. To date, a total of 58.00 MG of water have been treated. An estimated 385 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 21,106 gallons.
- On March 7 and 8, Siemens was onsite for changeout of one 10,000-lb carbon vessel.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE) which are presented in a table located at the end of this document. On March 7, a call was held to discuss progress toward considering and implementing the RSE recommendations. As a result of the conference call, CH2M HILL evaluated the operating conditions to estimate the annual and life cycle cost savings for measures that have been implemented since the RSE.
- Summarized the results of the Wisconsin Pollutant Discharge Eliminations System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.

Task D (PC):

- Comments were received from Bill Schultz of the WDNR on February 26.
- The finalized *2006 Annual Report* was submitted on March 29 with a response to comments letter.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		17	0
B (PJ)	07/29/06	07/29/06	03/14/11		17	0
C (CV)	07/29/06	07/29/06	03/14/11		15	0
D (PC)	07/29/06	07/29/06	03/14/11		15	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

Low air pressure alarms on the dissolved air flotation (DAF) unit caused periodic shutdowns. However, the operator was able to identify the cause of the failure and continue to operate the system prior to the compressor being serviced.

On March 15, a plant operator computer was set up and will be used for all tasks except running the treatment system software. The treatment system software will remain on the process computer and the process computer has been isolated to prevent potential program conflicts or computer viruses.

3. Problem Areas and Recommended Solutions

Water level data and field observations indicate that well maintenance and redevelopment may be necessary. CH2M HILL is evaluating the data to determine which wells require repairs or redevelopment. Well repair and redevelopment activities are being planned for the next reporting period in preparation for the semiannual sampling activities and water level measurements.

Modifications to the existing polymer delivery systems are being evaluated. The hardness of the water may be contributing in part to poor polymer mixing. The addition of a water softener prior to the mixing tank is being evaluated.

4. Deliverables Submitted

The finalized *2006 Annual Report* was submitted on March 29 after responding to USEPA and WDNR comments.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL plans to perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. During the next reporting period, CH2M HILL is planning to perform an LNAPL recovery optimization test and well redevelopment and maintenance activities.

Task C (CV): CH2M HILL will continue to conduct operational monitoring.

Task D (PC): Groundwater level measurements will be evaluated and submitted as an addendum to the *2006 Annual Report* if the water levels in the wells are measurable (not unavailable due to silting) and a representative contour map can be created. If significant silting prohibits water level measurements, the water level measurements will be collected after well redevelopment.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services	Siemens Water Technologies

8. **Travel**

None.

9. **Laboratories**

The 2006–2008 analytical services subcontract has been awarded to STL of Chicago, Illinois. They are a Wisconsin-certified laboratory.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The February 2007 Monthly Progress Report was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

- The *2006 Annual Report* submitted this reporting period indicated that off-site contaminant levels are decreasing from the levels reported in the April 2006

Annual Report and are below target cleanup levels. Groundwater capture and LNAPL recovery are meeting the groundwater containment performance standard.

- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is being considered for 2007.
- The system experienced periodic shutdowns for maintenance and alarms and was down over a week for a carbon changeout. As a result, the treatment system did not meet the 84 percent operation performance standard. System modifications are being evaluated to improve operating percentage by addressing polymer mixing issues and decreasing the carbon changeout frequency. Cost estimates are being obtained for a backflush system for the 10,000-lb carbon vessels and water softener for the polymer mixing system.

Task C—Groundwater Treatment Goal Achieved

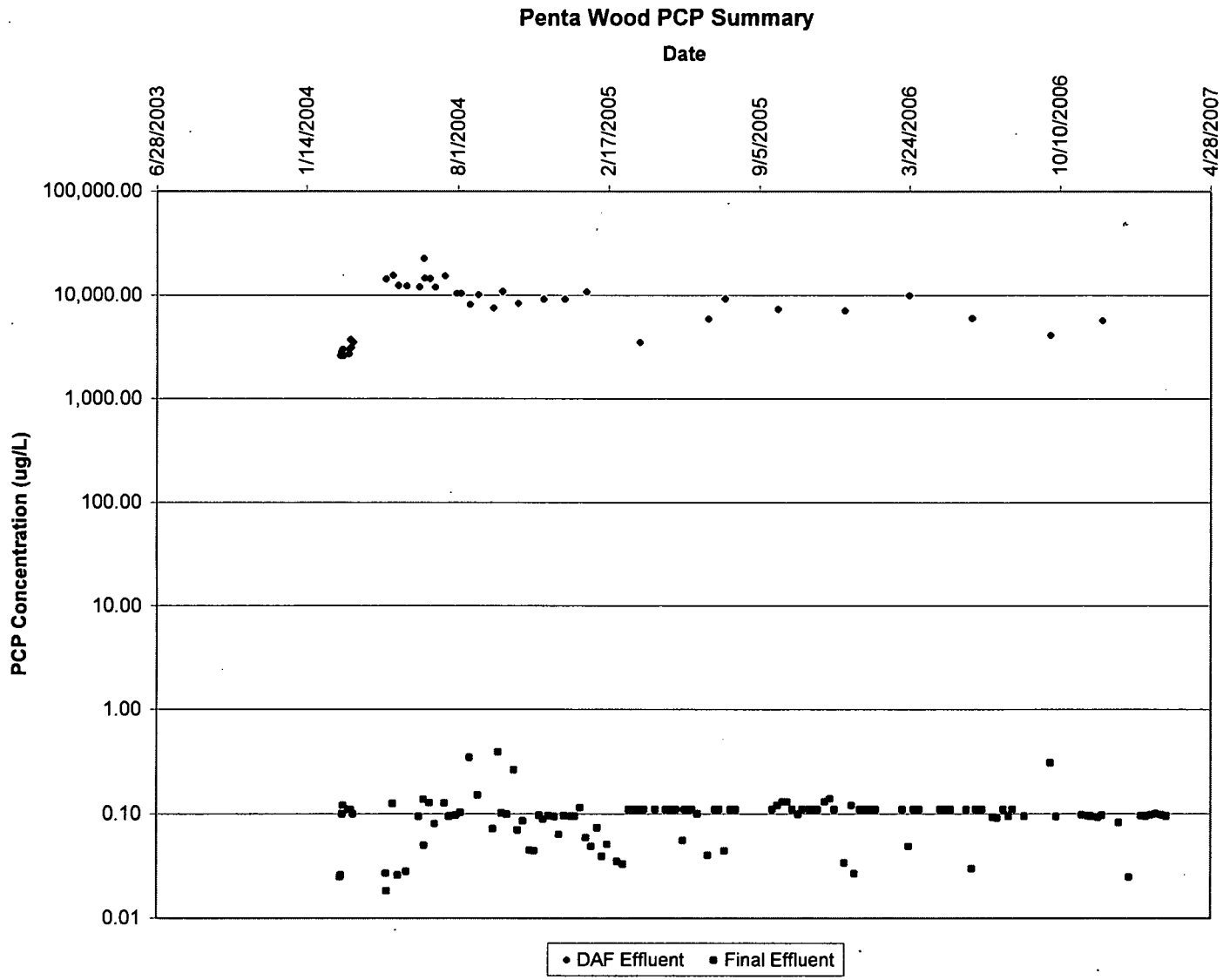
- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. Wi-0061531-01-0, meeting the performance standard.

Task D—Long Term Remedial Action Annual Report

- The draft *2006 Annual Report* was submitted in the previous reporting period, 11 days ahead of schedule, exceeding the performance standard.
- The *2006 Annual Report* was finalized with only minor changes after receipt of comments, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL will continue to evaluate the PCP data for MW-13 and the site to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for the new LTRA Work Plan will be more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL has requested preliminary cost information for the installation of backwash piping for the 10,000-lb units. The backwash pump installed in April 2005 is capable of supplying the necessary flow rate to backwash the larger GAC units.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume.
Savings From the Use of Dedicated Pumps in Monitoring Wells	CH2M HILL is reducing the field staff for the 2007 spring sampling event and will evaluate the overall level of effort versus previous sampling events. CH2M HILL will also evaluate the potential for the plant operator to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during the new LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For the new LTRA work assignment, CH2M HILL will develop a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for the new LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	As part of the new LTRA work assignment, CH2M HILL will review and reevaluate subsurface conditions and the potential impacts of operating the bioventing system concurrently with the groundwater and LNAPL extraction systems and present a recommendation to USEPA for review and possible implementation.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7.0	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04		7.0									0.137													
17-Jun-04		7.0									0.050U													
23-Jun-04		7.0									*NA													
24-Jun-04		7.0									0.127													
01-Jul-04		7.0									0.081JB													
14-Jul-04		7.0									0.126													
20-Jul-04	--	7.0	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04		7.0									0.0971U													
04-Aug-04		7.0									0.103													
16-Aug-04		7.0									0.348													
27-Aug-04	--	7.0	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04		7.0									0.0724JB													
23-Sep-04		7.0									0.393B													
28-Sep-04	10,900B	7.0	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
05-Oct-04		7.0									0.0990													
14-Oct-04		7.0									0.265B													
19-Oct-04	8,310B	7.0	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04		7.0									0.0861J													
04-Nov-04		7.0									0.0447J													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Nov-04		7.0									0.0442J													
17-Nov-04		7.0									0.0971U													
22-Nov-04	9,140	7.0	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04		7.0									0.0962U													
07-Dec-04		7.0									0.0943U													
13-Dec-04		7.0									0.0637J													
20-Dec-04	9,100	7.0	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2670	--	--
30-Dec-04		7.0									0.0952U													
03-Jan-05		7.0									0.0952U													
10-Jan-05		7.0									0.114B													
18-Jan-05	10,800B	7.0	--	--	0.120	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05		7.0									0.049J													
02-Feb-05		7.0									0.074J													
08-Feb-05		7.0									0.039J													
15-Feb-05		7.0									0.051J													
28-Feb-05	--	7.0	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
08-Mar-05	--	7.0	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05		7.0									0.11U													
22-Mar-05	3,500	7.0	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	ND	ND
30-Mar-05		7.0									0.11U													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
05-Apr-05		7.0									0.11U													
20-Apr-05	--	7.0	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
04-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7.0	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
01-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7.0	6.0	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
08-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7.0	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
04-Aug-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sept-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sept-05	7,300	7.0	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
06-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
27-Oct-05	--	7.0	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
01-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7.0	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7.0	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5.0	2.5B	72	390	3,600	--	--
06-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06		7.0	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-06	--	7.0	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	ND	ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
06-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
04-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phanol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
08-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3.0	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
03-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sept-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
05-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
05-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.50	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	*NR	6.5	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR	*NR
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	*NR	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	*NR	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
*NR = Sample results are not yet available from the laboratory.
*ND = Compound not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

March 31, 2007 to April 27, 2007

WORK ASSIGNMENT NUMBER: 004-LRLR-05WE

SITE NAME: Penta Wood Products-OU1, WI

ACTIVITY: Long-Term Response Action

CH2M HILL JOB NUMBER: 344511

PREPARED BY: Bill Andrae/MKE, Site Manager

PERIOD ENDING: April 27, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.25 million gallons (MG) of groundwater during the reporting period. To date, a total of 59.25 MG of water have been treated. An estimated 704 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 21,810 gallons.
- On April 12, North Shore Environmental was onsite for pickup of an estimated 42,400 lbs of LNAPL and 14,500 lbs of filter cake.
- On April 17, Siemens was onsite for changeout of a 10,000-lb and a 2,500-lb carbon vessel.
- On April 19, Clay Hill was on site for air compressor service.
- On April 26, North Shore Environmental was on site for pickup of an estimated 45,000 lbs of spent carbon and 200 lbs of debris.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE) which is presented in a table located at the end of this document.

- Summarized the results of the Wisconsin Pollutant Discharge Eliminations System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.

Task D (PC):

- The April groundwater level measurements were contoured and evaluated for demonstration of groundwater capture. The data indicates the system had maintained capture and these results will be submitted as an addendum to the *2006 Annual Report* in the next reporting period.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		18	0
B (PJ)	07/29/06	07/29/06	03/14/11		18	0
C (CV)	07/29/06	07/29/06	03/14/11		15	0
D (PC)	07/29/06	07/29/06	03/14/11		15	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

The air compressor was serviced on April 19 after low pressure alarms were experienced in the dissolved air flotation (DAF) unit. The operator was able to operate the system prior to service.

3. Problem Areas and Recommended Solutions

Water level measurements were performed in all monitoring wells in April 2007. The water level measurements indicate the water table has decreased from previous events; however, water was present in all monitoring wells. The water level data demonstrates that the system has maintained capture and the results will be submitted as an addendum to the *2006 Annual Report* in the next reporting period.

During the semiannual sampling event, the depth to bottom will be measured in all monitoring wells to determine if silting is occurring. This data will be used to make recommendations on well redevelopment and maintenance. The April 2007 water level measurements indicate water is present in all wells, so all wells should be able to be sampled during the semiannual groundwater sampling event.

CH2M HILL proposes holding a conference call to discuss the pending USEPA comments on the work plan and an increase in the Expenditure Limit. CH2M HILL has reached 75 percent of the current Expenditure Limit.

4. Deliverables Submitted

None.

5. **Activities Planned Next Reporting Period**

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. During the next reporting period, CH2M HILL is planning to perform an LNAPL recovery optimization test.

Task C (CV): CH2M HILL will continue to conduct operational monitoring. The semiannual groundwater sampling event is planned for the week of May 7.

Task D (PC): Groundwater level measurements will be submitted as an addendum to the *2006 Annual Report*.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services	Siemens Water Technologies

8. **Travel**

None.

9. **Laboratories**

The 2006-2008 analytical services subcontract has been awarded to STL of Chicago, Illinois. They are a Wisconsin-certified laboratory.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *March 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

- The *2006 Annual Report* indicated that offsite contaminant levels are decreasing from the levels reported in the *2005 Annual Report* (submitted April 2006) and are below target cleanup levels. Groundwater capture and LNAPL recovery are meeting the groundwater containment performance standard.
- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is being considered for 2007.
- The system experienced periodic shutdowns for maintenance, alarms, and power outages and was down for a week for a carbon changeout. As a result, the treatment system did not meet the 84 percent operation performance standard. System modifications are being evaluated to improve operating percentage by addressing polymer mixing issues and decreasing the carbon changeout frequency.

Task C—Groundwater Treatment Goal Achieved

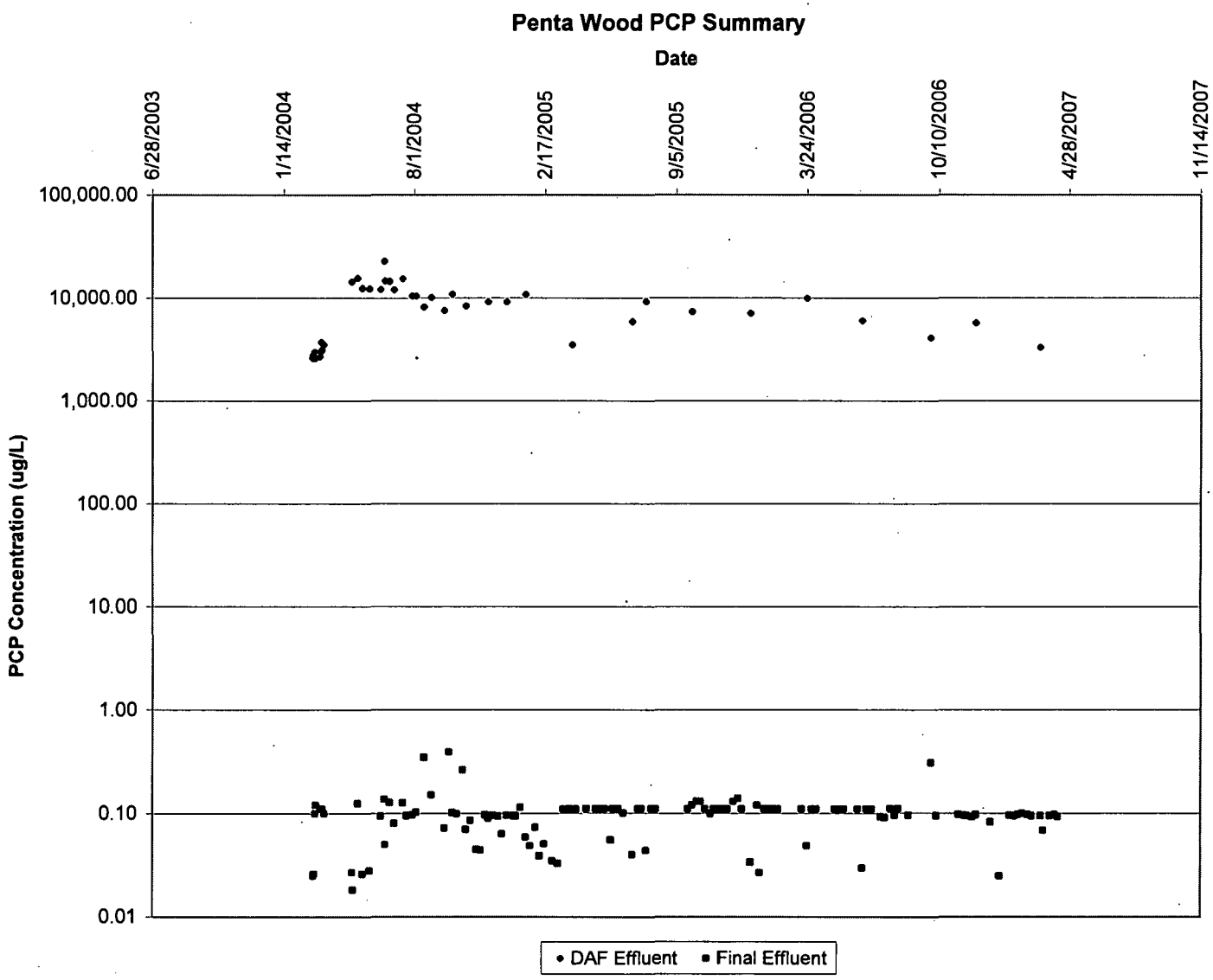
- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. Wi-0061531-01-0, meeting the performance standard.

Task D—Long Term Remedial Action Annual Report

- The *2006 Annual Report* was finalized with only minor changes after receipt of comments, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume.
Savings From the Use of Dedicated Pumps in Monitoring Wells	CH2M HILL will reduce the field staff for the 2007 spring sampling event and will evaluate the overall level of effort versus previous sampling events. CH2M HILL will also evaluate the potential for the plant operator to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	As part of this LTRA work assignment, CH2M HILL continues to review and reevaluate subsurface conditions and the potential impacts of operating the bioventing system concurrently with the groundwater and LNAPL extraction systems and present a recommendation to USEPA for review and possible implementation.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7.0	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04		7.0									0.137													
17-Jun-04		7.0									0.050U													
23-Jun-04		7.0									*NA													
24-Jun-04		7.0									0.127													
01-Jul-04		7.0									0.081JB													
14-Jul-04		7.0									0.126													
20-Jul-04	--	7.0	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04		7.0									0.0971U													
04-Aug-04		7.0									0.103													
16-Aug-04		7.0									0.348													
27-Aug-04	--	7.0	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04		7.0									0.0724JB													
23-Sep-04		7.0									0.393B													
28-Sep-04	10,900B	7.0	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
05-Oct-04		7.0									0.0990													
14-Oct-04		7.0									0.265B													
19-Oct-04	8,310B	7.0	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04		7.0									0.0861J													
04-Nov-04		7.0									0.0447J													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Nov-04		7.0									0.0442J													
17-Nov-04		7.0									0.0971U													
22-Nov-04	9,140	7.0	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04		7.0									0.0962U													
07-Dec-04		7.0									0.0943U													
13-Dec-04		7.0									0.0637J													
20-Dec-04	9,100	7.0	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2670	--	--
30-Dec-04		7.0									0.0952U													
03-Jan-05		7.0									0.0952U													
10-Jan-05		7.0									0.114B													
18-Jan-05	10,800B	7.0	--	--	0.120	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05		7.0									0.049J													
02-Feb-05		7.0									0.074J													
08-Feb-05		7.0									0.039J													
15-Feb-05		7.0									0.051J													
28-Feb-05	--	7.0	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
08-Mar-05	--	7.0	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05		7.0									0.11U													
22-Mar-05	3,500	7.0	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	ND	ND
30-Mar-05		7.0									0.11U													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
05-Apr-05		7.0									0.11U													
20-Apr-05	--	7.0	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
04-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7.0	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
01-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7.0	6.0	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
08-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7.0	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
04-Aug-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sept-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sept-05	7,300	7.0	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
06-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
27-Oct-05	--	7.0	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
01-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7.0	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7.0	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5.0	2.5B	72	390	3,600	--	--
06-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06		7.0	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-06	--	7.0	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	ND	ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
06-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
04-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
08-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3.0	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
03-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sept-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
05-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
05-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.50	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	3300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5400	--	--
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.069J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-07	--	6.5	--	--	0.097U	0.68B	--	--	--	--	0.097U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
10-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-07	--	6.5	--	--	--	--	--	--	--	--	*NR	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Apr-07	--	6.5	--	--	--	--	--	--	--	--	*NR	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
*NR = Sample results are not yet available from the laboratory.
*ND = Compound not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

April 28, 2007 to May 25, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Bill Andrae/MKE, Site Manager
PERIOD ENDING:	May 25, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.58 million gallons (MG) of groundwater during the reporting period. To date, a total of 60.8 MG of water have been treated. An estimated 567 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 22,377 gallons.
- During the week of May 7, CH2M HILL performed the LNAPL recovery test at EW-05. Results of the LNAPL test are being summarized in a technical memorandum and will be submitted in the next reporting period.
- On May 16, Siemens was onsite for changeout of a 10,000-pound (lb) carbon vessel. Carbon changeouts have been required approximately every 4 to 5 weeks due to differential pressure in the carbon vessels. To reduce carbon changeout and disposal costs, only the top 25 percent of carbon in the vessel, or 2,500 lbs was changed out. Breakthrough from the lead carbon vessel was not anticipated, but a water sample was collected from the effluent of the lead carbon vessel and verified breakthrough was not occurring.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE) which is presented in a table located at the end of this document.

- Summarized the results of the Wisconsin Pollutant Discharge Eliminations System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.
- Conducted the semi-annual groundwater sampling event the week of May 7. The sampling team was able to collect samples and water levels from all the designated wells.

Task D (PC):

- The April 2007 groundwater level measurements were contoured and evaluated for demonstration of groundwater capture. The data indicates the system had maintained capture and these results will be submitted as an addendum to the *2006 Annual Report* in the next reporting period.
- The May 2007 groundwater level measurements from the semi-annual sampling were contoured and evaluated for demonstration of groundwater capture. The contours illustrate capture and will be included in the *2007 Annual Report*.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		19	0
B (PJ)	07/29/06	07/29/06	03/14/11		19	0
C (CV)	07/29/06	07/29/06	03/14/11		18	0
D (PC)	07/29/06	07/29/06	03/14/11		20	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

None.

3. Problem Areas and Recommended Solutions

Frequent carbon changeouts have been required due to pressure in the carbon vessels. While system modifications are being evaluated, interim cost saving measures are being evaluated. Carbon changeouts have been required approximately every 4 to 5 weeks. To reduce carbon changeout and disposal costs, only the top 25 percent of carbon in the lead 10,000-lb vessel was changed out during the May 16 carbon changeout. The system will be monitored to determine if the partial changeout can be performed at the same changeout frequency as full carbon bed changeouts. If system monitoring indicates the changeouts can be performed at the same frequency, a modified changeout schedule may be proposed as an interim measure.

During the semi-annual sampling event, the depth to bottom was measured in all monitoring wells to determine if silting is occurring and observations on well conditions were documented. This data was collected to evaluate if silting is occurring as indicated by the September 2006 sampling event.

CH2M HILL proposes holding a conference call to discuss the pending USEPA comments on the work plan and an increase in the Expenditure Limit.

4. **Deliverables Submitted**

None.

5. **Activities Planned Next Reporting Period**

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. During the next reporting period, CH2M HILL will summarize the LNAPL recovery optimization test and submit a technical memorandum to USEPA.

Task C (CV): CH2M HILL will continue to conduct operational monitoring. Semi-annual sampling results will be received from the laboratory in the next reporting period and will be submitted for USEPA data validation.

Task D (PC): April 2007 groundwater level measurements will be submitted as an addendum to the *2006 Annual Report*.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Beth Rohde and Phil Smith traveled to the site May 7 and returned May 8 in preparation for the LNAPL recovery optimization test. Travel charges for Beth Rohde will be invoiced during the next reporting period.

Dave Shekoski and Carolyn Fehn traveled to the site on May 7 and returned on May 11 for the semi-annual groundwater sampling and LNAPL recovery optimization test. Travel charges will be invoiced during the next reporting period.

Keli McKenna traveled to the site on May 9 and returned on May 10 to evaluate system operation and LNAPL recovery optimization testing, and to meet onsite with the WAM and WDNR.

9. Laboratories

The samples from the system monitoring and semi-annual sampling event were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. Project Performance

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *April 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

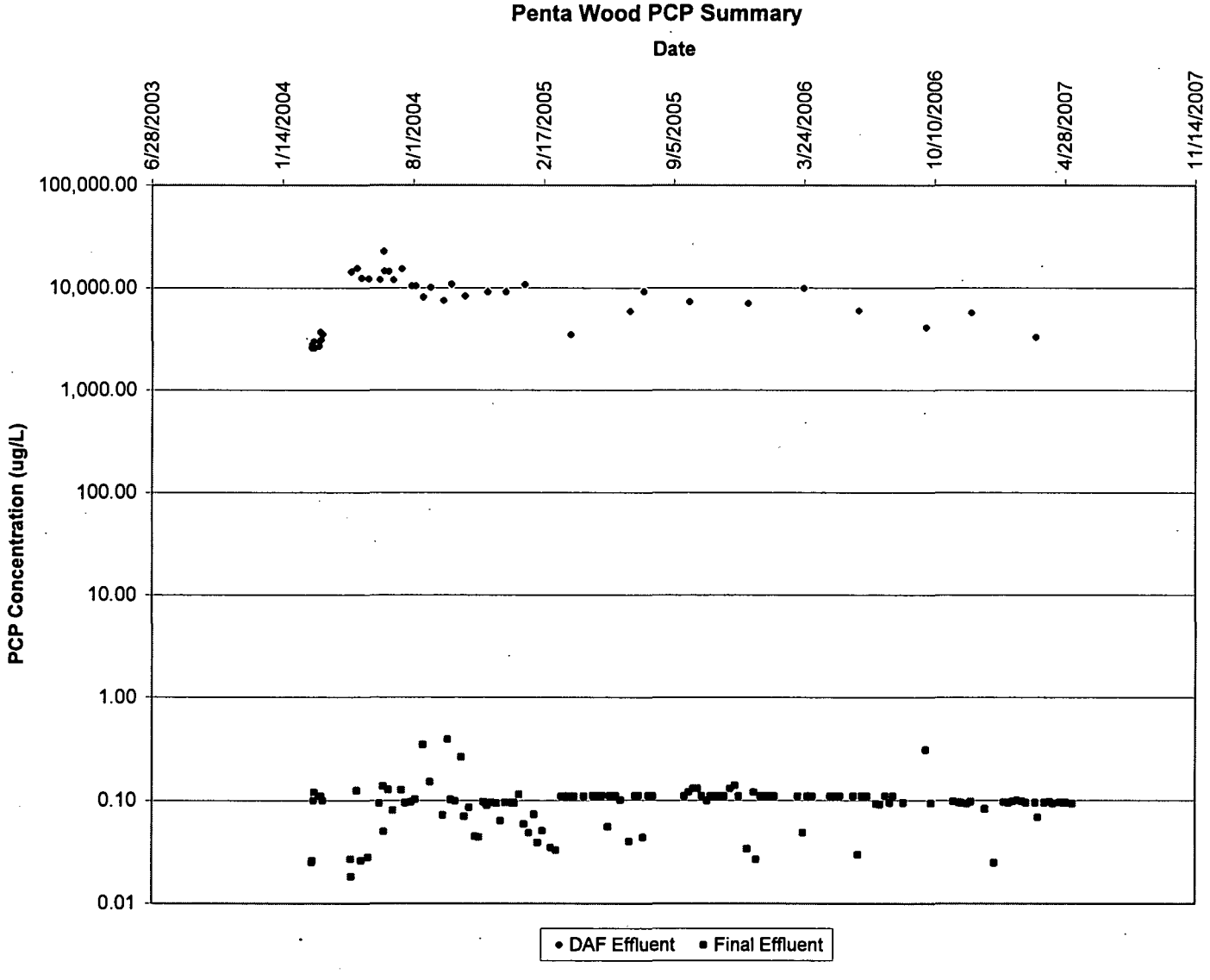
- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is being considered for 2007.
- The system experienced periodic shutdowns for maintenance, alarms, and was down for a carbon changeout. As a result, the treatment system did not meet the 84 percent operation performance standard. System modifications are being evaluated to improve operating percentage by optimizing polymer mixing, which is anticipated to result in a decreased carbon changeout frequency.

Task C—Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. Wi-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test performed the week of May 7 evaluated the effect of the cone of depression on the LNAPL recovery. The results of the optimization test will be summarized and submitted in a technical memorandum.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	As part of this LTRA work assignment, CH2M HILL continues to review and reevaluate subsurface conditions and the potential impacts of operating the bioventing system concurrently with the groundwater and LNAPL extraction systems. CH2M HILL will present a recommendation to USEPA for review and possible implementation.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7.0	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04		7.0									0.137													
17-Jun-04		7.0									0.050U													
23-Jun-04		7.0									*NA													
24-Jun-04		7.0									0.127													
01-Jul-04		7.0									0.081JB													
14-Jul-04		7.0									0.126													
20-Jul-04	--	7.0	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04		7.0									0.0971U													
04-Aug-04		7.0									0.103													
16-Aug-04		7.0									0.348													
27-Aug-04	--	7.0	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04		7.0									0.0724JB													
23-Sep-04		7.0									0.393B													
28-Sep-04	10,900B	7.0	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
05-Oct-04		7.0									0.0990													
14-Oct-04		7.0									0.265B													
19-Oct-04	8,310B	7.0	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04		7.0									0.0861J													
04-Nov-04		7.0									0.0447J													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Nov-04		7.0									0.0442J													
17-Nov-04		7.0									0.0971U													
22-Nov-04	9,140	7.0	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04		7.0									0.0962U													
07-Dec-04		7.0									0.0943U													
13-Dec-04		7.0									0.0637J													
20-Dec-04	9,100	7.0	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2670	--	--
30-Dec-04		7.0									0.0952U													
03-Jan-05		7.0									0.0952U													
10-Jan-05		7.0									0.114B													
18-Jan-05	10,800B	7.0	--	--	0.120	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05		7.0									0.049J													
02-Feb-05		7.0									0.074J													
08-Feb-05		7.0									0.039J													
15-Feb-05		7.0									0.051J													
28-Feb-05	--	7.0	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
08-Mar-05	--	7.0	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05		7.0									0.11U													
22-Mar-05	3,500	7.0	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	ND	ND
30-Mar-05		7.0									0.11U													

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
05-Apr-05		7.0									0.11U													
20-Apr-05	--	7.0	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
04-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7.0	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
01-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-05	--	7.0	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7.0	6.0	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
08-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7.0	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
04-Aug-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sept-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sept-05	7,300	7.0	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
06-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
27-Oct-05	--	7.0	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
01-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7.0	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7.0	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5.0	2.5B	72	390	3,600	--	--
06-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06		7.0	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-06	--	7.0	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-06	--	7.0	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	ND	ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
06-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
04-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
08-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3.0	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
03-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sept-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
05-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
08-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
05-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	ND
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
01-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
07-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	3300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5400	--	--
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.069J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-07	--	6.5	--	--	0.097U	0.68B	--	--	--	--	0.097U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
10-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
30-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-May-07	--	6.5	--	--	0.094U	0.43J	--	--	--	--	0.095U	4.6U	0.92U	--	--	--	--	--	--	--	--	--	--	--
18-May-07	--	6.5	--	--	--	--	--	--	--	--	0.092U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
*NR = Sample results are not yet available from the laboratory.
*ND = Compound not detected in sample.
– = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

May 26, 2007 to June 29, 2007

WORK ASSIGNMENT NUMBER: 004-LRLR-05WE

SITE NAME: Penta Wood Products-OU1, WI

ACTIVITY: Long-Term Response Action

CH2M HILL JOB NUMBER: 344511

PREPARED BY: Bill Andrae/MKE, Site Manager
Keli McKenna/MKE, Assistant Site Manager

PERIOD ENDING: June 29, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.06 million gallons (MG) of groundwater during the reporting period. To date, a total of 61.9 MG of water have been treated. An estimated 194 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 22,571 gallons.
- On June 6, Glacier Pure delivered two (2) pallets of diatomaceous earth (DE) to the site.
- On June 12, Siemens was onsite for changeout of a 2,500-pound (lb) and a 10,000-lb carbon vessel. The previous carbon changeout, performed on May 16, was a partial changeout of the lead 10,000-lb carbon vessel. The top 2 feet, or 2,500 lbs of carbon had been changed out to evaluate potential reductions in carbon changeout and disposal costs. For the changeout on June 12, a complete changeout of the 10,000-lb vessel was performed. A summary of the changeouts and recommendations for a partial changeout schedule was submitted to the WAM on June 29.
- On June 15, the flexible shaft connector broke on the rotary drum vacuum filter (RDVF) recirculation pump. On June 18, no additional storage of the float was

available in the float tank and required a system shut down. Maurer Power was onsite June 19 for repairs on the pump and ordered replacement parts. Maurer Power installed the replacement parts on June 22, but shut down approximately 1 hour after installation. The WAM was notified on June 22 in case additional downtime was experienced. DR Tech was onsite later that day to assist with troubleshooting, and the system was restarted on June 22 after clearing a hidden alarm.

- On June 19, CH2M HILL received USEPA's comments on the Work Plan and submitted responses to the comments on June 22.
- CH2M HILL summarized the LNAPL recovery test observations and evaluated the results. The results were submitted to the WAM in a technical memorandum on June 29.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE) which is presented in a table located at the end of this document.
- Summarized the results of the Wisconsin Pollutant Discharge Eliminations System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.
- Semi-annual sampling results were received from the laboratory on June 6 and were submitted for USEPA data validation on June 19.
- The semi-annual sampling results for the residential and potable wells were submitted to the WAM on June 29.

Task D (PC):

- The *2006 Annual Report Addendum* with the April 2007 groundwater level measurements was submitted on June 14.

Summary of Project Status

Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		20	0
B (PJ)	07/29/06	07/29/06	03/14/11		20	0
C (CV)	07/29/06	07/29/06	03/14/11		18	0
D (PC)	07/29/06	07/29/06	03/14/11		20	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

The flexible shaft connector on the RDVF recirculation pump broke during this reporting period. Two flexible shaft connectors were purchased. One was installed as a replacement and the second is onsite as a spare since this is a part susceptible to wear.

3. Problem Areas and Recommended Solutions

Frequent carbon changeouts have been required due to pressure in the carbon vessels. A modified changeout schedule, which included alternating between partial and complete carbon changeout, was submitted to the WAM on June 29 as a proposed interim cost-saving measure.

During the semi-annual sampling event in May 2007, the depth to bottom was measured in all monitoring wells to determine whether silting is occurring and to observe and document well conditions. This data was collected to evaluate whether silting is occurring as indicated by the September 2006 sampling event. The results are being summarized in a technical memorandum which will be submitted to the WAM in the next reporting period.

The flexible shaft connector on the RDVF recirculation pump is one part that is susceptible to wear. System components will be evaluated to identify additional parts that are susceptible to wear and determine what spare parts should be maintained onsite to minimize downtime in the event of breakage.

4. Deliverables Submitted

Semi-annual sampling results were received from the laboratory on June 6 and submitted for USEPA data validation on June 19.

On June 19, CH2M HILL received USEPA's comments on the Work Plan and submitted responses to the comments on June 22.

The semi-annual sampling results for the residential and potable wells were submitted to the WAM on June 29.

A summary of the carbon changeouts and recommendations for a partial changeout schedule was submitted to the WAM on June 29.

The LNAPL recovery test results were submitted to the WAM in a technical memorandum on June 29.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. A technical memorandum with observations on well conditions and depth to bottom measurements from the May 2007 semi-annual sampling event will be submitted in the next reporting period. An evaluation of the WPDES sampling for the treatment system discharge is being prepared and proposed monitoring modifications will be submitted to the WAM in a technical memorandum in the next reporting period.

Task C (CV): CH2M HILL will continue to conduct operational monitoring.

Task D (PC): None.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Travel for Beth Rohde, Dave Shekoski, and Carolyn Fehn was reported in the May Technical Status Report.

Maribeth Wintercorn traveled to the site on June 12 and returned on June 13 to temporarily relieve the site operator who was not able to be onsite during the carbon changeout. Travel charges will be invoiced during the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *May 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is being considered for 2007.
- The system experienced periodic shutdowns for maintenance, alarms, and was down for a carbon changeout and RDVF repairs. As a result, the treatment

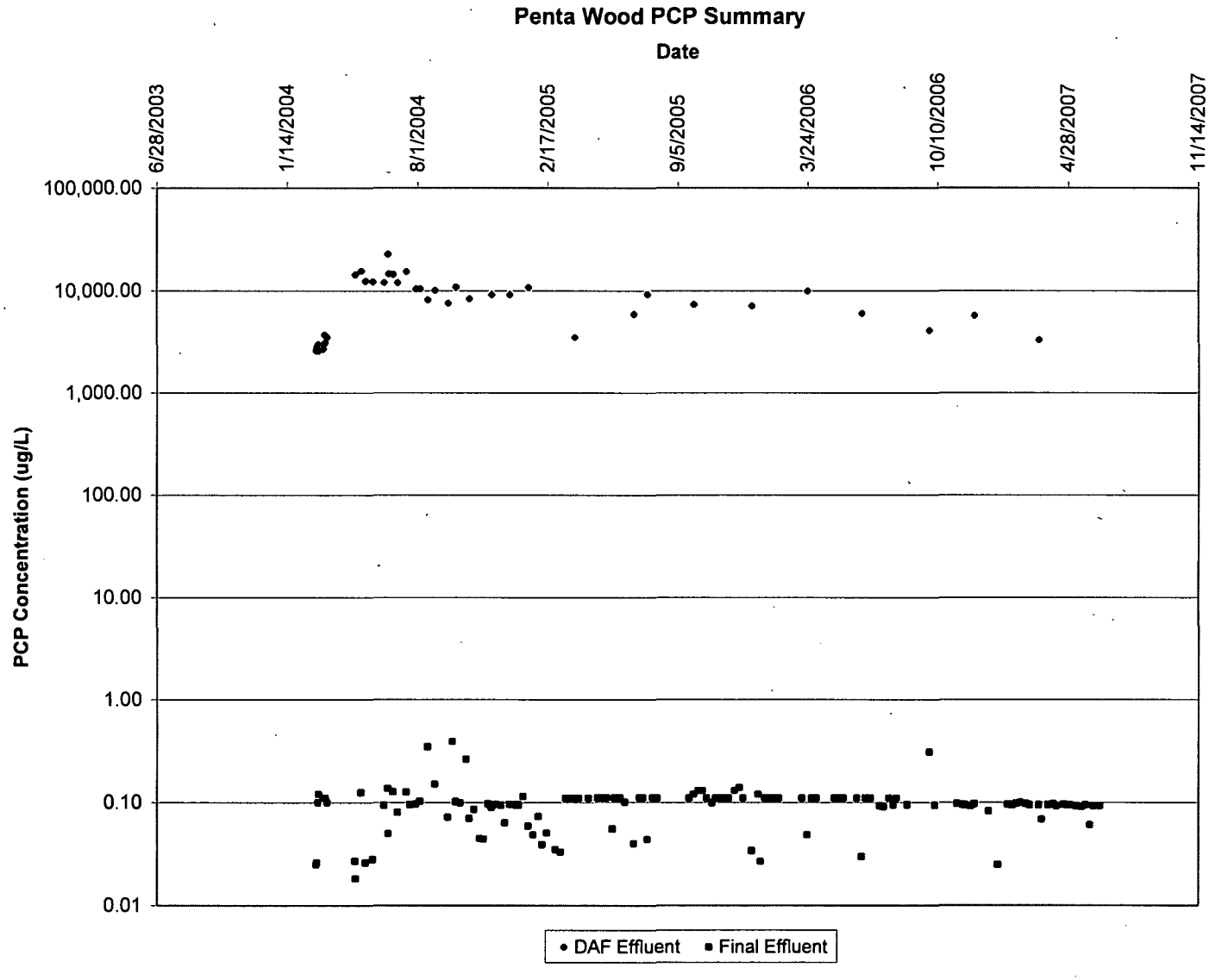
system did not meet the 84 percent operation performance standard. System modifications are being evaluated to improve operating percentage by optimizing polymer mixing, which is anticipated to result in a decreased carbon changeout frequency.

Task C—Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. WI-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test performed the week of May 7 evaluated the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	As part of this LTRA work assignment, CH2M HILL continues to review and reevaluate subsurface conditions and the potential impacts of operating the bioventing system concurrently with the groundwater and LNAPL extraction systems. CH2M HILL will present a recommendation to USEPA for review and possible implementation.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04	--	7	--	--	--	--	--	--	--	--	0.137	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jun-04	--	7	--	--	--	--	--	--	--	--	0.050U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Jun-04	--	7	--	--	--	--	--	--	--	--	*NA	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Jun-04	--	7	--	--	--	--	--	--	--	--	0.127	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Jul-04	--	7	--	--	--	--	--	--	--	--	0.081JB	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Jul-04	--	7	--	--	--	--	--	--	--	--	0.126	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-04	--	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-04	--	7	--	--	--	--	--	--	--	--	0.103	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Aug-04	--	7	--	--	--	--	--	--	--	--	0.348	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Aug-04	--	7	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04	--	7	--	--	--	--	--	--	--	--	0.0724JB	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Sep-04	--	7	--	--	--	--	--	--	--	--	0.393B	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
5-Oct-04	--	7	--	--	--	--	--	--	--	--	0.099	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Oct-04	--	7	--	--	--	--	--	--	--	--	0.265B	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-04	8,310B	7	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04	--	7	--	--	--	--	--	--	--	--	0.0861J	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0447J	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0442J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-04	9,140	7	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0962U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0943U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0637J	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	--	--
30-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Jan-05	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-05	--	7	--	--	--	--	--	--	--	--	0.114B	--	--	--	--	--	--	--	--	--	--	--	--	--
18-Jan-05	10,800B	7	--	--	0.12	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05	--	7	--	--	--	--	--	--	--	--	0.049J	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Feb-05	--	7	--	--	--	--	--	--	--	--	0.074J	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Feb-05	--	7	--	--	--	--	--	--	--	--	0.039J	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Feb-05	--	7	--	--	--	--	--	--	--	--	0.051J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-05	--	7	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
8-Mar-05	--	7	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-05	--	7	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
4-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
1-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	--	7	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
8-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sep-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
6-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Oct-05	--	7	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
1-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Dec-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Dec-05	--	7	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	--	--
6-Jan-06	--	7	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06	--	7	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-06	--	7	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
6-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
4-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
8-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
5-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	--	[c]ND
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.069J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-07	--	6.5	--	--	0.097U	0.68B	--	--	--	--	0.097U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
10-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
30-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-May-07	--	6.5	--	--	0.094U	0.43J	--	--	--	--	0.095U	4.6U	0.92U	--	--	--	--	--	--	--	--	--	--	--
18-May-07	--	6.5	--	--	--	--	--	--	--	--	0.092U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-May-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
31-May-07	--	6.5	--	--	--	--	--	--	--	--	0.061J	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Jun-07	--	6.5	--	--	--	--	--	--	--	--	[b]NR	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Jun-07	[b]NR	6.5	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	--	--

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

June 30, 2007 to July 27, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Bill Andrae/MKE, Site Manager Keli McKenna/MKE, Assistant Site Manager
PERIOD ENDING:	July 27, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Continued operation of the system under this task.
- Treated and discharged an estimated 1.22 million gallons (MG) of groundwater during the reporting period. To date, a total of 63.1 MG of water have been treated. An estimated 136 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 22,707 gallons.
- On July 6, CH2M HILL submitted a *Proposed Effluent Monitoring Reduction* technical memorandum to the WAM for potential reductions to treatment system influent and effluent monitoring in Wisconsin Pollutant Discharge Eliminations System (WPDES) Permit No. WI-0061531-01-0.
- On July 11, North Shore Environmental was onsite to pick up 6 boxes of filter cake.
- On July 11, Brust Excavating was onsite for erosion control repairs including the recrowning of the driveway and cleaning of the sedimentation basin.
- On July 13, Siemens was onsite for a partial changeout of the lead 10,000-pound (lb) carbon vessel. The top 2 feet, or approximately 2,500 lbs of carbon, was

changed out in accordance with the partial changeout schedule submitted to the WAM on June 29.

- Developed an action plan to determine the nature and cause(s) of the pressure buildup in the carbon vessels and identify methods to reduce the buildup formation, develop a set of operating protocols that result in increased operating efficiency and reduced carbon replacement cycles, and identify operator training requirements needed to continuously improve treatment system performance.

  The following items have been identified as items to be addressed and the action proposed to address each item.

  1) The operator has observed high solids discharges to the bag filters, the 2,500-lb pre-filter vessel, and the lead granular activated carbon (GAC) vessel. This requires frequent filter bag changes and frequent backwashing of the 2,500-lb pre-filter vessel. The larger carbon units (10,000 lbs) do not contain backwash systems, and the lead carbon vessel needs to shut down due to high pressure drop after 4 weeks of operation.

     Recommended Actions

     - Collect total suspended solids (TSS) from the effluent of the dissolved air flotation (DAF), bag filters, 2,500-lb pre-filter vessel, and each of the GAC vessels.
     - Measure chemical feed pump delivery at current set points to ensure delivering the correct dosage.
     - Collect effluent samples from the coalescing oil water separator (COW), coagulant tank, flocculant tank, and DAF, and visually confirm that the desired level of chemical conditioning is being achieved.

  2) The process line from the polymer neat tank to the make down tank and the lines from the make down tank to the polymer feed pump are frequently plugged with polymer, causing uncertainty around the control and delivery of the polymer to the flocculation tank.

     Recommended Actions

     - Perform jar testing at the site to determine the optimal dosage of polymer and coagulant at the current conditions. Collect the supernatant from the jar test and analyze for TSS, oil and grease, pentachlorophenol (PCP), and alkalinity.
     - Evaluate the performance of the DAF including the recirculation rates, air flow rate, and air pressure.
     - Collect effluent samples from COW, coagulant tank, flocculant tank, and DAF and visually confirm that desired chemical conditioning is being achieved.
     - Evaluate alternative polymer systems and cost for replacement of the entire system or only the feed pump.

3) The GAC in the lead vessel is being changed out monthly due to increased pressure in the vessels; therefore, it is unknown when maximum bed utilization for PCP removal is being achieved.

Recommended Actions

- Implement a sampling program to collect PCP data from the start of a full change-out to monitor for breakthrough.
- Evaluate parameters for the design of a backwash system for the GAC vessels.
- Collect sample of the material fouling the GAC vessel for characterization including iron, manganese, volatile solids, total solids, and biological microscopic examination.

4) Documentation of the maintenance performed on the system and operational activities performed can be time consuming for the operator.

Recommended Actions

- Establish a maintenance schedule and tracking tool for the system equipment and operational activites.

- Developed the field instructions for the jar testing to be performed on July 30 and 31.
- Started preparing the Bioventing Startup Plan that will outline the procedures for checking out the equipment, starting up the equipment, parameters to be measured, and schedule.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE) which is presented in a table located at the end of this document.
- Summarized the results of WPDES for PCP sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.

Task D (PC):

- None.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		21	0
B (PJ)	07/29/06	07/29/06	03/14/11		21	0
C (CV)	07/29/06	07/29/06	03/14/11		18	0

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
D (PC)	07/29/06	07/29/06	03/14/11		20	0
E (CO)	03/01/11		03/14/11		0	0

2. **Problems Resolved**

None.

3. **Problem Areas and Recommended Solutions**

Frequent carbon changeouts have been required due to pressure in the carbon vessels. A modified changeout schedule, which included alternating between partial and complete carbon changeout, was submitted in the previous reporting period as a proposed interim cost-saving measure. In addition, the recommended action items identified above will be started.

During the semi-annual sampling event in May 2007, the depth to bottom was measured in all monitoring wells to determine whether silting is occurring and to observe and document well conditions. This data was collected to evaluate whether silting is occurring as indicated by the September 2006 sampling event. The results are being summarized in a technical memorandum which will be submitted to the WAM in the next reporting period.

The LNAPL recovery pumps in recovery well EW-10 and EW-03 are not operating. The pump in EW-10 will be pulled from the well and cleaned. If cleaning of the pump does not correct the problem, a replacement pump will be ordered. The wires on the pump in EW-03 have been damaged by an animal (eaten). A replacement pump for this location will be ordered and changed out during the next reporting period.The pH in the coagulation tank was tested with pH strips to determine if the pH probes installed in the tank were reading correctly. It was determined that the actual pH in the tank is already 1 to 2 pH units high. The pH probes will be checked by the senior engineer when onsite to perform the jar testing during the next reporting period.

The supersacks used to containerize the carbon from the last changeout were found to be leaking at the transfer station. These supersacks are all inspected by the operator and subcontractor prior to leaving the site; therefore, the type of supersacks and liners used by the subcontractor are being inspected. It is anticipated that CH2M HILL will require alternative liners for future carbon changeouts. The supersacks currently onsite will be repackaged to provide additional protection against these supersacks leaking and a repackagingfee assessed by the disposal company.

4. **Deliverables Submitted**

On July 6, CH2M HILL submitted a *Proposed Effluent Monitoring Reduction* technical memorandum to the WAM for potential reductions to treatment system influent and effluent monitoring in WPDES Permit No. WI-0061531-01-0.

5. **Activities Planned Next Reporting Period**

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. A technical memorandum with observations on well conditions and depth to bottom measurements from the May 2007 semi-annual sampling event will be submitted in the next reporting period. In addition, CH2M HILL is reviewing the number and frequency that locations are sampled during the groundwater sampling events. Recommended changes will be presented during the next reporting period.

CH2M HILL will perform a site health and safety audit on July 31. During this audit, the lone worker equipment will be installed and the operator trained on how to use it.

The jar testing activities will be performed.

Task C (CV): CH2M HILL will continue to conduct operational monitoring. Planning and preparaton activites for the September annual groundwater sampling event will begin.

Task D (PC): None.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Travel for Maribeth Wintercorn in June was reported in last month's Technical Status Report.

Maribeth Wintercorn traveled to the site on July 17 and returned on July 20 to temporarily relieve the site operator who was not able to be onsite during that period. Travel charges will be invoiced during the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006-2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A – LTRA Monthly Progress Report

- The *June 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B – Groundwater Containment and Bioventing

- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is planned to start September 2007.
- The system experienced periodic shutdowns for maintenance, alarms, and was down for a carbon changeout. As a result, the treatment system did not meet the 84 percent operation performance standard. System modifications are being evaluated to improve operating percentage by optimizing system chemistry and polymer mixing, which is anticipated to result in a decreased carbon changeout frequency.

Task C – Groundwater Treatment Goal Achieved

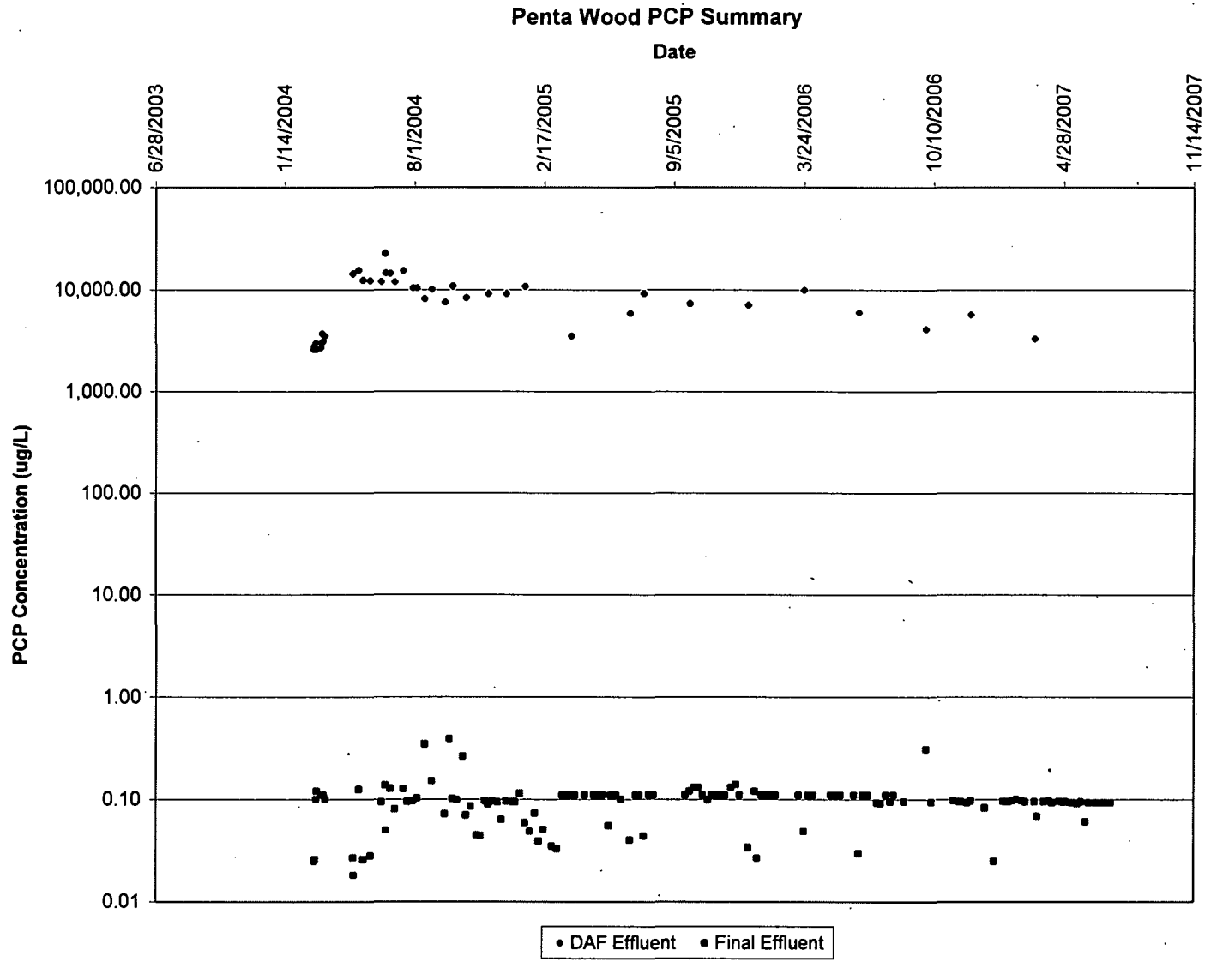
- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. WI-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL is reviewing the number of locations and frequency of the sampling performed during the groundwater sampling events. Recommendations will be presented during the next reporting period.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test performed the week of May 7 evaluated the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL is planning to start the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.)

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04	--	7	--	--	--	--	--	--	--	--	0.137	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jun-04	--	7	--	--	--	--	--	--	--	--	0.050U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Jun-04	--	7	--	--	--	--	--	--	--	--	*NA	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Jun-04	--	7	--	--	--	--	--	--	--	--	0.127	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Jul-04	--	7	--	--	--	--	--	--	--	--	0.081JB	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Jul-04	--	7	--	--	--	--	--	--	--	--	0.126	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-04	--	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-04	--	7	--	--	--	--	--	--	--	--	0.103	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Aug-04	--	7	--	--	--	--	--	--	--	--	0.348	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Aug-04	--	7	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04	--	7	--	--	--	--	--	--	--	--	0.0724JB	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Sep-04	--	7	--	--	--	--	--	--	--	--	0.393B	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
5-Oct-04	--	7	--	--	--	--	--	--	--	--	0.099	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Oct-04	--	7	--	--	--	--	--	--	--	--	0.265B	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-04	8,310B	7	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04	--	7	--	--	--	--	--	--	--	--	0.0861J	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0447J	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0442J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-04	9,140	7	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0962U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0943U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0637J	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	--	--
30-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Jan-05	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-05	--	7	--	--	--	--	--	--	--	--	0.114B	--	--	--	--	--	--	--	--	--	--	--	--	--
18-Jan-05	10,800B	7	--	--	0.12	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05	--	7	--	--	--	--	--	--	--	--	0.049J	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Feb-05	--	7	--	--	--	--	--	--	--	--	0.074J	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Feb-05	--	7	--	--	--	--	--	--	--	--	0.039J	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Feb-05	--	7	--	--	--	--	--	--	--	--	0.051J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-05	--	7	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
8-Mar-05	--	7	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-05	--	7	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
4-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
1-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	--	7	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
8-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sep-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
6-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Oct-05	--	7	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
1-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Dec-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Dec-05	--	7	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	--	--
6-Jan-06	--	7	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06	--	7	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-06	--	7	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
6-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
4-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
8-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
5-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	--	[c]ND
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.069J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-07	--	6.5	--	--	0.097U	0.68B	--	--	--	--	0.097U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
10-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
30-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-May-07	--	6.5	--	--	0.094U	0.43J	--	--	--	--	0.095U	4.6U	0.92U	--	--	--	--	--	--	--	--	--	--	--
18-May-07	--	6.5	--	--	--	--	--	--	--	--	0.092U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-May-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
31-May-07	--	6.5	--	--	--	--	--	--	--	--	0.061J	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Jun-07	[b]NR	6.5	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	--	--

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

July 28, 2007 to August 31, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Keli McKenna/MKE, Site Manager Beth Rohde/MKE, Assistant Site Manager
PERIOD ENDING:	August 31, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Operation of the system under this task continued.
- An estimated 1.91 million gallons (MG) of groundwater were treated and discharged during the reporting period. To date, a total of 65.1 MG of water have been treated. An estimated 512 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 23,219 gallons.
- On August 7, Siemens was onsite for a full changeout of the lead 10,000-pound (lb) carbon vessel.
- On August 23, Reliable Services was onsite to service the odorous air fans which has alarmed overnight and caused the treatment system to shut down. Reliable Services replaced a belt on one unit allowing the system to be restarted the same day with one fan operating. A motor was ordered for the second unit.
- The jar testing was performed at the site on July 30 and 31 to determine the optimal dosage of polymer and coagulant at the current conditions. Samples were collected during the jar testing and analyzed for total suspended solids (TSS), oil and grease, pentachlorophenol (PCP), and alkalinity. The analytical results were received from the laboratory during the reporting period, and the

results were summarized with observations and recommendations. The evaluation of the jar testing will be completed during the next reporting period.

- An onsite health and safety audit was performed on July 31. The results of the health and safety audit were discussed with the project team, and the report will be completed during the next reporting period.
- Preparation for the *Bioventing Startup Plan* continued. The plan will outline the procedures for checking out the equipment, starting up the equipment, parameters to be measured, and schedule. The bioventing startup is scheduled to begin the week of September 17.
- In preparation of the bioventing startup, the manufacturer was contacted to find a local representative to perform an inspection and needed maintenance. The inspection and maintenance will be performed during the next reporting period.
- The following clarification to the performance standard to Task B - Groundwater Containment and LNAP Removal was submitted on August 17 for consideration by USEPA. The following proposed language was based on original language in the USEPA Statement of Work dated March 16, 2006:

  Groundwater containment and LNAPL removal is achieved such that off-site contaminant levels are decreasing and/or below target cleanup levels. The treatment plant is operational 100% of the time on at least 330 days per year, except for periodic maintenance or circumstances beyond contractor's control (i.e. power outage) or as approved by the CO.

  In addition, it was proposed that the following items be included as added performance factors in defining an operational system:

  - *Response to equipment repairs is less than 14 days (includes implementation of a carbon changeout) unless there are circumstances beyond the contractor's control such as parts shortages or prior approval by CO.*
  - *Response to acknowledge system alarms is less than 24 hrs unless there are circumstances beyond the contractor's control such as parts shortages or prior approval by CO*

  We understand that the project goal is to reduce overall time to cleanup groundwater and minimize project costs (e.g., reduce carbon change outs). We believe that these are still addressed and will be evaluated by the proposed performance standard and the performance goal for meeting the final expenditures.

  A summary of performance, based on the proposed criteria, was submitted with the proposed clarifications. The performance standard, as stated above, was not achieved for the 12 month period from April 2006 through March 2007, as the system was operational only 303 days. Continuous improvements to the operation and maintenance of the treatment system to achieve this performance standard are being implemented. CH2M HILL would like the opportunity to demonstrate improved performance each year; therefore, requested that USEPA evaluate the project performance against this performance goal on a semi-

annual basis rather than entire period of performance for determination of the incentive fee awarded.

- Received feedback from Bill Schultz/WDNR on the requested changes to the Wisconsin Pollutant Discharge Elimination System (WPDES) sampling requirements on August 20. The approved changes will be captured in a re-issued permit. No changes in the sampling will be made until the re-issued permit is received.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE), which is presented in a table located at the end of this document.
- Summarized the results of WPDES for PCP sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.
- Planning and preparation activities for the September annual groundwater sampling event began. The annual groundwater sampling event is scheduled for the week of September 17.

Task D (PC):

- None.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		23	0
B (PJ)	07/29/06	07/29/06	03/14/11		23	0
C (CV)	07/29/06	07/29/06	03/14/11		18	0
D (PC)	07/29/06	07/29/06	03/14/11		20	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

The LNAPL recovery pump in recovery well EW-10 was not operating. The LNAPL recovery pump 10 was pulled from the well and cleaned on August 3. The pump was reinstalled and is operating normally after cleaning.

The pH in the coagulation tank was tested with pH strips, and it was determined that the actual pH in the tank was 1 to 2 pH units high. Replacement pH probes were ordered, but in the interim, the site operator is using a hand-held pH meter to measure pH and adjust to achieve the required pH. Since adjusting the pH, the clarity of the DAF effluent is improved with reduced solids discharge to the bag filters, the 2,500-lb pre-filter vessel, and the lead granular activated carbon (GAC) vessel. As a result, the frequency of filter bag changeouts has been reduced from

daily to approximately every 3 to 4 days. In addition, the backwash frequency for the 2,500-lb carbon vessel has been reduced. This is expected to result in a reduced carbon changeout frequency.

On August 23, the treatment system shut down due to alarms for the two odorous air fans. Reliable Services was onsite the same day and replaced a belt on one unit allowing the system to be restarted with one fan operating. A motor was ordered for the second unit and will be installed in the next reporting period.

3. Problem Areas and Recommended Solutions

During the semi-annual sampling event in May 2007, the depth to bottom was measured in all monitoring wells to determine whether silting is occurring and to observe and document well conditions. This data was collected to evaluate whether silting is occurring as indicated by the September 2006 sampling event. The results were summarized in a technical memorandum and submitted to the WAM electronically on August 27 with a hard copy followup.

A replacement LNAPL recovery pump in EW-03 was ordered and received on August 31. The pump will be installed during the groundwater sampling event, scheduled the week of September 17. Replacement pH probes for the coagulation tank will be installed during the next reporting period.

The supersacks used to containerize the carbon from the last changeout were found to be leaking at the transfer station. These supersacks are all inspected by the operator and subcontractor prior to leaving the site; therefore, the type of supersacks and liners used by the subcontractor are being evaluated. CH2M HILL is working with the vendor to evaluate solutions for future carbon changes including use of alternative supersacks and/or liners.

On August 8, the site operator was approached by neighbors that expressed concern about the irrigation system (reportedly 300 gpm) at the nearby National Golf Course. The golf course and contractor for the neighboring residential development will be contacted during the next reporting period to discuss the plans for redevelop of the area and irrigation system operation. The concerns were communicated to Bill Schultz/WDNR who indicated he would inquire with the DNR about the well and additional information they may have been provided.

Preliminary evaluations of the jar test data indicate that precipitation of iron present in the DAF effluent may be contributing to the solids loading observed in the components down stream of the DAF. An adjustment to the pH in the coagulation tanks has resulted in reduced solids loading to the components down stream of the DAF. Options to further reduce the residual iron present in the DAF effluent will be evaluated during the next reporting period. Options being considered are the addition of sodium bisulfite or a sequestering agent to the DAF effluent.

4. Deliverables Submitted

The *Monitoring Well/Sampling Program Evaluation* memorandum was submitted on August 27.

5. **Activities Planned Next Reporting Period**

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. The OA fan will be replaced. The replacement pH probes, LNAPL pump, and turbidity pump will be installed. The jar testing evaluation will be completed. The Bioventing Startup Plan will be completed and submitted to WAM.

Task C (CV): CH2M HILL will continue to conduct operational monitoring. The September annual groundwater sampling event will take place the week of September 17. The bioventing startup will begin the week of September 17.

Task D (PC): None.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Travel charges for Maribeth Wintercorn from July 17 through July 20 were reported in last month's Technical Status Report.

Bill Cunningham and Shannon Greene traveled to the site on July 30 and returned on July 31 to perform jar testing onsite.

Steve Beck traveled to the site on July 31 to perform an onsite health and safety audit.

Maribeth Wintercorn traveled to the site on August 2 and returned on August 3 to assist the site operator with maintenance items requiring two people.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. Project Performance

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *July 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

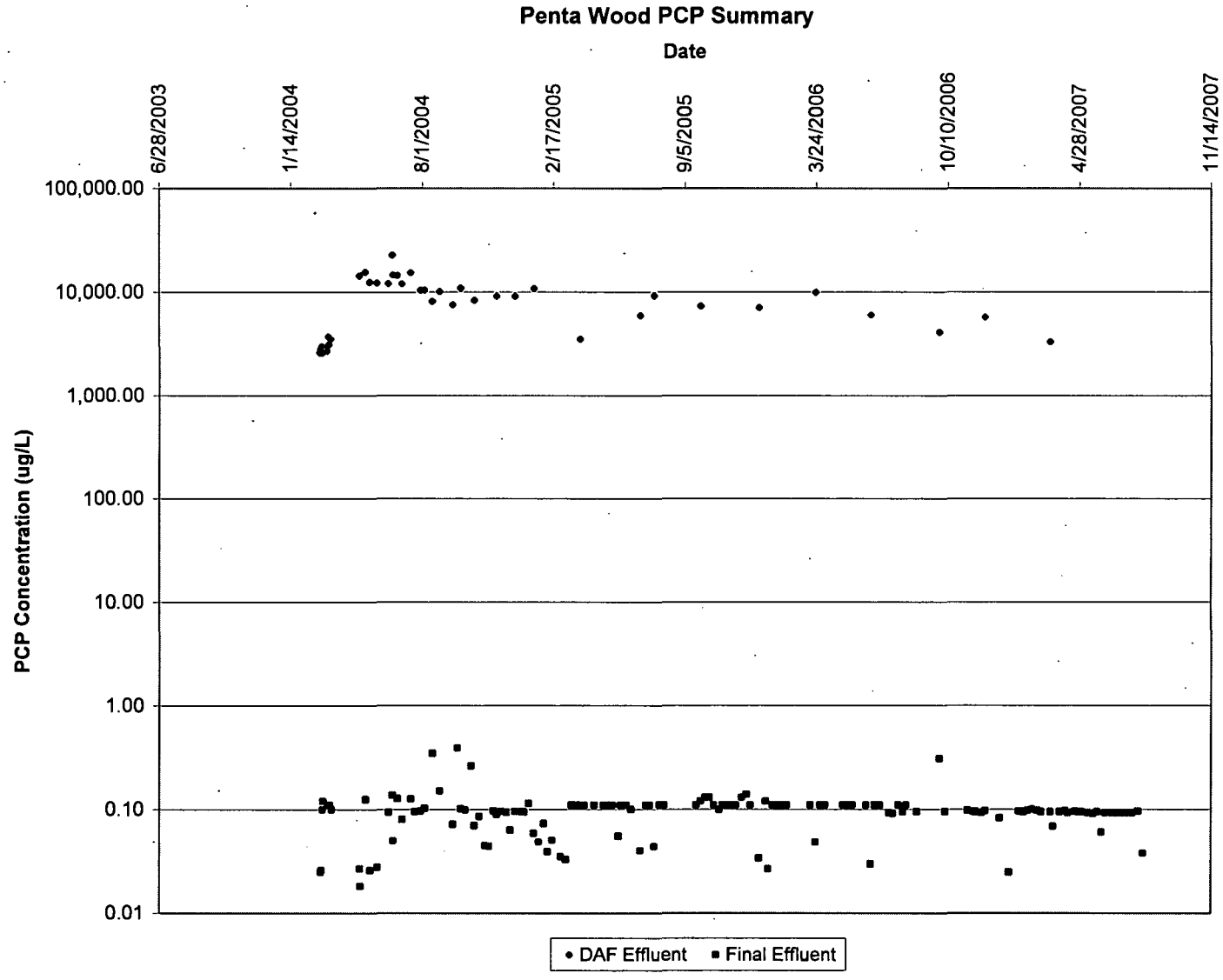
- Bioventing is currently not operating due to the LNAPL conditions; however, bioventing startup is planned to start September 2007.
- System operations have been improved resulting in reduced alarms and unscheduled shutdowns. The treatment system was operational 100 percent of the time based on the proposed clarification to this performance standard. The system was shutdown by the operator for required routine maintenance and a carbon changeout; however, there were no unscheduled shutdowns in the month of August that were not acknowledged within 24 hours and the system restarted.

Task C—Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. WI-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL reviewed the number of locations and frequency of the sampling performed during the groundwater sampling events and presented recommended reductions in the number of sampling locations to the USEPA..
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test performed the week of May 7 evaluated the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Ground Water Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL is planning to start the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.)


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	--	--
16-Jun-04	--	7	--	--	--	--	--	--	--	--	0.137	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jun-04	--	7	--	--	--	--	--	--	--	--	0.050U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Jun-04	--	7	--	--	--	--	--	--	--	--	*NA	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Jun-04	--	7	--	--	--	--	--	--	--	--	0.127	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Jul-04	--	7	--	--	--	--	--	--	--	--	0.081JB	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Jul-04	--	7	--	--	--	--	--	--	--	--	0.126	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-04	--	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	--	--
29-Jul-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-04	--	7	--	--	--	--	--	--	--	--	0.103	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Aug-04	--	7	--	--	--	--	--	--	--	--	0.348	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Aug-04	--	7	4.0U	--	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	--	--	--	--
16-Sep-04	--	7	--	--	--	--	--	--	--	--	0.0724JB	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Sep-04	--	7	--	--	--	--	--	--	--	--	0.393B	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	--	--
5-Oct-04	--	7	--	--	--	--	--	--	--	--	0.099	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Oct-04	--	7	--	--	--	--	--	--	--	--	0.265B	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-04	8,310B	7	--	--	0.143B	1.01	--	--	--	0.97U	0.0702JB	9.52U	1.0U	0.5U	--	--	--	0.500B	--	--	--	--	--	--
26-Oct-04	--	7	--	--	--	--	--	--	--	--	0.0861J	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0447J	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0442J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0971U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-04	9,140	7	--	--	0.0935U	0.787JB	--	--	--	0.82U	0.0900J	9.43U	1.0U	0.5U	--	--	--	0.727B	--	--	--	--	--	--
29-Nov-04	--	7	--	--	--	--	--	--	--	--	0.0962U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0943U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0637J	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	--	--
30-Dec-04	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Jan-05	--	7	--	--	--	--	--	--	--	--	0.0952U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-05	--	7	--	--	--	--	--	--	--	--	0.114B	--	--	--	--	--	--	--	--	--	--	--	--	--
18-Jan-05	10,800B	7	--	--	0.12	0.923B	--	--	--	2.65U	0.0595JB	9.52U	5.0U	0.5U	--	--	--	0.454B	--	--	--	--	--	--
25-Jan-05	--	7	--	--	--	--	--	--	--	--	0.049J	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Feb-05	--	7	--	--	--	--	--	--	--	--	0.074J	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Feb-05	--	7	--	--	--	--	--	--	--	--	0.039J	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Feb-05	--	7	--	--	--	--	--	--	--	--	0.051J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-05	--	7	--	--	0.096U	0.67B	--	--	--	0.43U	0.035J	4.7U	0.94U	0.5U	--	--	--	14	--	--	--	--	--	--
8-Mar-05	--	7	--	--	--	--	--	--	--	--	0.033J	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-05	--	7	--	--	0.098U	0.69B	--	--	--	--	0.066J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
4-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-May-05	0.11U	7	--	--	0.093U	0.63B	--	--	--	1.2U	0.056J	4.8U	0.95U	0.5U	--	--	--	1.0U	--	--	--	--	--	--
1-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Jun-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	--	7	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	--	--
8-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Jul-05	9,200	7	--	--	0.093U	0.64B	--	--	--	--	0.044J	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
28-Jul-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aug-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Sep-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	--	--
6-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Oct-05	--	7	--	--	0.093U	0.61B	--	--	--	--	0.099J	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
1-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Nov-05	--	7	--	--	0.024J	0.59B	--	--	--	--	0.11U	4.7U	--	--	--	--	--	--	--	--	--	--	--	--
22-Nov-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Dec-05	--	7	--	--	--	--	--	--	--	--	0.13U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Dec-05	--	7	--	--	--	--	--	--	--	--	0.14U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Dec-05	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	--	--
6-Jan-06	--	7	--	--	--	--	--	--	--	--	0.12U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-06	--	7	--	--	--	--	--	--	--	--	0.027J	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jan-06	--	7	--	--	0.098U	0.81B	--	--	--	--	0.11U	4.9U	0.97U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-06	--	7	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-06	--	7	--	--	0.097U	0.67B	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
15-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
6-Apr-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
4-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
11-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
18-May-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
8-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	--	--
21-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Jun-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
13-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Jul-06	--	6.5	--	--	0.096U	0.61B	--	--	--	--	0.092U	4.7U	0.93U	--	--	--	--	--	--	--	--	--	--	--
27-Jul-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.11U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Aug-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	--	--
5-Oct-06	--	6.5	--	--	--	--	--	--	--	--	0.094U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
16-Nov-06	--	6.5	--	--	0.095U	1.4	--	--	--	--	0.096U	--	0.95U	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
29-Nov-06	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	--	--
27-Dec-06	--	6.5	--	--	--	--	--	--	--	--	0.083U	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Jan-07	--	6.5	--	--	0.096U	2.1	--	--	--	--	0.025J	5.0U	1.0U	--	--	--	--	--	--	--	--	--	--	--
25-Jan-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
7-Feb-07	--	6.5	--	--	0.094U	0.91B	--	--	--	--	0.098U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
14-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.10U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.098U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Feb-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	--	[c]ND
18-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.069J	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Mar-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Apr-07	--	6.5	--	--	0.097U	0.68B	--	--	--	--	0.097U	4.8U	0.95U	--	--	--	--	--	--	--	--	--	--	--
10-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
20-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
30-Apr-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
8-May-07	--	6.5	--	--	0.094U	0.43J	--	--	--	--	0.095U	4.6U	0.92U	--	--	--	--	--	--	--	--	--	--	--
18-May-07	--	6.5	--	--	--	--	--	--	--	--	0.092U	--	--	--	--	--	--	--	--	--	--	--	--	--
24-May-07	--	6.5	--	--	--	--	--	--	--	--	0.095U	--	--	--	--	--	--	--	--	--	--	--	--	--
31-May-07	--	6.5	--	--	--	--	--	--	--	--	0.061J	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
22-Jun-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
28-Jun-07	5,500	6.5	5.0U	22B	0.095U	0.45J	1.0U	1.0U	3.2 U	3.2U	0.093U	4.8 U	0.95 U	1.0U	1.0U	1.0U	2.0U	10U	10U	27	100U	2,100	--	--
5-Jul-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
9-Jul-07	--	6.5	--	--	--	--	--	--	--	--	0.093U	--	--	--	--	--	--	--	--	--	--	--	--	--
17-Jul-07	--	6.5	--	--	0.094U	0.59JB	--	--	--	--	0.093U	4.7 U	0.94U	--	--	--	--	--	--	--	--	--	--	
26-Jul-07	--	6.5	--	--	--	--	--	--	--	--	0.096U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Aug-07	--	6.5	--	--	--	--	--	--	--	--	0.038JB	--	--	--	--	--	--	--	--	--	--	--	--	--
10-Aug-07	--	6.5	--	--	--	--	--	--	--	--	[b]NR	--	--	--	--	--	--	--	--	--	--	--	--	--
15-Aug-07	--	6.5	--	--	[b]NR	[b]NR	--	--	--	--	[b]NR	[b]NR	[b]NR	--	--	--	--	--	--	--	--	--	--	--
24-Aug-07	--	6.5	--	--	--	--	--	--	--	--	[b]NR	--	--	--	--	--	--	--	--	--	--	--	--	--
30-Aug-07	--	6.5	--	--	--	--	--	--	--	--	[b]NR	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
-- = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

September 1, 2007 to September 28, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Keli McKenna/MKE, Site Manager Beth Rohde/MKE, Assistant Site Manager
PERIOD ENDING:	September 28, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities including revisions to existing subcontracts (A1-Septic and Larry's LP).

Task B (PJ):

- Operation of the system under this task continued.
- The Wisconsin Department of Natural Resources (WDNR) is investigating the possibility of utilizing alternative energy sources at the remediation site. In an effort to evaluate potential sites, WDNR requested the monthly and annual electricity usage for the site. The electrical usage and cost for the last 12 months was summarized and submitted to the WAM and WDNR on September 5.
- An estimated 1.77 million gallons (MG) of groundwater were treated and discharged during the reporting period. To date, a total of 66.8 MG of water have been treated. An estimated 940 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 24,159 gallons.
- In preparation of the bioventing startup, Carbon-Air was onsite on September 5 to perform an inspection and needed maintenance for the blower.
- On September 12, Siemens was onsite for a full changeout of the lead 10,000-pound (lb) carbon vessel. The system was shutdown in the afternoon of September 10 to drain the carbon vessel and was restarted on September 13.

- On September 12, DR Tech was onsite to install new pH probes in the coagulation tank and a replacement turbidity sample pump. The pH probes are being verified with a hand-held pH meter. With the new pH probes installed, pH control in the coagulation tank has been restored. At the correct pH, the complete iron hydroxide precipitation occurs in the coagulation tank and is removed in the dissolved air filtration (DAF), resulting in less solids precipitation occurring in the bag filters and granular activated carbon (GAC) units, increasing run times and reducing carbon change-out frequency.

- On July 30 and 31, the evaluation of the jar testing performed at the site was completed. The data collected during the jar testing was used to determine contaminant removal efficiencies achieved over a range of coagulant and flocculent doses and alkalinity addition and to optimize the current chemistry approach, as needed, to improve system operation.

  The jar tests were performed with varied doses of coagulant, flocculent, and alkalinity in order to determine which parameter was critical to producing a desired effect. The supernatant from the tests were collected and analyzed for oil and grease, dissolved pentachlorophenol (PCP), iron, and alkalinity. Evaluation of the analytical indicated the following:

  1) Higher concentrations of ferric sulfate (coagulant) and lower concentrations of polymer resulted in greater PCP removal.

  2) Sufficient alkalinity is present in the groundwater to buffer the pH change resulting from the addition of ferric sulfate at concentrations 300 milligrams per liter (mg/L) and less.

  3) Maintaining a pH of 5.0 in the coagulation generally resulted in residual iron concentration of less than 2.0 mg/L.

  Optimization of the system chemistry involves considering 1) maximizing the PCP removal through chemical precipitation, and 2) minimizing residual iron in the oxygen-rich DAF effluent which are both important for maintaining long run times with the bag filters and GAC units.

  It was observed during the jar testing that PCP removal through chemical coagulation can be optimized by maintaining the coagulant tank pH at 5.2 to 5.4 and using a ferric sulfate dose of approximately 300 to 325 mg/L. There is generally sufficient alkalinity in the groundwater to buffer coagulant doses up to 300 mg/L; however, doses greater that 300 mg/L may require supplemental alkalinity addition in order to control a potential rapid drop in pH (to below 5.0) when the alkalinity is exhausted.

  In response to the evaluation of the jar testing evaluation, the pH set point in the coagulation tank was adjusted to 5.2 and manual readings of the pH in the tank are being routinely taken to confirm the tank pH. At this new pH set point, more complete iron hydroxide precipitation should occur in the coagulation tank and be removed in the DAF. In addition, less solids precipitation should occur in the bag filters and GAC units which will increase run times and reduce carbon change-out frequency.

- On September 13, North Shore Environmental was onsite to pickup six dumpsters of filter cake. With the new pH probes installed and the adjusted pH setpoint, more complete iron hydroxide precipitation should occur in the coagulation tank and be removed in the DAF. This improved removal of solids has resulted in an increase in the sludge production rate.

- Received and reviewed the draft modification to the Wisconsin Pollutant Discharge Elimination System (WPDES) sampling requirements on September 25. Many of the requested modifications were approved which will result in an annual cost savings of $ 3,800. The following two comments on the draft modifications were submitted:

  1) Requested that the influent PCP sample collection frequency of quarterly be reviewed and approved.

  2) Noted that the text in the "Summary of Report Due" section has been revised. Requested clarification on the procedure for submittal of data.

  Once the draft modifications are finalized, the changes to the sampling program will be made.

- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE), which is presented in a table located at the end of this document.

- Summarized the results of WPDES for PCP sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.

- Performed the annual groundwater sampling event the week of September 17. All wells scheduled to be sampled were sampled, with the exception of MW-03, which was dry. Depth to bottom was measured in the monitoring wells.

- Completed the *Bioventing Startup Plan* which outlines the procedures for checking out the equipment, starting up the equipment, parameters to be measured, and schedule.

- Performed onsite preparation for the bioventing startup during the week of September 17 and included the construction and installation of caps for monitoring in the soil gas wells, installation of shallow soil gas wells for methane monitoring, and baseline measurements. The bioventing startup began the week of September 24 with the blower operating 100 percent of the time by the end of the week. Monitoring will continue in the next reporting period.

Task D (PC):

None.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		23	0
B (PJ)	07/29/06	07/29/06	03/14/11		16	0
C (CV)	07/29/06	07/29/06	03/14/11		11	0
D (PC)	07/29/06	07/29/06	03/14/11		18	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

In the previous reporting period, the pH in the coagulation tank was tested with pH strips and determined that the actual pH in the tank was 1 to 2 pH units high. A hand-held pH meter was used to measure pH and adjusted to achieve the required pH until the new pH probes could be installed on September 12. The system operation has improved with the new pH probes with improved clarity of the DAF effluent and reduced solids in the bag filters, the 2,500-lb pre-filter vessel, and the lead GAC vessel. As a result, the frequency of filter bag changeouts has been reduced from daily to approximately every 3 to 4 days. In addition, the backwash frequency for the 2,500-lb carbon vessel has been reduced. This is expected to result in a reduced carbon changeout frequency.

A valve on one bag filter housing broke on September 14. The housing was isolated and the system operated on one bag filter housing until the valve could be replaced on September 17.

The system was shut down on September 24 when the operator observed that the ferric sulfate pump was not delivering chemical to the coagulation tank which resulted in a pH increase to 6.3. Troubleshooting was performed on the components of the ferric sulfate feed system and it was determined that the back pressure valve on the coagulation tank was not functioning properly. The valve was temporarily bypassed and the treatment system was restarted on September 27. A replacement valve was ordered and will be replaced during the next reporting period.

3. Problem Areas and Recommended Solutions

A replacement LNAPL recovery pump in EW-03 was ordered and received on August 31. After receipt of the pump, it was identified that the incorrect pump (bottom intake type) was shipped and needed to be returned for a top intake pump. The new LNAPL pump will be installed during the next reporting period.

The supersacks used to containerize the carbon from the last changeout were found to be leaking at the transfer station. These supersacks are all inspected by the operator and subcontractor prior to leaving the site; therefore, the type of supersacks and liners used by the subcontractor are being evaluated. Alternate liners were used

for the September 12 carbon changeout and CH2M HILL will continue to work with the vendor to evaluate solutions for future carbon changes.

On August 8, the site operator was approached by neighbors that expressed concern about the irrigation system (reportedly 300 gallons per minute [gpm]) at the nearby National Golf Course. The concerns were communicated to Bill Schultz/WDNR who indicated he would inquire with the WDNR about the well and additional information that may have been provided.

4. Deliverables Submitted

The *Bioventing Startup Plan* was submitted on September 10.

Hard copies of the *Monitoring Well/Sampling Program Evaluation* memorandum were submitted on September 4.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task. The OA fan will be replaced. The replacement LNAPL pump will be installed in EW-03. The back pressure value will be replaced. Brust Excavating will be onsite to recrown the driveway.

Task C (CV): CH2M HILL will continue to conduct operational monitoring and monitoring for the bioventing startup. CH2M HILL will perform sample management tasks for the annual sampling event as results are received from the laboratory.

Task D (PC): CH2M HILL will begin summarizing data for the 2007 Interim LTRA Annual Report.

6. Key Personnel Changes

None.

7. Subcontractor Services

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Beth Rohde traveled to the site on September 16 and returned on September 18 to assist with preparations for the bioventing startup and a meeting with the WAM and Bill Schultz/WDNR. Travel charges will be invoiced during the next reporting period.

Christie Walker traveled to the site on September 16 for the bioventing startup and will remain at the site into the next reporting period. Phil Smith traveled to the site on September 24 to assist with the startup of the bioventing system and returned on September 28. Travel charges will be invoiced during the next reporting period.

Dave Shekoski, Adrienne Unger, and Shannon Greene traveled to the site on September 17 and returned on September 21 for the annual groundwater sampling event. Travel charges will be invoiced during the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *August 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

- The startup of the bioventing system began the week of September 24 and the system is currently operating 100 percent of the time. An effect on the groundwater PCP concentrations from the bioventing will not be immediately observed.

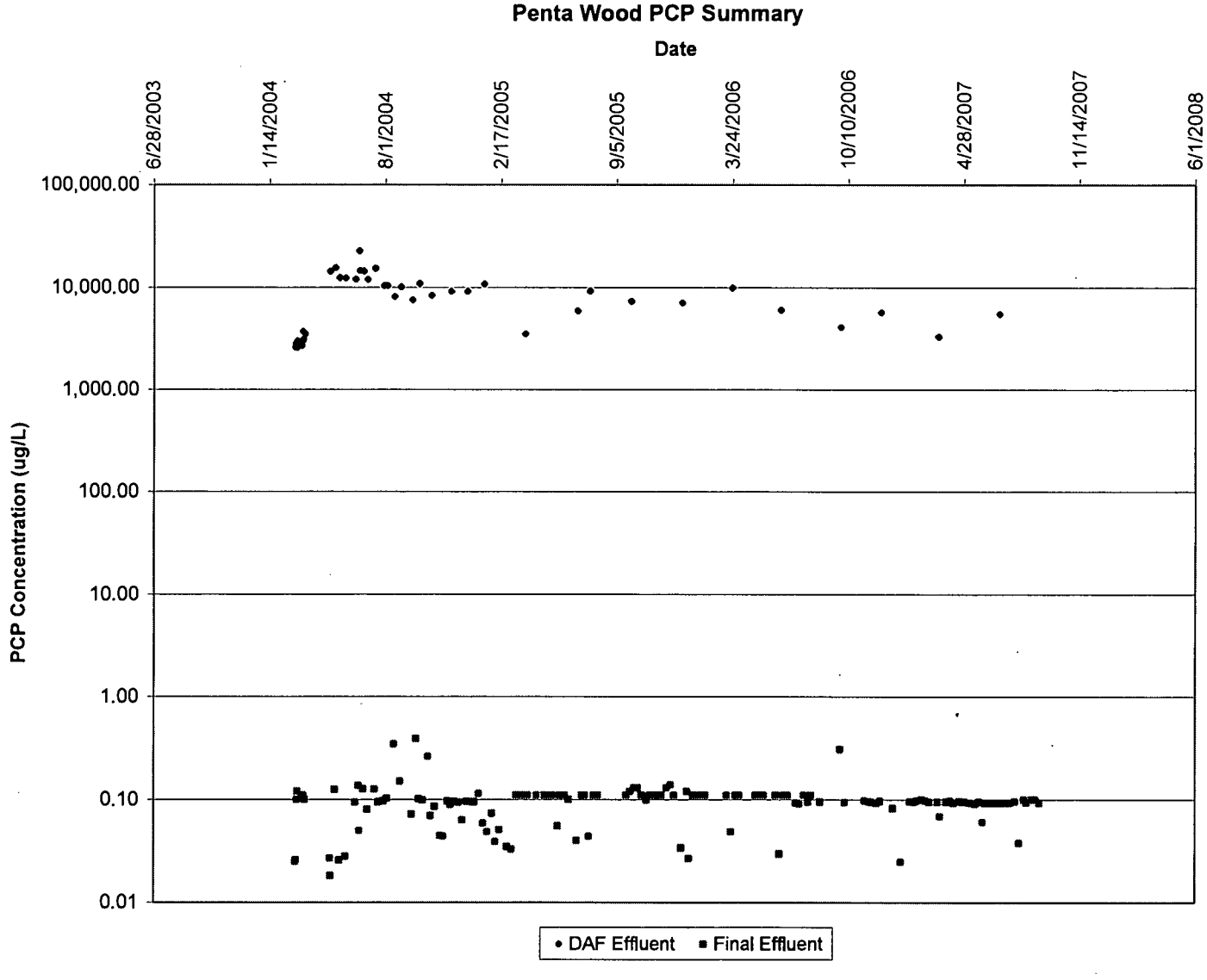
- System operations have been improved resulting in reduced alarms and unscheduled shutdowns. The treatment system was operational 100 percent of the time based on the proposed clarification to this performance standard. The system was shutdown by the operator for required routine maintenance and a carbon changeout; however, there were no unscheduled shutdowns in the month of September that were not acknowledged within 24 hours.

Task C—Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. WI-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL reviewed the number of locations and frequency of the sampling performed during the groundwater sampling events and presented recommended reductions in the number of sampling locations to USEPA. CH2M HILL reviewed the WPDES discharge sampling requirements and recommended a reduction in the analyses and frequency of sample collection. The WDNR accepted a number of the recommendations which will result in an annual cost savings of $3,800.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test was performed the week of May 7 to evaluate the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Groundwater Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL started the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.). The bioventing will be performed concurrently with the LNAPL recovery system.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
6/1/2008
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	–	–
16-Jun-04	–	7	–	–	–	–	–	–	–	–	0.137	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jun-04	–	7	–	–	–	–	–	–	–	–	0.050U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Jun-04	–	7	–	–	–	–	–	–	–	–	*NA	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Jun-04	–	7	–	–	–	–	–	–	–	–	0.127	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Jul-04	–	7	–	–	–	–	–	–	–	–	0.081JB	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Jul-04	–	7	–	–	–	–	–	–	–	–	0.126	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-04	–	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	–	–
29-Jul-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-04	–	7	–	–	–	–	–	–	–	–	0.103	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Aug-04	–	7	–	–	–	–	–	–	–	–	0.348	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Aug-04	–	7	4.0U	–	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	–	–	–	–
16-Sep-04	–	7	–	–	–	–	–	–	–	–	0.0724JB	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Sep-04	–	7	–	–	–	–	–	–	–	–	0.393B	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	–	–
5-Oct-04	–	7	–	–	–	–	–	–	–	–	0.099	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Oct-04	–	7	–	–	–	–	–	–	–	–	0.265B	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-04	8,310B	7	–	–	0.143B	1.01	–	–	–	0.97U	0.0702JB	9.52U	1.0U	0.5U	–	–	–	0.500B	–	–	–	–	–	–
26-Oct-04	–	7	–	–	–	–	–	–	–	–	0.0861J	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0447J	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0442J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-04	9,140	7	–	–	0.0935U	0.787JB	–	–	–	0.82U	0.0900J	9.43U	1.0U	0.5U	–	–	–	0.727B	–	–	–	–	–	–
29-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0962U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0943U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0637J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	–	–
30-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Jan-05	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-05	–	7	–	–	–	–	–	–	–	–	0.114B	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Jan-05	10,800B	7	–	–	0.12	0.923B	–	–	–	2.65U	0.0595JB	9.52U	5.0U	0.5U	–	–	–	0.454B	–	–	–	–	–	–
25-Jan-05	–	7	–	–	–	–	–	–	–	–	0.049J	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Feb-05	–	7	–	–	–	–	–	–	–	–	0.074J	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Feb-05	–	7	–	–	–	–	–	–	–	–	0.039J	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Feb-05	–	7	–	–	–	–	–	–	–	–	0.051J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-05	–	7	–	–	0.096U	0.67B	–	–	–	0.43U	0.035J	4.7U	0.94U	0.5U	–	–	–	14	–	–	–	–	–	–
8-Mar-05	–	7	–	–	–	–	–	–	–	–	0.033J	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-05	–	7	–	–	0.098U	0.69B	–	–	–	–	0.066J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
4-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-May-05	0.11U	7	–	–	0.093U	0.63B	–	–	–	1.2U	0.056J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
1-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	–	7	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	–	–
8-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-05	9,200	7	–	–	0.093U	0.64B	–	–	–	–	0.044J	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
28-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Sep-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	–	–
6-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Oct-05	–	7	–	–	0.093U	0.61B	–	–	–	–	0.099J	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
1-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Nov-05	–	7	–	–	0.024J	0.59B	–	–	–	–	0.11U	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Dec-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Dec-05	–	7	–	–	–	–	–	–	–	–	0.14U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Dec-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	–	–
6-Jan-06	–	7	–	–	–	–	–	–	–	–	0.12U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-06	–	7	–	–	–	–	–	–	–	–	0.027J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jan-06	–	7	–	–	0.098U	0.81B	–	–	–	–	0.11U	4.9U	0.97U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-06	–	7	–	–	0.097U	0.67B	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
15-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Apr-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
4-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
11-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
8-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	–	–
21-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Jul-06	–	6.5	–	–	0.096U	0.61B	–	–	–	–	0.092U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
27-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	–	–
5-Oct-06	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Nov-06	–	6.5	–	–	0.095U	1.4	–	–	–	–	0.096U	–	0.95U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	–	–
27-Dec-06	–	6.5	–	–	–	–	–	–	–	–	0.083U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-07	–	6.5	–	–	0.096U	2.1	–	–	–	–	0.025J	5.0U	1.0U	–	–	–	–	–	–	–	–	–	–	–
25-Jan-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-07	–	6.5	–	–	0.094U	0.91B	–	–	–	–	0.098U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
14-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	–	[c]ND
18-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.069J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-07	–	6.5	–	–	0.097U	0.68B	–	–	–	–	0.097U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
10-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
26-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-May-07	–	6.5	–	–	0.094U	0.43J	–	–	–	–	0.095U	4.6U	0.92U	–	–	–	–	–	–	–	–	–	–	–
18-May-07	–	6.5	–	–	–	–	–	–	–	–	0.092U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-May-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
31-May-07	–	6.5	–	–	–	–	–	–	–	–	0.061J	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Jun-07	5,500	6.5	5.0U	22B	0.095U	0.45J	1.0U	1.0U	3.2 U	3.2U	0.093U	4.8 U	0.95 U	1.0U	1.0U	1.0U	2.0U	10U	10U	27	100U	2,100	–	–
5-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
9-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jul-07	–	6.5	–	–	0.094U	0.59JB	–	–	–	–	0.093U	4.7 U	0.94U	–	–	–	–	–	–	–	–	–	–	
26-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.038JB	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Aug-07	–	6.5	–	–	0.093U	0.69JB	–	–	–	–	0.094U	4.8 U	0.95 U	–	–	–	–	–	–	–	–	–	–	–
24-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10UJ	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Sept-07	–	6.5	–	–	–	–	–	–	–	–	[b]NR	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Sept-07	[b]NR	6.5	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	–	–
24-Sept-07	–	6.5	–	–	–	–	–	–	–	–	[b]NR	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
– = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

September 29, 2007 to October 26, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Keli McKenna/MKE, Site Manager Beth Rohde/MKE, Assistant Site Manager
PERIOD ENDING:	October 26, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Operation of the system under this task continued.
- An estimated 1.96 million gallons (MG) of groundwater were treated and discharged during the reporting period. To date, a total of 68.8 MG of water have been treated. An estimated 1,289 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 25,448 gallons.
- Brust Excavating was onsite between October 3 and October 17 to recrown the driveway and to place stone at the entrance to the Corrective Action Management Unit (CAMU). The driveway was recrowned to prevent runoff from entering the treatment building. The stone was placed at the entrance of the CAMU to prevent erosion after recent rain and vehicle traffic on the CAMU for the annual groundwater monitoring and bioventing startup and soil gas monitoring.
- On October 16, North Shore Environmental was onsite to pickup approximately 48,000 pounds (lbs) of spent carbon and 4 drums of miscellaneous debris.
- On October 17, a CH2M HILL part-time operator started work at the Penta Wood site. Bill Summer will be assisting the current onsite operator on an as-needed basis. He may assist with responding to evening and weekend alarms,

performing periodic maintenance activities and other activities that require two people.

- On October 22, a new rotary drum vacuum filter (RDVF) recirculation pump was delivered to the site and installed.
- On October 24, North Shore Environmental was onsite to pick up approximately 28,000 lbs of filter cake.
- Carbon changeout frequency was previously driven by pressure increases from solids loading on the carbon vessels. The coagulation tank pH set point was adjusted in the previous reporting period allowing more complete iron hydroxide precipitation to occur and be removed in the dissolved air flotation (DAF). This results in lower solids precipitation in the bag filters and granulated activated carbon (GAC) units, increased run times, and reduced carbon change-out frequency.

  With the reduced carbon change-out frequency, a greater volume of water is being treated by the GAC vessels between carbon changeouts which could potentially lead to breakthrough from the lead 10,000-lb carbon vessel. To monitor for breakthrough from the lead 10,000-lb carbon vessel, a sampling program was initiated on October 16 and will continue until the next carbon changeout (scheduled to take place on November 1). Through the end of this reporting period, the system has treated 2.95 MG of water since the previous changeout on September 12. Carbon changeouts driven by elevated pressures were previously performed when approximately 1.5 MG of water had been treated and were required every 4 or 5 weeks.
- Summarized the status of recommendations presented in the Remediation System Evaluation (RSE), which is presented in a table located at the end of this document.
- Summarized the results of Wisconsin Pollutant Discharge Elimination System (WPDES) for pentachlorophenol (PCP) sampling which are presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task.
- Started up the bioventing system during the week of September 24 with the blower operating 100 percent of the time Monday through Friday so the system and soil gas could be monitored during the startup period. Soil gas monitoring was conducted a minimum of once per day in each of the soil gas wells during operation. Since the startup of the biovent system, the amount of oxygen observed in the soil gas locations has increased and the amount of methane present has decreased. There are two shallow soil gas locations (SG-22 and SG-07S) within the wood chip area of the CAMU which still have methane present and lowered oxygen levels. These locations will continue to be monitored frequently until the methane levels are reduced to zero.

Monitoring for methane included locations outside of the CAMU and between nearby residences and should have no evidence of movement outside the CAMU. The bioventing system will begin operation over the weekends in the next reporting period after sufficient monitoring data has been collected.

Measurements of the depth to LNAPL have been measured to determine if the bioventing system would result in LNAPL movement. At this time, there has not been any changes in the LNAPL thickness or evidence of LNAPL movement. A detailed summary of the parameters measured and operation of the bioventing system will be presented in the *2007 Interim LTRA Annual Report.*

Task D (PC):

- Evaluated the water level data from the September groundwater sampling event and began preparing the potentiometric surface maps for the *2007 Interim LTRA Annual Report.* The potentiometric surface maps for the 2007 sampling events show increased capture due to the improved operation of the treatment system. As an example of the increased capture zone, MW-01 was outside the capture zone in April 2007, but within the capture zone in September 2007.

- Evaluated the capture zone analysis currently being performed and identified potential additions to the *2007 Interim LTRA Annual Report* that can be incorporated to help better demonstrate capture. Proposed analyses to be included in the annual report include the following:

  1) Evaluation of the horizontal and vertical gradients: Horizontal gradients can be calculated for well pairs in the same aquifer to show inward gradient to the capture zone and vertical gradients between the unconfined and semi-confined aquifers.

  2) Calculation of the volume of water that would be expected to flow through the target capture zone in one day and compared to the volume extracted in one day by the treatment system.

  3) Inclusion of the extraction rates on the potentiometric surface maps. Water levels at the extraction wells are not included in the contours because the biovent/LNAPL recovery wells are in the same borehole and the friction losses would overestimate the drawdown.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		30	0
B (PJ)	07/29/06	07/29/06	03/14/11		25	0
C (CV)	07/29/06	07/29/06	03/14/11		17	0
D (PC)	07/29/06	07/29/06	03/14/11		19	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

On October 19, the RDVF recirculation pump failed and the operator ordered a replacement pump. The treatment system continued to operate through October 21 until a high float tank level caused a system shutdown. The operator installed the new pump and restarted the system on October 22.

3. Problem Areas and Recommended Solutions

A replacement LNAPL recovery pump in EW-03 was ordered and received on August 31. After receipt of the pump, it was identified that the incorrect pump (bottom intake type) was shipped and needed to be returned for a top intake pump. The new LNAPL pump will be installed during the next reporting period.

The type of supersacks and liners used by the subcontractor continue to be evaluated. Alternate liners were used for the September 12 carbon changeout and there was no reported leaking from the supersacks. CH2M HILL will continue to work with the vendor to evaluate cost-effective and appropriate solutions for future carbon changes.

On August 8, the site operator was approached by neighbors that expressed concern about the irrigation system (reportedly 300 gallons per minute [gpm]) at the nearby National Golf Course. The concerns were communicated to Bill Schultz/WDNR who indicated he would inquire within Wisconsin Department of Natural Resources (WDNR) about the well and additional information that may have been provided. CH2M HILL will evaluate the PCP results for any plume migration or changes in concentration.

The onsite time and travel expenses during the startup of the bioventing system were charged to the wrong task (Task B) and will be transferred to the correct task (Task C) during the next reporting period.

4. Deliverables Submitted

None.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue operation of the system under this task including the biovent system. The OA fan will be replaced. The replacement LNAPL pump will be installed in EW-03. Staff from Milwaukee will travel to the site to address items identified during the health and safety audit and assist with evaluating other equipment and operations at the site for further optimization of the system performance.

Task C (CV): CH2M HILL will continue to conduct operational monitoring and monitoring for the bioventing startup. CH2M HILL will perform sample management tasks for the annual sampling event as results are received from the laboratory.

Task D (PC): CH2M HILL will continue preparing the *2007 Interim LTRA Annual Report.*

6. **Key Personnel Changes**

Bill Summer was hired on September 17 as a part-time operator for the Penta Wood Site. Bill will work on an as-needed basis in the evenings and weekends to address alarms or perform maintenance work.

7. **Subcontractor Services**

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Travel for Shannon Greene, Beth Rohde, Dave Shekoski, Phil Smith, Adrienne Unger, and Christie Walker was reported in the previous month's Technical Status Report.

Christie Walker traveled to the site on October 1 for the bioventing startup and returned on October 5. Continued monitoring for the bioventing system was performed by the site operator. The onsite time and travel expenses for Christie Walker and Phil Smith during the startup of the bioventing system were charged to the wrong task (Task B) and will be transferred to the correct task (Task C) during the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A – LTRA Monthly Progress Report

- The *September 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B – Groundwater Containment and Bioventing

- The startup of the bioventing system began the week of September 24. The system is operated 100 percent of the time Monday through Friday so the system could be monitored during the startup period. The bioventing system will begin

operation over the weekends in the next reporting period after sufficient monitoring data has been collected. An effect on the groundwater PCP concentrations from the bioventing will not be immediately observed.

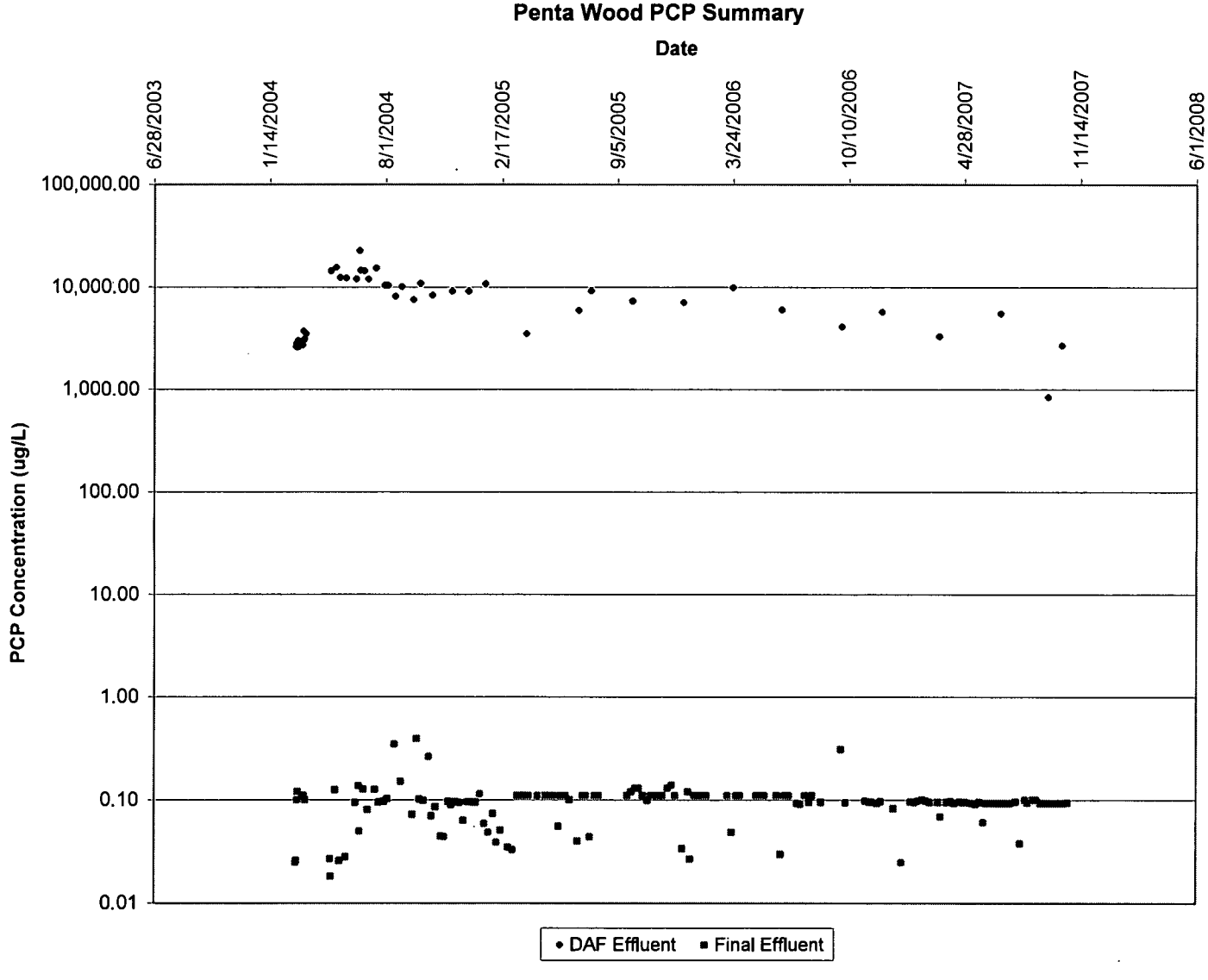
- System operations have been improved resulting in reduced alarms and unscheduled shutdowns. The treatment system was operational 100 percent of the time based on the proposed clarification to this performance standard. The system was shutdown by the operator for required routine maintenance and a carbon changeout; however, there were no unscheduled shutdowns in the month of October that were not acknowledged within 24 hours.

Task C – Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the WPDES Permit No. WI-0061531-01-0, meeting the performance standard. The influent PCP concentration from the sample collected on September 18 was suspect since the result was an order of magnitude lower than recent and historic results. Another influent sample was subsequently collected on October 12 and will be used for comparison.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL reviewed the number of locations and frequency of the sampling performed during the groundwater sampling events and presented recommended reductions in the number of sampling locations to USEPA. CH2M HILL reviewed the WPDES discharge sampling requirements and recommended a reduction in the analyses and frequency of sample collection. The WDNR accepted a number of the recommendations which will result in an annual cost savings of $3,800.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test was performed the week of May 7 to evaluate the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Groundwater Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL started the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.). The bioventing will be performed concurrently with the LNAPL recovery system.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
6/1/2008
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	–	–
16-Jun-04	–	7	–	–	–	–	–	–	–	–	0.137	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jun-04	–	7	–	–	–	–	–	–	–	–	0.050U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Jun-04	–	7	–	–	–	–	–	–	–	–	*NA	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Jun-04	–	7	–	–	–	–	–	–	–	–	0.127	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Jul-04	–	7	–	–	–	–	–	–	–	–	0.081JB	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Jul-04	–	7	–	–	–	–	–	–	–	–	0.126	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-04	–	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	–	–
29-Jul-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-04	–	7	–	–	–	–	–	–	–	–	0.103	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Aug-04	–	7	–	–	–	–	–	–	–	–	0.348	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Aug-04	–	7	4.0U	–	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	–	–	–	–
16-Sep-04	–	7	–	–	–	–	–	–	–	–	0.0724JB	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Sep-04	–	7	–	–	–	–	–	–	–	–	0.393B	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	–	–
5-Oct-04	–	7	–	–	–	–	–	–	–	–	0.099	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Oct-04	–	7	–	–	–	–	–	–	–	–	0.265B	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-04	8,310B	7	–	–	0.143B	1.01	–	–	–	0.97U	0.0702JB	9.52U	1.0U	0.5U	–	–	–	0.500B	–	–	–	–	–	–
26-Oct-04	–	7	–	–	–	–	–	–	–	–	0.0861J	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0447J	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0442J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-04	9,140	7	–	–	0.0935U	0.787JB	–	–	–	0.82U	0.0900J	9.43U	1.0U	0.5U	–	–	–	0.727B	–	–	–	–	–	–
29-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0962U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0943U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0637J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	–	–
30-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Jan-05	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-05	–	7	–	–	–	–	–	–	–	–	0.114B	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Jan-05	10,800B	7	–	–	0.12	0.923B	–	–	–	2.65U	0.0595JB	9.52U	5.0U	0.5U	–	–	–	0.454B	–	–	–	–	–	–
25-Jan-05	–	7	–	–	–	–	–	–	–	–	0.049J	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Feb-05	–	7	–	–	–	–	–	–	–	–	0.074J	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Feb-05	–	7	–	–	–	–	–	–	–	–	0.039J	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Feb-05	–	7	–	–	–	–	–	–	–	–	0.051J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-05	–	7	–	–	0.096U	0.67B	–	–	–	0.43U	0.035J	4.7U	0.94U	0.5U	–	–	–	14	–	–	–	–	–	–
8-Mar-05	–	7	–	–	–	–	–	–	–	–	0.033J	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-05	–	7	–	–	0.098U	0.69B	–	–	–	–	0.066J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
4-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-May-05	0.11U	7	–	–	0.093U	0.63B	–	–	–	1.2U	0.056J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
1-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	–	7	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	–	–
8-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-05	9,200	7	–	–	0.093U	0.64B	–	–	–	–	0.044J	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
28-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Sep-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	–	–
6-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Oct-05	–	7	–	–	0.093U	0.61B	–	–	–	–	0.099J	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
1-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Nov-05	–	7	–	–	0.024J	0.59B	–	–	–	–	0.11U	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Dec-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Dec-05	–	7	–	–	–	–	–	–	–	–	0.14U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Dec-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	–	–
6-Jan-06	–	7	–	–	–	–	–	–	–	–	0.12U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-06	–	7	–	–	–	–	–	–	–	–	0.027J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jan-06	–	7	–	–	0.098U	0.81B	–	–	–	–	0.11U	4.9U	0.97U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-06	–	7	–	–	0.097U	0.67B	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
15-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Apr-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
4-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
11-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
8-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	–	–
21-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Jul-06	–	6.5	–	–	0.096U	0.61B	–	–	–	–	0.092U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
27-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	–	–
5-Oct-06	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Nov-06	–	6.5	–	–	0.095U	1.4	–	–	–	–	0.096U	–	0.95U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	–	–
27-Dec-06	–	6.5	–	–	–	–	–	–	–	–	0.083U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-07	–	6.5	–	–	0.096U	2.1	–	–	–	–	0.025J	5.0U	1.0U	–	–	–	–	–	–	–	–	–	–	–
25-Jan-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-07	–	6.5	–	–	0.094U	0.91B	–	–	–	–	0.098U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
14-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	–	[c]ND
18-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.069J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-07	–	6.5	–	–	0.097U	0.68B	–	–	–	–	0.097U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
10-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
26-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-May-07	–	6.5	–	–	0.094U	0.43J	–	–	–	–	0.095U	4.6U	0.92U	–	–	–	–	–	–	–	–	–	–	–
18-May-07	–	6.5	–	–	–	–	–	–	–	–	0.092U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-May-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
31-May-07	–	6.5	–	–	–	–	–	–	–	–	0.061J	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Jun-07	5,500	6.5	5.0U	22B	0.095U	0.45J	1.0U	1.0U	3.2 U	3.2U	0.093U	4.8 U	0.95 U	1.0U	1.0U	1.0U	2.0U	10U	10U	27	100U	2,100	–	–
5-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
9-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jul-07	–	6.5	–	–	0.094U	0.59JB	–	–	–	–	0.093U	4.7 U	0.94U	–	–	–	–	–	–	–	–	–	–	
26-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.038JB	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Aug-07	–	6.5	–	–	0.093U	0.69JB	–	–	–	–	0.094U	4.8 U	0.95 U	–	–	–	–	–	–	–	–	–	–	–
24-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10UJ	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Sept-07	840	6.5	5.0U	74	0.093U	0.63J	1.0U	1.0U	1.0U	3.1U	0.093U	4.7 U	0.93 U	1.0U	1.0U	1.0U	2.0U	10U	10U	36	450	2,100	–	–
24-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-07	2,700	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Oct-07	–	6.5	–	–	0.093U	0.54J	–	–	–	–	0.093U	4.7 U	0.93 U	–	–	–	–	–	–	–	–	–	–	–
23-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
– = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT

October 27, 2007 to November 30, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products-OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Keli McKenna/MKE, Site Manager Beth Rohde/MKE, Assistant Site Manager
PERIOD ENDING:	November 30, 2007

COPIES:

RPM:	Tom Williams, USEPA, Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Operation of the system under this task continued.
- An estimated 1.75 million gallons (MG) of groundwater were treated and discharged during the reporting period. To date, a total of 70.6 MG of water have been treated. An estimated 1,178 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 26,626 gallons.
- On November 1, Siemens was onsite to perform a changeout of the lead 10,000-pound (lb) vessel. The changeout was driven by pressure, although break-though monitoring indicated that break through was just beginning to occur from the lead carbon vessel on October 30. A total of 3.2 MG of water was treated since the previous carbon changeout 7 weeks earlier on September 12.
- The bioventing system was shut off on November 1 because the noise of the blower prevented the workers that were performing the carbon changeout from communicating. After the carbon changeout, the blower could not be restarted and troubleshooting was performed. The sensitivity switch on the breaker was decreased and the bioventing system resumed operation on November 8. The bioventing system ran continuously until November 24.

The bioventing system was shut down on November 24 because of an equipment failure with the landfill gas meter used to measure soil gas in the biovent wells. On November 26, a factory defect in the motor control center bucket for the blower caused a power failure. The landfill gas meter was repaired on November 26, but the biovent system was unable to be restarted due to the power failure. As of November 30, the system had still not been started due to the electrical problem.

While the bioventing system was operating, soil gas monitoring was conducted twice per week in each of the soil gas wells. Results of the soil gas monitoring have shown that oxygen levels have stabilized at approximately 20 percent, and carbon dioxide levels have remained at about 0 percent in the intermediate and deep wells, as well as shallow wells located outside of the wood chip area of the corrective action management unit (CAMU). Methane was present at up to 6 percent in the shallow wells located in the wood chip area; however, these levels have generally shown decreasing levels since the start up of the bioventing system. There was a slight increase in methane observed in SG-22 during the middle of the month; however, further data has not been collected since the system has been shut down. Oxygen levels in the shallow soil gas wells located in the wood chip area have remained at 0 percent. Operation and monitoring of the system will continue following electrical repair.

Continued monitoring for methane movement to nearby residences and into the on-site building has shown no indication of methane movement beyond the CAMU. There has been no evidence of movement of the LNAPL since the startup of the bioventing system; therefore, LNAPL monitoring in boundary wells is no longer being conducted.

- Brust Excavating was onsite between November 1 and November 16 for erosion repair and placement of rip rap, as needed, around the CAMU.
- On November 16, Lindberg Company was onsite to clean and service the heaters for the building. Lindberg Company returned on November 19 to install the replacement motor for odorous Air Fan # 2. In addition, they cleaned and serviced both exhaust fans.
- On November 18, Keli McKenna, Bill Andrae, Jack Knight, and Shannon Greene travelled to the site from Milwaukee to address items identified during the health and safety audit and assist with evaluating other equipment and operations at the site for further optimization of the system performance.
- On November 24 at 1:30 a.m., the groundwater treatment system shut down due to a blown compressor belt. The autodialer contacted the operator and the part-time operator was onsite later that day to address the alarm, but was unable to restart the system. Clay Hill was contacted on November 26 and serviced the air compressor on November 28.
- On November 26, a factory defect in the motor control center bucket for the blower caused a power failure. During troubleshooting of the power failure, it was identified that the uninterriptuble power supply (UPS) battery in the old treatment building was dead which prevented the control system from operating

components controlled by the original programmable logic controller (PLC). A replacement battery was ordered on November 27 and installed on November 28. The new battery failed to correct the problem, and a new UPS was purchased and installed. The new UPS corrected the problem with the PLC.

Representatives from the local power company were onsite on November 29 to investigate the source of the power problems, but were unable to identify any problems with the power entering the building at that time. Maurer Power was contacted on November 29 for additional troubleshooting. Maurer Power was onsite November 30 and identified a factory defect in the motor control center bucket for the biovent blower. The recent startup and the continuous operation of the bioventing system allowed the factory defect to reveal itself, thus the problem could not have been prevented. Mauer Power was able to provide a temporary fix in order to restart the groundwater treatment system. However, the electrical draw from the operation of the biovent blower will prevent a restart of the blower until the parts can be located and installed.

The bioventing system is expected to be restarted in the next reporting period after Maurer Power locates and installs additional replacement components. When the bioventing system is restarted, monitoring will be performed consistent with the original start-up of the bioventing system due to the longer shut down duration and the freezing of the ground, which may affect the air flow in the subsurface.

- On November 27, Lawrence's Pest Free Control was onsite due to an increased number of bees that had been observed inside the treatment building and office area. In addition, Lawrence's Pet Free Control set and baited traps for mice.
- On November 28, A-1 Septic was onsite to pump the septic tank.
- Larry's LP was onsite November 29 to relight the vaporizer and fill the propane tanks.
- The status of recommendations are summarized and presented in the Remediation System Evaluation (RSE), which is presented in a table located at the end of this document.
- The results of Wisconsin Pollutant Discharge Elimination System (WPDES) for pentachlorophenol (PCP) sampling are summarized and presented in the chart located at the end of this document. There were no exceedances of the PCP target discharge limit of 0.1 micrograms per liter (µg/L).

Task C (CV):

- Continued to perform operational monitoring under this task. The hours for the bioventing were mistakenly charged to the wrong task (Task B) and transferred to the correct task (Task C) during this reporting period.

Task D (PC):

- Continued preparation of the *2007 Interim LTRA Annual Report*.

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		31	0
B (PJ)	07/29/06	07/29/06	03/14/11		28	0
C (CV)	07/29/06	07/29/06	03/14/11		24	0
D (PC)	07/29/06	07/29/06	03/14/11		22	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

On November 24 at 1:30 a.m., the groundwater treatment system shut down due to a blown compressor belt. Clay Hill was contacted on November 26 and serviced the air compressor on November 28.

On November 26, a factory defect in the motor control center bucket for the biovent blower caused a power failure. During troubleshooting of the power failure, it was identified that the UPS battery in the old treatment building was dead, which prevented operation of the component controlled by the original PLC. A replacement battery was ordered on November 27 and installed on November 28. The new battery failed to correct the problem and a new UPS was purchased and installed. The new UPS corrected the problem with the PLC fault. Mauer Power was able to provide a temporary fix to the motor control center (MCC) in order to restart the groundwater treatment system on November 30. However, the electrical draw from the operation of the biovent blower will prevent a restart of the blower until the parts could be located and installed.

On August 8, the site operator was approached by neighbors who expressed concern about the irrigation system (reportedly 300 gallons per minute [gpm]) at the nearby National Golf Course. The concerns were communicated to Bill Schultz of the Wisconsin Department of Natural Resources (WDNR) who indicated that he would inquire within WDNR about the well and additional information that may have been provided. CH2M HILL evaluated the PCP results from the past annual sampling events for evidence of plume migration or changes in concentration.

A correct replacement LNAPL recovery pump in EW-03 was ordered and received on August 31. A recent measurement in EW-03 indicates that measureable LNAPL is not present. It was determined that the pump will not be installed at this time. If LNAPL is found in EW-03 in the future or a backup is needed for another well, this pump will be installed.

3. Problem Areas and Recommended Solutions

Representatives from the local power company were onsite on November 29 to investigate the source of the power problems, but were unable to identify any problems with the power entering the building at that time. Maurer Power was contacted on November 29 for additional troubleshooting. Maurer Power was onsite November 30 and identified a factory defect in the motor control center bucket for the blower. They provided a temporary fix to allow the groundwater treatment

system to be restarted. Consistent operation of the blower was the only way that the factory defect manifested itself, thus the problem could not have been prevented.

The bioventing system will be restarted in the next reporting period after Maurer Power locates and installs additional replacement components. When the bioventing system is restarted, monitoring will be performed consistent with the original start-up of the bioventing system due to the longer shut down duration and the freezing of the ground and snow cover that may affect the air flow in the subsurface.

After the treatment system was restarted on November 30, the 2,500-lb clay vessel had to be backwashed and the pressure in the lead 10,000-lb carbon vessel increased rapidly due to the solids loading. A carbon changeout is scheduled to occur in the next reporting period on December 12. The 2,500-lb and the lead and lag 10,000-lb carbon vessels are scheduled for changeout.

The onsite time and travel expenses during the startup of the bioventing system were charged to the wrong task (Task B) and will be transferred to the correct task (Task C) during the next reporting period.

4. Deliverables Submitted

None.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will perform a carbon changeout and restart the system including the biovent system.

Task C (CV): CH2M HILL will perform sample management tasks for the annual sampling event as results are received from the laboratory.

Task D (PC): CH2M HILL will continue preparing the *2007 Interim LTRA Annual Report.*

6. Key Personnel Changes

None.

7. Subcontractor Services

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. **Travel**

Keli McKenna, Bill Andrae, Jack Knight, and Shannon Greene traveled to the site on November 18 and returned on November 20. Travel charges for Jack Knight and Shannon Greene will be invoiced during the next reporting period.

Continued monitoring for the bioventing system was performed by the site operator. The onsite time and travel expenses for Christie Walker and Phil Smith during the startup of the bioventing system were charged to the wrong task (Task B) and will be transferred to the correct task (Task C) during the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A – LTRA Monthly Progress Report

- The *October 2007 Monthly Progress Report* was submitted, meeting the performance standard.

Task B – Groundwater Containment and Bioventing

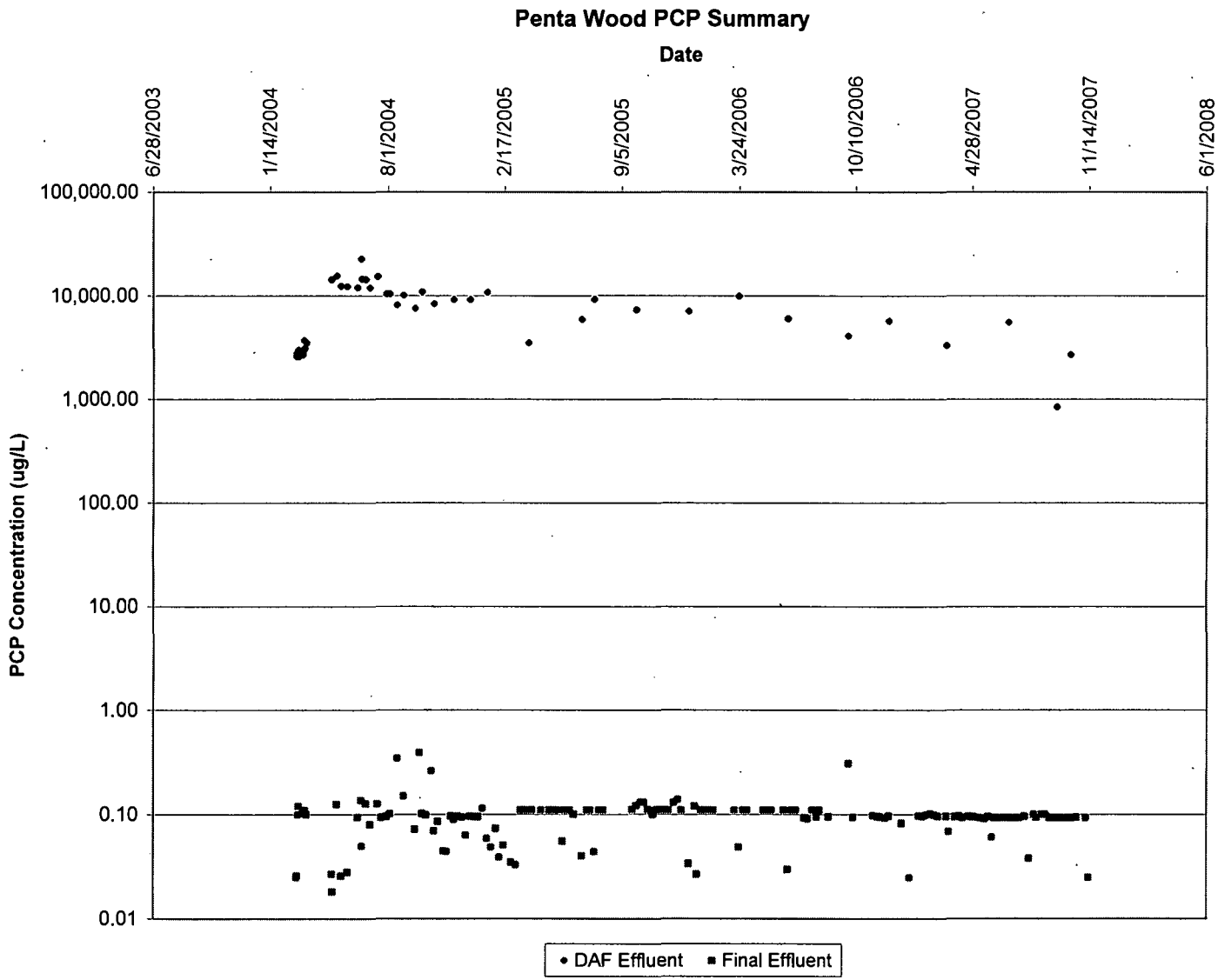
- During the bioventing system operation, the system operated continuously until November 24. The unscheduled shutdowns did not exceed the 10 day allowable downtime for repairs within this reporting period. The bioventing system is anticipated to be restarted in the next reporting period. An effect on the groundwater PCP concentrations from the bioventing will not be immediately observed.
- The treatment system was operational 100 percent of the time based on the approved clarification to this performance standard. The system was shutdown by the operator for required routine maintenance, including a carbon changeout that was completed in less than the required 5 days. The unscheduled shutdowns in the month of November were acknowledged within 24 hours. The unscheduled shutdowns did not exceed the 10 day allowable downtime for repairs within this reporting period.

Task C – Groundwater Treatment Goal Achieved

- Monthly treatment system effluent sampling results met the discharge criteria in the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-0061531-01-0, meeting the performance standard.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if the Plume is Migrating	CH2M HILL is continuing to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in MW-13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this LTRA Work Plan is more accurate because of the availability of actual costs.
Consider Modifying Management of GAC Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL reviewed the number of locations and frequency of the sampling performed during the groundwater sampling events and presented recommended reductions in the number of sampling locations to USEPA. CH2M HILL reviewed the WPDES discharge sampling requirements and recommended a reduction in the analyses and frequency of sample collection. The WDNR accepted a number of the recommendations which will result in an annual cost savings of $3,800.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Ground Water Extraction without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test was performed the week of May 7 to evaluate the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Groundwater Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL started the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.). The bioventing will be performed concurrently with the LNAPL recovery system.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
6/1/2008
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	–	–
16-Jun-04	–	7	–	–	–	–	–	–	–	–	0.137	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jun-04	–	7	–	–	–	–	–	–	–	–	0.050U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Jun-04	–	7	–	–	–	–	–	–	–	–	*NA	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Jun-04	–	7	–	–	–	–	–	–	–	–	0.127	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Jul-04	–	7	–	–	–	–	–	–	–	–	0.081JB	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Jul-04	–	7	–	–	–	–	–	–	–	–	0.126	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-04	–	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	–	–
29-Jul-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-04	–	7	–	–	–	–	–	–	–	–	0.103	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Aug-04	–	7	–	–	–	–	–	–	–	–	0.348	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Aug-04	–	7	4.0U	–	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	–	–	–	–
16-Sep-04	–	7	–	–	–	–	–	–	–	–	0.0724JB	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Sep-04	–	7	–	–	–	–	–	–	–	–	0.393B	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	–	–
5-Oct-04	–	7	–	–	–	–	–	–	–	–	0.099	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Oct-04	–	7	–	–	–	–	–	–	–	–	0.265B	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-04	8,310B	7	–	–	0.143B	1.01	–	–	–	0.97U	0.0702JB	9.52U	1.0U	0.5U	–	–	–	0.500B	–	–	–	–	–	–
26-Oct-04	–	7	–	–	–	–	–	–	–	–	0.0861J	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0447J	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0442J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-04	9,140	7	–	–	0.0935U	0.787JB	–	–	–	0.82U	0.0900J	9.43U	1.0U	0.5U	–	–	–	0.727B	–	–	–	–	–	–
29-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0962U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0943U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0637J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	–	–
30-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Jan-05	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-05	–	7	–	–	–	–	–	–	–	–	0.114B	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Jan-05	10,800B	7	–	–	0.12	0.923B	–	–	–	2.65U	0.0595JB	9.52U	5.0U	0.5U	–	–	–	0.454B	–	–	–	–	–	–
25-Jan-05	–	7	–	–	–	–	–	–	–	–	0.049J	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Feb-05	–	7	–	–	–	–	–	–	–	–	0.074J	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Feb-05	–	7	–	–	–	–	–	–	–	–	0.039J	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Feb-05	–	7	–	–	–	–	–	–	–	–	0.051J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-05	–	7	–	–	0.096U	0.67B	–	–	–	0.43U	0.035J	4.7U	0.94U	0.5U	–	–	–	14	–	–	–	–	–	–
8-Mar-05	–	7	–	–	–	–	–	–	–	–	0.033J	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-05	–	7	–	–	0.098U	0.69B	–	–	–	–	0.066J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
4-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-May-05	0.11U	7	–	–	0.093U	0.63B	–	–	–	1.2U	0.056J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
1-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	–	7	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	–	–
8-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-05	9,200	7	–	–	0.093U	0.64B	–	–	–	–	0.044J	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
28-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Sep-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	–	–
6-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Oct-05	–	7	–	–	0.093U	0.61B	–	–	–	–	0.099J	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
1-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Nov-05	–	7	–	–	0.024J	0.59B	–	–	–	–	0.11U	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Dec-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Dec-05	–	7	–	–	–	–	–	–	–	–	0.14U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Dec-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	–	–
6-Jan-06	–	7	–	–	–	–	–	–	–	–	0.12U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-06	–	7	–	–	–	–	–	–	–	–	0.027J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jan-06	–	7	–	–	0.098U	0.81B	–	–	–	–	0.11U	4.9U	0.97U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-06	–	7	–	–	0.097U	0.67B	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
15-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Apr-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
4-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
11-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
8-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	–	–
21-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Jul-06	–	6.5	–	–	0.096U	0.61B	–	–	–	–	0.092U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
27-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	–	–
5-Oct-06	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Nov-06	–	6.5	–	–	0.095U	1.4	–	–	–	–	0.096U	–	0.95U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	–	–
27-Dec-06	–	6.5	–	–	–	–	–	–	–	–	0.083U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-07	–	6.5	–	–	0.096U	2.1	–	–	–	–	0.025J	5.0U	1.0U	–	–	–	–	–	–	–	–	–	–	–
25-Jan-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-07	–	6.5	–	–	0.094U	0.91B	–	–	–	–	0.098U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
14-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	–	[c]ND
18-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.069J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-07	–	6.5	–	–	0.097U	0.68B	–	–	–	–	0.097U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
10-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
26-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-May-07	–	6.5	–	–	0.094U	0.43J	–	–	–	–	0.095U	4.6U	0.92U	–	–	–	–	–	–	–	–	–	–	–
18-May-07	–	6.5	–	–	–	–	–	–	–	–	0.092U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-May-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
31-May-07	–	6.5	–	–	–	–	–	–	–	–	0.061J	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Jun-07	5,500	6.5	5.0U	22B	0.095U	0.45J	1.0U	1.0U	3.2 U	3.2U	0.093U	4.8 U	0.95 U	1.0U	1.0U	1.0U	2.0U	10U	10U	27	100U	2,100	–	–
5-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
9-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jul-07	–	6.5	–	–	0.094U	0.59JB	–	–	–	–	0.093U	4.7 U	0.94U	–	–	–	–	–	–	–	–	–	–	
26-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.038JB	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Aug-07	–	6.5	–	–	0.093U	0.69JB	–	–	–	–	0.094U	4.8 U	0.95 U	–	–	–	–	–	–	–	–	–	–	–
24-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10UJ	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Sept-07	840	6.5	5.0U	74	0.093U	0.63J	1.0U	1.0U	1.0U	3.1U	0.093U	4.7 U	0.93 U	1.0U	1.0U	1.0U	2.0U	10U	10U	36	450	2,100	–	–
24-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-07	2,700	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Oct-07	–	6.5	–	–	0.093U	0.54J	–	–	–	–	0.093U	4.7 U	0.93 U	–	–	–	–	–	–	–	–	–	–	–
23-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Nov-07	–	6.5	–	–	–	–	–	–	–	–	0.025J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Nov-07	[b]NR	6.5	–	–	[b]NR	[b]NR	–	–	–	–	[b]NR	[b]NR	[b]NR	–	–	–	–	–	–	–	–	–	–	–
30-Nov-07	–	6.5	–	–	–	–	–	–	–	–	[b]NR	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (ug/L; 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
– = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit

RAC2 TECHNICAL STATUS REPORT
December 1, 2007 to December 28, 2007

WORK ASSIGNMENT NUMBER:	004-LRLR-05WE
SITE NAME:	Penta Wood Products—OU1, WI
ACTIVITY:	Long-Term Response Action
CH2M HILL JOB NUMBER:	344511
PREPARED BY:	Keli McKenna/MKE, Site Manager Beth Rohde/MKE, Assistant Site Manager
PERIOD ENDING:	December 28, 2007

COPIES:

RPM:	Tom Williams, USEPA Region 5
PM:	Isaac H. Johnson, CH2M HILL, Milwaukee, WI
RTL:	Phil Smith, CH2M HILL, Milwaukee, WI
WDNR:	Bill Schultz, WDNR, Rhinelander, WI
WDNR:	Dave Hantz, WDNR, Madison, WI
WDNR:	Pete Prusak, WDNR, Cumberland, WI

1. Progress Made This Reporting Period

Task A (PP):

- Performed monthly project management activities.

Task B (PJ):

- Operation of the system under this task continued.
- An estimated 0.67 million gallons (MG) of groundwater were treated and discharged during the reporting period. To date, a total of 70.6 MG of water have been treated. An estimated 89 gallons of light nonaqueous phase liquid (LNAPL) were recovered, bringing the total recovered volume of LNAPL since March 2004 to approximately 26,715 gallons.
- The bioventing system was shut down during this reporting period. A factory defect in the motor control center (MCC) bucket for the blower caused a power failure on November 26. After troubleshooting was performed and the factory defect identified, the electrician located and purchased the missing components. The missing part (splice plates) is not a standard item that would require maintenance or be maintained onsite as a spare part, as this part is not susceptible to wear. The splice plate is a made-to-order part with a standard lead time of two weeks. The electrician was able to install the new splice plate on December 14.

  On Monday, December 17, the CH2M HILL staff member who performed the bioventing startup traveled to the site to restart the bioventing system following the shutdown. Soil gas readings were collected to evaluate operation of the bioventing system through the winter months. Methane was measured to

determine if the concentrations had rebounded to levels that could pose a potential migration hazard due to the frozen ground surface and snow cover. Oxygen was measured to determine the change in oxygen levels in the time the biovent was non-operational. The soil gas monitoring indicated that oxygen levels had not significantly decreased over the extended shutdown. Based on the relatively low oxygen utilization rate, it does not appear that the oxygen will drop below the 5 percent minimum level for aerobic biodegradation for a few months in the deep and intermediate zones.

In addition, the methane has shown a rebound to levels above the lower exposure limit (LEL). Running the system for an extended time during the winter is a safety concern because it is possible the frozen soils can act as a cap, preventing upward release of methane and resulting in spreading of methane laterally.

As a result of sufficient oxygen remaining in the subsurface, to support aerobic biodegradation and the health and safety concern of methane migration, it was recommended that the bioventing system remain off for the winter. The bioventing system can remain off throughout the winter without appreciably affecting the biodegradation of pentachlorophenol (PCP) in the subsurface and will provide cost savings on energy consumption; therefore, the bioventing system was shut down on December 18 after evaluation of the soil gas monitoring data.

- The groundwater treatment system shut down on November 30 due to dissolved air flotation (DAF) system faults. The operator attempted to restart the system and it ran intermittently until December 4 when troubleshooting identified that the DAF recirculation pump was not operating. The DAF panel was reset and the system was again restarted on December 4, but had to be shut down due to an obstruction in the DAF sludge piping. The obstruction was cleared on December 10. The system was not restarted at that time because the carbon vessels had to be drained in preparation for a carbon changeout scheduled for December 12. The carbon changeout was required due to high carbon vessel differential pressures after the heavy solids loading.

- On December 11, North Shore Environmental picked-up an approximate 10 tons of filter cake, 500 pounds (lbs) of debris and 5,600 gallons of LNAPL for disposal.

- On December 12, Siemens was onsite to perform a changeout of the 2,500-lb prefilter vessel and the lead and lag 10,000-lb carbon vessels. The carbon changeout was required due to high carbon vessel differential pressures. Heavy solids loading occurred between November 30 and December 4 when the DAF recirculation pump was suspected to have not been operating. The groundwater treatment system was restarted on December 14 after the carbon changeout was complete.

- On December 14, Maurer Power was onsite and installed the replacement parts in the MCC to repair the factory defect.

- On December 20, North Shore Environmental was onsite to pick up 19 supersacks of spent carbon for disposal.

- On December 20, DR Tech was onsite to install replacement pH probes in the neutralization tank. While onsite, DR Tech evaluated the installation of a replacement polymer transfer pump and replacement of associated piping. It was suspected that the polymer pump that delivers the polymer from the neat tank to the mix tank was failing and a replacement pump was ordered.
- On December 20 and 27, Glacier Pure was onsite for the delivery of one pallet of DE and 4,000 gallons of ferric sulfate, respectively.
- On December 21, the operator identified that the polymer transfer pump had failed and polymer was not being dosed into the mix tank. The operator manually mixed the polymer to the correct concentration and filled the mix tank. To continue to operate the groundwater treatment system, the mix tank will be manually filled until the replacement polymer transfer pump is installed. The installation of the pump and piping replacement work is scheduled for the first week in January.
- The groundwater treatment system operated intermittently from December 22 through the end of the reporting period because of solids loading in the bag filters that required frequent bag filter changeouts. The high solids loading factor is attributed to the variation caused by the manual mixing of the polymer.
- On December 28, Reliable Services was onsite to evaluate and provide a quote for a backflow preventor for the OA fans. The fans have separate exhausts, but share common ductwork. If a belt breaks on one fan, air is drawn in and forces that fan to run backwards. The addition of a backflow preventor is being considered as a preventative measure to protect the OA fans.
- The status of recommendations resulting from the remediation system evaluation is summarized and presented in the table located at the end of this report.
- The results of Wisconsin Pollutant Discharge Elimination System (WPDES) PCP sampling are presented in the chart and summarized in the table located at the end of this report. The discharge sample exceeded the PCP target discharge limit of 0.1 micrograms per liter (µg/L) on November 20, with a result of 15 µg/L; however, this result is considered suspect for the following reasons:
  - A breakthrough sample collected on November 20 between the lead and the lag 10,000 lb carbon vessels had a PCP result of 0.17 µg/L. It is unlikely that the PCP concentration at the effluent would be higher than the concentration found between the carbon vessels. It is believed that the breakthrough sample and discharge sample collected on November 20 for PCP may have been switched.
  - The subsequent weekly discharge sample collected on November 30 was non-detectable for PCP (<0.093 µg /L). It is unlikely that the PCP concentration at the effluent would show breakthrough of both carbon vessels with a result of 15 µg/L followed by a non-detectable result.

The November 20 sampling event was a monthly event and all other parameters were in compliance with the respective target discharge limits and consistent with previous results. The PCP sample results from November 20 are estimated due to laboratory quality control issues.

Task C (CV):

- Continued to perform operational monitoring under this task.

Task D (PC):

- Continued preparation of the *2007 Interim LTRA Annual Report.*

Summary of Project Status						
Task No./ Code	Planned Start	Actual Start	Planned Completion	Actual Completion	Percent Complete	Schedule Variance
A (PP)	07/01/06	07/01/06	03/14/11		33	0
B (PJ)	07/29/06	07/29/06	03/14/11		30	0
C (CV)	07/29/06	07/29/06	03/14/11		25	0
D (PC)	07/29/06	07/29/06	03/14/11		23	0
E (CO)	03/01/11		03/14/11		0	0

2. Problems Resolved

On November 26, a factory defect in the MCC caused a power failure and PLC fault. Troubleshooting was performed and resulted in the replacement of the uninterruptible power supply (UPS) battery and UPS in the old treatment building, which corrected the problem with the PLC fault. Maurer Power was able to perform a temporary fix which allowed the groundwater treatment system to be restarted on November 30. However, the bioventing system could not be restarted until the required part was installed. Maurer Power obtained the required part from the manufacturer and installed the part on December 14.

The pH probes in the neutralization tank were no longer calibrating correctly. Replacement probes were ordered and installed on December 20.

3. Problem Areas and Recommended Solutions

The discharge sample exceeded the PCP target discharge limit of 0.1 µg/L on November 20 with a result of 15 µg/L, but this result is suspect. A sample was also collected on November 20 between the lead and the lag 10,000-lb carbon vessels to monitor for breakthrough. The breakthrough sample result was 0.17 µg/L. In addition, the subsequent weekly discharge sample collected on November 30 was non-detectable (<0.093 µg /L); therefore, it is believed that the breakthrough sample and discharge samples collected on November 20 may have been switched during collection. Additional training will be provided to the onsite operator and sample port labeling will be provided to prevent future errors in the sample collection.

Assuming the samples were switched, the monthly average PCP concentration is 0.072 µg/L which is in compliance with the permit limit amount of 0.1 µg/L for the

monthly average. The November 20 sampling event was a monthly event and all other parameters were in compliance with the respective target discharge limits and consistent with previous results.

On December 21, the operator identified that the polymer pump had failed and polymer was not being dosed into the mix tank. The operator manually mixed the polymer to the correct concentration and filled the mix tank. The mix tank will be manually filled until the replacement polymer pump can be installed. The installation of the pump and piping replacement work is scheduled for the first week in January 2008.

4. Deliverables Submitted

None.

5. Activities Planned Next Reporting Period

Task A (PP): CH2M HILL will perform monthly project management.

Task B (PJ): CH2M HILL will continue to operate the treatment system.

Task C (CV): CH2M HILL will perform sample management tasks as results are received from the laboratory.

Task D (PC): CH2M HILL will continue preparing the *2007 Interim LTRA Annual Report.*

6. Key Personnel Changes

The site operator, Mary Wicklund, is out on medical leave. Lisa Mauser is filling in as the onsite operator.

7. Subcontractor Services

Electrical Service:	Northwestern WI Electric Co.
Telephone:	Siren Telephone Company
Septic Service:	A-1 Septic Service
Nonhazardous Waste Disposal:	Allied Waste Services
Polymer:	US Water Services
Propane Tank and Gas:	Larry's LP, Inc.
Contaminated Media Removal:	Siemens Water Technologies, Inc.
Hazardous Waste Disposal:	North Shore Environmental
Treatment System Chemicals:	Glacier Pure, Inc.
Well Pump Inspection and Replacement:	WDC Exploration and Wells
Road Maintenance, Erosion Control, and Repair:	Brust Excavating
Carbon Changeout Services:	Siemens Water Technologies

8. Travel

Travel for Jack Knight and Shannon Greene between November 18 and November 20 was reported in the previous reporting period. Travel charges are included in this invoice.

Shannon Greene traveled to the site on December 6 to temporarily relieve the operator and returned on December 7. Travel charges are included in this invoice.

Lisa Mauser traveled to the site on December 8 to relieve the operator and has remained at the site as the operator for the remainder of the reporting period. Travel charges will be included in the next reporting period.

Bill Andrae traveled to the site on December 9 to assist the operator and perform troubleshooting on the groundwater treatment system. Bill returned on December 15. Travel charges are included in this invoice.

Christie Walker traveled to the site on December 17 and returned on December 18 after restarting the bioventing system and performing soil gas monitoring. Travel charges will be invoiced in the next reporting period.

9. **Laboratories**

System monitoring samples were submitted to STL of Chicago, Illinois for analysis. They are a Wisconsin-certified laboratory with the subcontract for 2006–2008 analytical services.

10. **Project Performance**

The following tasks, with associated performance criteria, were active this month:

Task A—LTRA Monthly Progress Report

- The *November 2007 Technical Status Report* was submitted, meeting the performance standard.

Task B—Groundwater Containment and Bioventing

- The bioventing system did not operate during this reporting period, except on December 18 to perform soil gas monitoring. The bioventing system was shut down from November 26 through December 14 due to a factory defect in the MCC. After troubleshooting was performed and the factory defect was identified, the electrician located and purchased a splice plate which was the missing component. The splice plate is not a standard item that would be maintained on site as a spare part or would require maintenance because this part is not susceptible to wear. This is a made-to-order part with a standard lead time of two weeks. The electrician installed the missing parts on December 14. CH2M HILL requested an extension of the 10-day allowable downtime for repairs.

  The bioventing system was restarted on December 18 when soil gas monitoring could be performed to evaluate operation of the bioventing system through the winter months based on oxygen and methane levels. The soil gas monitoring indicated that oxygen levels had not significantly decreased over the extended shutdown. Methane rebounded to levels above the LEL. As a result of sufficient oxygen remaining in the subsurface to support aerobic biodegradation and the health and safety concern of methane migration under the frozen ground surface, it was recommended that the bioventing system remain off for the winter. The bioventing system can remain off throughout the winter without appreciably affecting the biodegradation of PCP in the subsurface and will provide cost savings on energy consumption; therefore, the bioventing system was shut down on December 18 after evaluation of the soil gas monitoring data.

- The groundwater treatment system shut down on November 30 due to DAF system faults. The operator attempted to restart the system and it ran intermittently until December 4 when it was identified that the DAF recirculation pump was not operating. The DAF panel was reset and the system was again restarted on December 4, but had to be shut down due to an obstruction in the DAF sludge piping. The obstruction was cleared on December 10. The repairs to the DAF were completed in 11 days, which is one day beyond the 10-day allowable downtime for repairs.

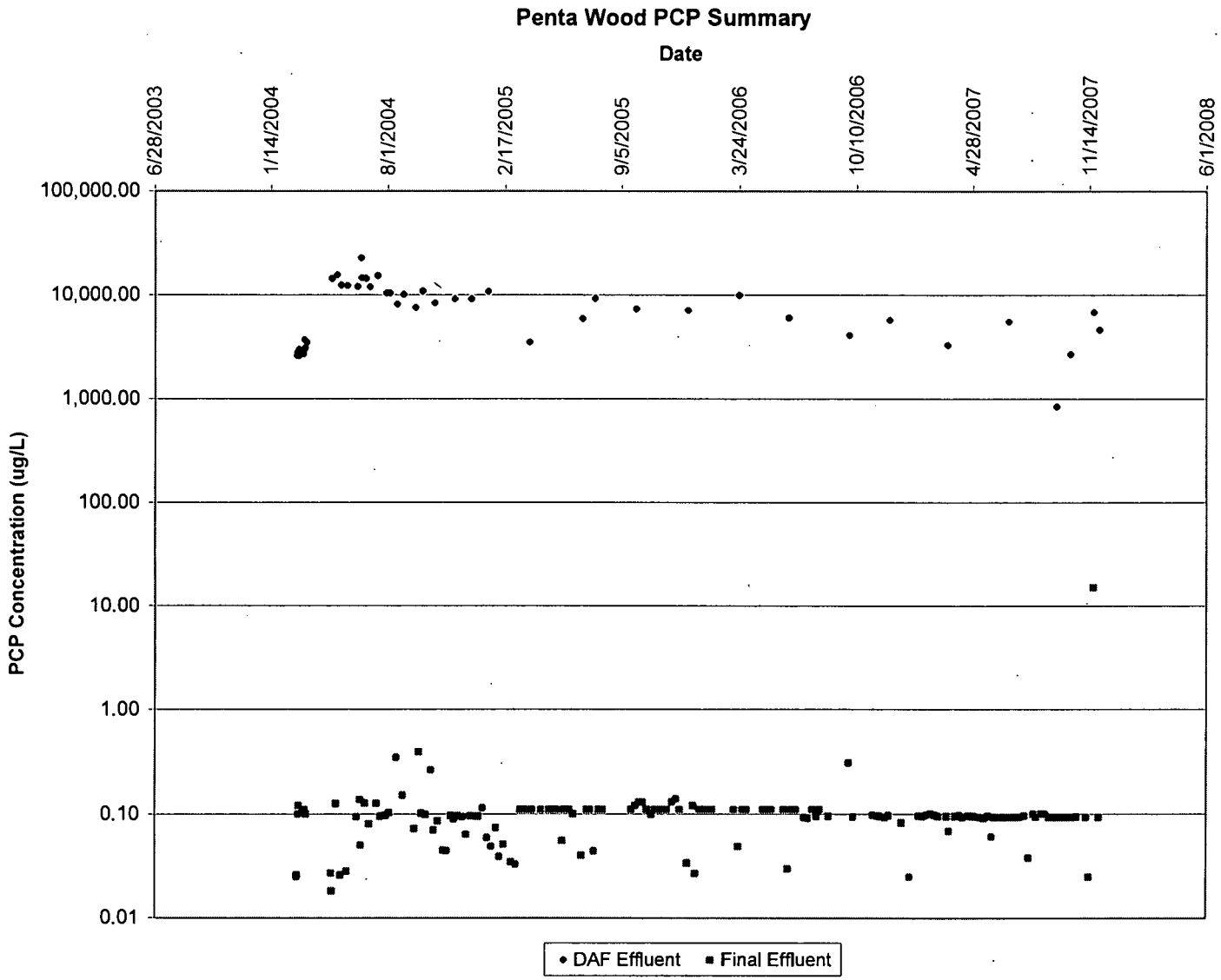
  The groundwater treatment system was not restarted on December 10 because the carbon vessels had to be drained in preparation for a carbon changeout scheduled for December 12. The carbon changeout was completed in five days and restarted on December 14, meeting the performance standard for carbon changeouts.

Task C—Groundwater Treatment

- The November 20 treatment system effluent PCP sampling result did not meet the discharge criteria in the WPDES Permit No. WI-0061531-01-0. The PCP results from this sampling event are suspect because the discharge sample may have been switched with a breakthrough sample. Assuming the samples were switched, the monthly average PCP concentration is 0.072 µg/L, which is in compliance with the permit limit amount of 0.1 µg/L for the PCP monthly average. All other samples for PCP and other monthly parameters met the WPDES permit requirements.

REMEDIATION SYSTEM EVALUATION RECOMMENDATION STATUS

Recommendation	Status
Follow Water Quality Trends in Monitoring Wells to Determine if Plume is Migrating	CH2M HILL continues to evaluate the PCP data to determine if plume migration is expanding and if additional monitoring sites may be needed. If continued increases are observed in Monitoring Well MW13, installation of a monitoring well to the east, in the direction of two residences, may be considered.
Provide More Accurate Prediction of Consumables and Disposal Costs	The budget for this *LTRA Work Plan* is more accurate because of the availability of actual costs.
Consider Modifying Management of Granular Activated Carbon (GAC) Units	CH2M HILL is continuing to evaluate alternatives to reduce the carbon changeout frequency.
Eliminate Redundant or Unnecessary Laboratory Analysis	Historical metals data were reviewed to verify elimination of total metals from the annual sampling of the monitoring wells and will not affect data evaluation. As instructed by USEPA, CH2M HILL will eliminate the total metals analysis from the groundwater sampling events. As instructed by USEPA, CH2M HILL will not eliminate the spring sampling event until sufficient data exists in order to fully evaluate the contaminant plume. CH2M HILL reviewed the number of locations and frequency of the sampling performed during the groundwater sampling events and presented USEPA with recommended reductions in the number of sampling locations. CH2M HILL reviewed the WPDES discharge sampling requirements and recommended a reduction in the analyses and frequency of sample collection. The WDNR accepted a number of the recommendations which will result in an annual cost savings of $3,800.
Savings From the Use of Dedicated Pumps in Monitoring Wells	The use of dedicated pumps has reduced the overall CH2M HILL level of effort required for the sampling events. The CH2M HILL plant operator will continue to serve as a field team member to further reduce travel costs.
Investigate Possibility of Declassifying Waste	CH2M HILL investigated the possibility of declassifying the waste and determined that this action is not feasible due to the continued presence of LNAPL in the ground which is considered to be a listed hazardous waste.
Decrease Project Management/ Reporting Costs	CH2M HILL expects project management costs to decrease during this LTRA work assignment. Data management costs may remain high due to the volume of analytical data generated for the site and the level of effort associated with meeting USEPA reporting requirements.
Develop Tracking of Routine and Non-Routine Costs	For this LTRA work assignment, CH2M HILL is developing a tracking system to assist in analyzing routine and non-routine maintenance activities, the associated costs, and possible ways to reduce the costs.
Evaluate Potential to Reduce Groundwater Extraction Without Substantially Affecting LNAPL Recovery	As part of the data evaluation activities for this LTRA work assignment, CH2M HILL will continue to evaluate LNAPL recovery and dissolved plume containment to determine the potential for reduced groundwater pumping. The LNAPL recovery optimization test was performed the week of May 7 to evaluate the effect of the cone of depression on the LNAPL recovery. The results of the optimization test were summarized and submitted in a technical memorandum on June 29.
Adjust pH to 6.5 instead of 7.0	As instructed by USEPA, CH2M HILL has implemented this recommendation.
Transition From Groundwater Extraction and LNAPL Recovery System To Bioventing System and Intrinsic Remediation	CH2M HILL started the bioventing system in September 2007 and will monitor the effects that the bioventing operation has on the LNAPL, groundwater, and other subsurface conditions (i.e., temperature, methane productions, etc.). The bioventing will be performed concurrently with the LNAPL recovery system.


Penta Wood PCP Summary
Date
6/28/2003
1/14/2004
8/1/2004
2/17/2005
9/5/2005
3/24/2006
10/10/2006
4/28/2007
11/14/2007
6/1/2008
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
PCP Concentration (ug/L)
DAF Effluent
Final Effluent

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
10-Jun-04	12,000B	7	2.13U	29	0.10U	0.775B	5.0U	5.0U	10.0U	1.78U	0.0943U	5.0U	5.0U	0.5U	5.0U	5.0U	5.0U	0.967B	4.92	111	412	2,230	–	–
16-Jun-04	–	7	–	–	–	–	–	–	–	–	0.137	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jun-04	–	7	–	–	–	–	–	–	–	–	0.050U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Jun-04	–	7	–	–	–	–	–	–	–	–	*NA	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Jun-04	–	7	–	–	–	–	–	–	–	–	0.127	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Jul-04	–	7	–	–	–	–	–	–	–	–	0.081JB	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Jul-04	–	7	–	–	–	–	–	–	–	–	0.126	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-04	–	7	2.13U	30B	0.10U	1.12	1.0U	1.0U	2.0U	1.78U	0.0952U	4.85U	1.0U	0.5U	1.0U	1.0U	1.0U	0.843B	3.49	79.7	5.48B	2,460	–	–
29-Jul-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-04	–	7	–	–	–	–	–	–	–	–	0.103	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Aug-04	–	7	–	–	–	–	–	–	–	–	0.348	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Aug-04	–	7	4.0U	–	0.10U	0.789B	1.0U	1.0U	2.0U	1.58U	0.151	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	2.19	3.75	98.1	–	–	–	–
16-Sep-04	–	7	–	–	–	–	–	–	–	–	0.0724JB	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Sep-04	–	7	–	–	–	–	–	–	–	–	0.393B	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Sep-04	10,900B	7	4.0U	28	0.10U	0.811B	1.0U	1.0U	2.0U	2.17U	0.102B	9.43U	1.0U	0.5U	1.0U	1.0U	1.0U	1.0U	5.51	95.5	36.8B	2,470	–	–
5-Oct-04	–	7	–	–	–	–	–	–	–	–	0.099	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Oct-04	–	7	–	–	–	–	–	–	–	–	0.265B	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-04	8,310B	7	–	–	0.143B	1.01	–	–	–	0.97U	0.0702JB	9.52U	1.0U	0.5U	–	–	–	0.500B	–	–	–	–	–	–
26-Oct-04	–	7	–	–	–	–	–	–	–	–	0.0861J	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0447J	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0442J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0971U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-04	9,140	7	–	–	0.0935U	0.787JB	–	–	–	0.82U	0.0900J	9.43U	1.0U	0.5U	–	–	–	0.727B	–	–	–	–	–	–
29-Nov-04	–	7	–	–	–	–	–	–	–	–	0.0962U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
7-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0943U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0637J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Dec-04	9,100	7	4.0U	27	0.0962U	0.905B	1.0U	1.0U	2.0U	1.17U	0.0962U	9.62U	1.0U	0.5U	1.0U	1.0U	1.0U	0.550B	1.66B	66.7	8.35B	2,670	–	–
30-Dec-04	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Jan-05	–	7	–	–	–	–	–	–	–	–	0.0952U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-05	–	7	–	–	–	–	–	–	–	–	0.114B	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Jan-05	10,800B	7	–	–	0.12	0.923B	–	–	–	2.65U	0.0595JB	9.52U	5.0U	0.5U	–	–	–	0.454B	–	–	–	–	–	–
25-Jan-05	–	7	–	–	–	–	–	–	–	–	0.049J	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Feb-05	–	7	–	–	–	–	–	–	–	–	0.074J	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Feb-05	–	7	–	–	–	–	–	–	–	–	0.039J	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Feb-05	–	7	–	–	–	–	–	–	–	–	0.051J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-05	–	7	–	–	0.096U	0.67B	–	–	–	0.43U	0.035J	4.7U	0.94U	0.5U	–	–	–	14	–	–	–	–	–	–
8-Mar-05	–	7	–	–	–	–	–	–	–	–	0.033J	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Mar-05	3,500	7	5.0U	22	0.094U	0.37B	1.0U	1.0U	2.0U	1.4U	0.11U	4.7U	0.93	0.5U	1.0U	1.0U	1.0U	1.0U	7.4B	44	50U	2,400	[c]ND	[c]ND
30-Mar-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-05	–	7	–	–	0.098U	0.69B	–	–	–	–	0.066J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
4-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-May-05	0.11U	7	–	–	0.093U	0.63B	–	–	–	1.2U	0.056J	4.8U	0.95U	0.5U	–	–	–	1.0U	–	–	–	–	–	–
1-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Jun-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-05	–	7	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-05	5,900	7	6	29	0.091U	0.66B	1.0U	1.0U	1.0U	2.3U	0.040J	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	9.1	10U	96	5,500	2,500	–	–
8-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Jul-05	9,200	7	–	–	0.093U	0.64B	–	–	–	–	0.044J	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
28-Jul-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Aug-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Sep-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Sep-05	7,300	7	2.0B	24	0.095U	0.50B	1.0U	1.0U	1.0U	0.68U	0.12U	4.6U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	35	50U	2,100	–	–
6-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Oct-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Oct-05	–	7	–	–	0.093U	0.61B	–	–	–	–	0.099J	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
1-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Nov-05	–	7	–	–	0.024J	0.59B	–	–	–	–	0.11U	4.7U	–	–	–	–	–	–	–	–	–	–	–	–
22-Nov-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Dec-05	–	7	–	–	–	–	–	–	–	–	0.13U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Dec-05	–	7	–	–	–	–	–	–	–	–	0.14U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Dec-05	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Dec-05	7,100	7	5.0U	23	0.093U	0.70B	1.0U	1.0U	1.0U	0.33U	0.034J	4.8U	37	0.50U	5.0U	5.0U	5.0U	5	2.5B	72	390	3,600	–	–
6-Jan-06	–	7	–	–	–	–	–	–	–	–	0.12U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-06	–	7	–	–	–	–	–	–	–	–	0.027J	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jan-06	–	7	–	–	0.098U	0.81B	–	–	–	–	0.11U	4.9U	0.97U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
25-Jan-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-06	–	7	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-06	–	7	–	–	0.097U	0.67B	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
15-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
23-Mar-06	9,900	6.5	5.0U	23	0.035J	0.68B	1.0U	1.0U	1.0U	0.32U	0.049J	4.7U	0.93U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	34	50U	2,300	[c]ND	[c]ND
30-Mar-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Apr-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
4-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
11-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-May-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
8-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Jun-06	6,000	6.5	5.0U	25	0.093U	0.43B	1.0U	1.0U	1.0U	0.87U	0.03J	4.8U	0.88J	0.50U	5.0U	5.0U	5.0U	3	4.3B	52	130	2,300	–	–
21-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Jun-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
19-Jul-06	–	6.5	–	–	0.096U	0.61B	–	–	–	–	0.092U	4.7U	0.93U	–	–	–	–	–	–	–	–	–	–	–
27-Jul-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
3-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.11U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-Aug-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
27-Sep-06	4,100	6.5	5.0U	20	0.018U	0.89B	1.0U	1.0U	1.0U	1.6U	0.31	4.5U	0.91U	0.50U	5.0U	5.0U	5.0U	1.0U	10U	39	50	2,000	–	–
5-Oct-06	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
16-Nov-06	–	6.5	–	–	0.095U	1.4	–	–	–	–	0.096U	–	0.95U	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
20-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
29-Nov-06	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Dec-06	5,700	6.5	5.0U	22	0.096U	0.91B	1.0U	1.0U	1.0U	0.56U	0.097U	4.7U	0.93U	0.5U	5.0U	5.0U	5.0U	1.0U	10U	39	50U	2,300	–	–
27-Dec-06	–	6.5	–	–	–	–	–	–	–	–	0.083U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Jan-07	–	6.5	–	–	0.096U	2.1	–	–	–	–	0.025J	5.0U	1.0U	–	–	–	–	–	–	–	–	–	–	–
25-Jan-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
1-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
7-Feb-07	–	6.5	–	–	0.094U	0.91B	–	–	–	–	0.098U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
14-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.098U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Feb-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
14-Mar-07	3,300	6.5	5.0U	17	0.094U	1.3	1.0U	1.0U	1.0U	3.9U	0.095U	4.8U	0.95U	0.50U	5.0U	5.0U	5.0U	8.8	2.2B	49	160	5,400	–	[c]ND
18-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.069J	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Mar-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Apr-07	–	6.5	–	–	0.097U	0.68B	–	–	–	–	0.097U	4.8U	0.95U	–	–	–	–	–	–	–	–	–	–	–
10-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
26-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Apr-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-May-07	–	6.5	–	–	0.094U	0.43J	–	–	–	–	0.095U	4.6U	0.92U	–	–	–	–	–	–	–	–	–	–	–
18-May-07	–	6.5	–	–	–	–	–	–	–	–	0.092U	–	–	–	–	–	–	–	–	–	–	–	–	–
24-May-07	–	6.5	–	–	–	–	–	–	–	–	0.095U	–	–	–	–	–	–	–	–	–	–	–	–	–
31-May-07	–	6.5	–	–	–	–	–	–	–	–	0.061J	–	–	–	–	–	–	–	–	–	–	–	–	–
5-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
15-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
22-Jun-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
28-Jun-07	5,500	6.5	5.0U	22B	0.095U	0.45J	1.0U	1.0U	3.2 U	3.2U	0.093U	4.8 U	0.95 U	1.0U	1.0U	1.0U	2.0U	10U	10U	27	100U	2,100	–	–
5-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
9-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Jul-07	–	6.5	–	–	0.094U	0.59JB	–	–	–	–	0.093U	4.7 U	0.94U	–	–	–	–	–	–	–	–	–	–	
26-Jul-07	–	6.5	–	–	–	–	–	–	–	–	0.096U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.038JB	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
15-Aug-07	–	6.5	–	–	0.093U	0.69JB	–	–	–	–	0.094U	4.8 U	0.95 U	–	–	–	–	–	–	–	–	–	–	–
24-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10UJ	–	–	–	–	–	–	–	–	–	–	–	–	–
30-Aug-07	–	6.5	–	–	–	–	–	–	–	–	0.10U	–	–	–	–	–	–	–	–	–	–	–	–	–
6-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
10-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
18-Sept-07	840	6.5	5.0U	74	0.093U	0.63J	1.0U	1.0U	1.0U	3.1U	0.093U	4.7 U	0.93 U	1.0U	1.0U	1.0U	2.0U	10U	10U	36	450	2,100	–	–
24-Sept-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
12-Oct-07	2,700	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
17-Oct-07	–	6.5	–	–	0.093U	0.54J	–	–	–	–	0.093U	4.7 U	0.93 U	–	–	–	–	–	–	–	–	–	–	–
23-Oct-07	–	6.5	–	–	–	–	–	–	–	–	0.094U	–	–	–	–	–	–	–	–	–	–	–	–	–
8-Nov-07	–	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–
13-Nov-07	–	6.5	–	–	–	–	–	–	–	–	0.025J	–	–	–	–	–	–	–	–	–	–	–	–	–
20-Nov-07	6,800	6.5	–	–	0.097U	0.59JB	–	–	–	–	15J *	4.7 U	0.93 U	–	–	–	–	–	–	–	–	–	–	–
30-Nov-07	4,600	6.5	–	–	–	–	–	–	–	–	0.093U	–	–	–	–	–	–	–	–	–	–	–	–	–

WPDES SAMPLING SUMMARY

Date	Pentachlorophenol (µg/L) Influent	pH Field	Total Suspended Solids (mg/L)	Chloride (mg/L)	Diesel Range Organics (mg/L)	Total Organic Carbon (mg/L)	1,3,5-Trimethylbenzene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Total Trimethylbenzene (µg/L)	Dioxin (2,3,7,8 TCDD; pg/L; 3.0 pg/L monthly average limit)	Pentachlorophenol (µg/L; 0.1 µg/L monthly average limit)	Phenol (µg/L)	Naphthalene (µg/L; 8.0 µg/L monthly average limit)	Benzene (µg/L; 0.5 µg/L monthly average limit)	Ethylbenzene (µg/L)	Toluene (µg/L)	Xylene (µg/L)	Arsenic, Total Recoverable (µg/L); 5.0 µg/L monthly average limit)	Copper, Total Recoverable (µg/L)	Zinc, Total Recoverable (µg/L)	Iron, Total Recoverable (µg/L)	Manganese, Total Recoverable (µg/L)	Acid Extractables	Dioxins & Furans (all cogeners)
18-Dec-07	[b]NR	6.5	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	[b]NR	–	–

Notes:
[a]NA = Sample analysis was on hold and cancelled based on the results of the quick turnaround time samples.
[b]NR = Sample results are not yet available from the laboratory.
[c]ND = Compound was not detected in sample.
– = Not sampled.

mg/L = milligrams per liter
µg/L = micrograms per liter
pg/L=picograms per liter

Qualifiers:
B = Analyte found in the method blank
J = Estimated value
U = Analyte was not detected at or above the stated limit
* = Result is suspect. Refer to discussion of WPDES monitoring in TSR text.