# RAC V TECHNICAL STATUS REPORT

December 27, 2003 to January 30, 2004

| | |
|---|---|
| **WORK ASSIGNMENT NUMBER:** | 201-RALR-05WE |
| **SITE NAME:** | Penta Wood Products-OU 1, WI |
| **ACTIVITY:** | Long-Term Response Action |
| **CH2M HILL JOB NUMBER:** | 184202 |
| **PREPARED BY:** | Regina Bayer, Site Manager<br>Bill Andrae, Assistant Site Manager |
| **PERIOD ENDING:** | January 30, 2004 |

**COPIES:**

| | |
|---|---|
| WAM: | Tony Rutter, 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

CH2M HILL received submittal items from Clearwater Technologies, Inc. for review and approval during the reporting period.

Construction activities during the reporting period included the following:

**Week of December 29**— Clearwater Technologies had four personnel onsite with three working on various tasks, such as tank stand fabrication, painting, and miscellaneous cleanup. Stack Brothers Mechanical had four pipefitters working on process piping, potable water, and equipment installation. Benson Electric had four electricians onsite to work on process and building electric services.

**Week of January 5**—Clearwater Technologies had six of their own crew members onsite with five working on various tasks, such as the mezzanine, drywall, painting, cleanup, and equipment placement. Drywall and painting has been completed at this time. Stack Brothers Mechanical had four pipefitters and one plumber onsite to work on process piping, equipment, and plumbing fixtures. Benson Electric had five electricians onsite to work on process electrical. At this point, it is critical for the catwalk railings to arrive onsite and be installed so that the various equipment control stations can be mounted to them. CH2M HILL stressed the urgent nature of this task to Clearwater. Clearwater responded by stating that the railings would be shipped on time to resolve this issue.

**Week of January 12**—Clearwater Technologies and Benson Electric worked through the weekend (January 10-11) to meet the current schedule. Clearwater

Technologies had six personnel onsite with five working on various tasks, such as painting, cleanup, and equipment placement. Stack Brothers Mechanical had two pipefitters and one plumber onsite to work on process piping, equipment, and pipe testing. Benson Electric had five electricians onsite to work on process electrical. Rice Lake Door was onsite to repair the south overhead door.

CH2M HILL was notified by Clearwater that the catwalk railings were not yet finished, and that they probably would not arrive in time to complete the construction task of mounting the control stations as formally proposed. In response to this situation, CH2M HILL informed Clearwater that, at no additional cost to the client, they would construct control mounting stations (to be approved by CH2M HILL) and fasten them to the outside of the catwalk frame to maintain the construction schedule. Clearwater agreed to perform this work immediately.

Bill Andrae/CH2M HILL was onsite January 13-15 to inspect the equipment installed up to this point and to assist with the preparation of a preliminary schedule for pre-startup testing. He also instructed and assisted the operator in housekeeping and organizational functions for the facility.

**Week of January 19**—Clearwater Technologies had four personnel onsite with three working on various tasks, such as fabrication, painting, cleanup, and equipment placement. Stack Brothers Mechanical had one pipefitter and one plumber onsite to work on process piping and leak testing, and two instrumentation and control (I&C) personnel onsite to work on process controls. Benson Electric had four electricians onsite to work on process electrical, lighting, and controls. Clearwater informed CH2M HILL that the catwalk railings, mezzanine stairs, and railings would be delivered to the site the week of January 26.

**Week of January 26**—Clearwater Technologies had six personnel onsite with five working on various tasks, such as fabrication, acoustical ceiling installation, painting, and cleanup. Stack Brothers Mechanical had one pipefitter and one plumber onsite to work on process piping and leak testing, and two I&C personnel onsite to work on process controls. Benson Electric had two electricians onsite to work on process electrical, programmable logic controller (PLC) loop checks, and controls. The PLC control panel manufacturer, Pieper Electric, was onsite to work on loop checks and the PLC interface.

Rice Lake Door was onsite again this week to replace a part for the south roll-up overhead door which had been back-ordered. The Cutler-Hammer service representative was also onsite on Friday of this week to inspect the MCC Panel, set up the variable speed drives, and provide operator training. Barry Williams/CH2M HILL arrived at the site on January 30 to program the PLC.

On December 31, CH2M HILL submitted a request for a backup generator and transformer to both the USEPA and WDNR.

On January 13, CH2M HILL submitted the September 2003 Residential Well Sampling Results, including the November 20, 2003 resample results from RW01, to the WAM.

On January 15, CH2M HILL received WAF Revision No. 02 from USEPA, which incorporates TDM #2 and authorizes CH2M HILL to proceed with the installation of a generator and a transformer.

On January 26, CH2M HILL received WAF Revision No. 3, which provides incremental funding.

| Summary of Project Status | | | | | | |
|---|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete | Schedule Variance |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 | None |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 50 | None |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 80 | None |
| 6-RI | 09/30/03 | 09/30/03 | 12/30/03 | | 20 | None |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 85 | None |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 2 | None |
| 11-CO | 05/01/06 | | 9/29/03 | | 0 | None |

## 2. Problems Resolved

An increase in the expenditure limit allowed the shortfall in November's, December's, and January's charges to be invoiced.

## 3. Problem Areas and Recommended Solutions

CH2M HILL has updated the estimate at complete for WA No. 101-RALR-05WE to facilitate the rollover of additional funds to WA No. 201-RALR-05WE.

Prior to CH2M HILL initiating clean water testing of the facility, Clearwater Technologies, Inc. must have all submittals approved by CH2M HILL, including the Manufacturer's Certificates of Proper Installation. CH2M HILL is aggressively pushing Clearwater to complete their submittals and construction.

The base fee was billed at $3.19/LOE instead of $3.73/LOE from September 30, 2003 through December 26, 2003. An adjustment to the base fee is included in this months voucher.

## 4. Deliverables Submitted

The September 2003 Residential Well Sampling results were submitted to the WAM on January 13 which also included the November 20, 2003 resample results.

## 5. Activities Planned Next Reporting Period

Construction of the pretreatment system will be completed during the next reporting period. Clean water testing of the system will occur prior to startup, with startup scheduled for the week of February 9. An inspection is planned for February 19.

## 6. Key Personnel Changes

None.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | WRS Infrastructure & Environment, Inc. and Darcy Brust Excavating |
| Drilling: | Davidson Environmental |
| Bioventing/Groundwater Treatment: | Dakota Intertek Corp. |
| OWS Bypass: | Carbonair |
| Haz Waste Disposal: | Onyx |
| Building Construction: | The Jansen Group (10 Construction, Inc.) |
| Oil/Water Separator Cleaning: | Mid-America Technologies |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

Travel for Bob Reichold in December was reported in last month's Technical Status Report.

Bob Reichold was onsite January 5-15 and 19-30. Bill Andrae was onsite January 13-15. Barry Williams arrived at the site on January 30. Travel charges for Bill Andrae and Barry Williams will be invoiced during the next reporting period.

## 9. Laboratories

The 2003 analytical services subcontract was awarded to White Water Associates, Inc., of Amasa, Michigan. They are a Wisconsin-certified laboratory. CH2M HILL is in communication with USEPA's CRL to determine if the CRL can analyze samples in 2004.

## 10. Project Performance

Site work is continuing through the weekends to bring the construction to completion after equipment delays and scope additions.

# RAC V TECHNICAL STATUS REPORT

January 31, 2004 to February 27, 2004

**WORK ASSIGNMENT NUMBER:** 201-RALR-05WE

**SITE NAME:** Penta Wood Products-OU 1, WI

**ACTIVITY:** Long-Term Response Action

**CH2M HILL JOB NUMBER:** 184202

**PREPARED BY:** Regina Bayer, Site Manager
Bill Andrae, Assistant Site Manager

**PERIOD ENDING:** February 27, 2004

**COPIES:**

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| WAM: | Tony Rutter, 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

Construction activities conducted during the reporting period included completion of the mezzanine and catwalk railings; installation and wiring of the generator and panel; painting; the installation of signage; steam cleaning; the application of epoxy; and the performance of numerous miscellaneous repairs and finishing items. The plant was started up the week of February 9. Start-up activities began with clean water testing, which included the addition of ferric sulfate and a polymer to produce an iron hydroxide solid to be removed in the dissolved air flotation (DAF) unit. The float removed in the DAF was subsequently dewatered in the rotary drum vacuum filter (RDVF) to confirm the acceptable mechanical performance of these systems. The effluent from the DAF unit was neutralized with sodium hydroxide prior to discharge to the re-infiltration basin.

On February 19, the pre-final inspection was conducted by the WAM and the WDNR project manager. As the plant was operating using non-contaminated materials, covers and lids on tanks were open and inspectors were able to view the interior of the DAF unit and other tanks.

Plant start-up operations were delayed by a few days the week of February 23 because the water supply well pump fell off the riser pipe. Layne-Northwest mobilized to the site and reattached the well pump, which was under warranty. Start-up operations continued once the water supply was re-established.

CH2M HILL submitted the pre-final inspection memorandum and punch lists documenting the pre-final inspection to USEPA on February 27.

On February 11, CH2M HILL received WAF Revision No. 4, which provides incremental funding.

On February 11, CH2M HILL also sent solicitations for chemical supply and service to three vendors.

| Summary of Project Status | | | | | | |
|---|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete | Schedule Variance |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 | None |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 75 | None |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 90 | None |
| 6-RI | 09/30/03 | 09/30/03 | 12/30/03 | | 90 | None |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 85 | None |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 10 | None |
| 11-CO | 05/01/06 | | 9/29/03 | | 0 | None |

**2. Problems Resolved**

None.

**3. Problem Areas and Recommended Solutions**

None.

**4. Deliverables Submitted**

CH2M HILL submitted the pre-final inspection memorandum and punch lists documenting the pre-final inspection to USEPA on February 27.

**5. Activities Planned Next Reporting Period**

The majority of final construction punch list items will be completed during the next reporting period, with the exception of some exterior items that can not be completed until the ground thaws or outside temperatures increase. Plant operation start-up procedures and modifications will continue during the next reporting period.

**6. Key Personnel Changes**

None.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | WRS Infrastructure & Environment, Inc. and Darcy Brust Excavating |
| Drilling: | Davidson Environmental |
| Bioventing/Groundwater Treatment: | Dakota Intertek Corp. |
| OWS Bypass: | Carbonair |
| Haz Waste Disposal: | Onyx |
| Building Construction: | The Jansen Group (10 Construction, Inc.) |
| Oil/Water Separator Cleaning: | Mid-America Technologies |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

Travel for Bob Reichold and Bill Andrae in January was reported in last month's TSR.

Bob Reichold was onsite February 2-13, 16-20, and 23-27. Travel charges from February 23-27 will be invoiced during the next reporting period.

Bob Weinschrott was onsite February 11-16. Travel charges will be invoiced during the next reporting period.

Bill Andrae was onsite February 18-20 and February 23 through the end of the reporting period. Travel charges will be invoiced during the next reporting period.

Inan Beydilli traveled to the Milwaukee office on February 5 to discuss start-up procedures, and was onsite February 9-19 and February 23 through the end of the reporting period. Travel charges from February 23 through February 27 will be invoiced during the next reporting period.

Gina Bayer was onsite February 18-20.

Barry Williams returned from the site on January 31 and was onsite again February 4-7 and 12-15.

Jack Knight was onsite February 15-18 and 23-25. Travel charges will be invoiced during the next reporting period.

## 9. Laboratories

The 2003 analytical services subcontract was awarded to White Water Associates, Inc., of Amasa, Michigan. They are a Wisconsin-certified laboratory. A laboratory solicitation is expected to be sent out for bid during the next reporting period.

## 10. Project Performance

Site work is continuing through the weekends to bring the construction to completion after experiencing a number equipment delays and scope additions.

# RAC V TECHNICAL STATUS REPORT

March 27, 2004 to April 30, 2004

**WORK ASSIGNMENT NUMBER:** 201-RALR-05WE

**SITE NAME:** Penta Wood Products-OU 1, WI

**ACTIVITY:** Long-Term Response Action

**CH2M HILL JOB NUMBER:** 184202

**PREPARED BY:** Regina Bayer, Site Manager
Bill Andrae, Assistant Site Manager

**PERIOD ENDING:** April 30, 2004

**COPIES:**

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| 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

An instrumentation and control punch list was submitted to Clearwater on April 7. The majority of the final construction punch list items were completed during the reporting period, with the exception of the earthwork, which is to be performed by Brust Excavating.

Start-up operations continued throughout the reporting period. Intermittent operation of the system caused by premature fouling of the bag filters and the organoclay media bed persisted. CH2M HILL staff continued to test different polymers and dosages to resolve the issue, but a positive solution was not clearly identified.

During testing, the DAF system effluent quality still appeared to be very good, with turbidity measurements below 3 NTU; however, polymer fragments were still apparently becoming carried over in the DAF effluent, which was fouling the bag filters. The operational time between bag filter changes remained between 2 and 4 hours, so the system is presently only being operated during the day for approximately 8 hours. This operational phenomenon was not observed during the pilot test.

On April 28, CH2M HILL submitted the *Quality Assurance Project Plan, Revision 1* to the USEPA for review. The QAPP included SOPs for the new laboratory, Analytical Services Center (ASC) of Lancaster, New York.

| Summary of Project Status | | | | | | |
|---|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete | Schedule Variance |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 30 | None |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 | None |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 | None |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 90 | None |
| 6-RI | 09/30/03 | 09/30/03 | 12/30/03 | | 100 | None |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 99 | None |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 15 | None |
| 11-CO | 05/01/06 | | 9/29/03 | | 0 | None |

## 2. Problems Resolved

None.

## 3. Problem Areas and Recommended Solutions

The system is still experiencing premature fouling of the bag filters due to suspected polymer carryover in the DAF effluent. CH2M HILL is continuing to test solutions to eliminate the problem.

## 4. Deliverables Submitted

On April 28, CH2M HILL submitted the *Quality Assurance Project Plan, Revision 1* to the USEPA for review.

## 5. Activities Planned Next Reporting Period

Plant operation start-up procedures and modifications will continue during the next reporting period. The spring semi-annual groundwater sampling will be conducted.

## 6. Key Personnel Changes

CH2M HILL has proposed that Bill Andrae replace Gina Bayer as the SM. If USEPA approves of the SM change, Keli McKenna will replace Bill Andrae as the ASM.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Carbonair |
| Haz. Waste Disposal: | Onyx |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

Travel for Inan Beydilli in March was reported in last month's Technical Status Report.

Inan Beydilli was onsite April 11–16 and April 20–29. Travel charges will be invoiced during the next reporting period.

## 9. Laboratories

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

## 10. Project Performance

The treatment system has been started and it is undergoing operational testing. CH2M HILL is working diligently to resolve operational difficulties.

The QAPP was revised to reflect the laboratory change.

# RAC V TECHNICAL STATUS REPORT

May 1, 2004 to May 28, 2004

**WORK ASSIGNMENT NUMBER:** 201-RALR-05WE

**SITE NAME:** Penta Wood Products-OU 1, WI

**ACTIVITY:** Long-Term Response Action

**CH2M HILL JOB NUMBER:** 184202

**PREPARED BY:** Bill Andrae, Site Manager
Keli McKenna, Assistant Site Manager

**PERIOD ENDING:** May 28, 2004

**COPIES:**

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|---|---|
| WAM: | Tony Rutter, 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

Spring semi-annual groundwater sampling was conducted from May 3 to May 5. Five monitoring wells and five residential wells were sampled during the event.

On May 25, CH2M HILL received a WAF (Revision 5) for WA No. 201-RARL-05WE that increased the expenditure limit by $219,675.

On May 28, CH2M HILL submitted Change Order No. 1 to USEPA for the subcontract with Clearwater Technologies, Inc.

CH2M HILL has successfully resolved the operational difficulties with the treatment system. Jim Mavis, a senior CH2M HILL technical resource, visited the site during the reporting period to assist with the resolution of this issue. Bill Andrae identified— and Jim Mavis confirmed— two phenomena as the root cause of the operational difficulties: polymer overdosing and dissolved iron. The polymer dosage was subsequently reduced by significant levels, which resulted in decreased plugging of the bag filters and the organoclay vessel (now filled with carbon). Dissolved (ferrous) iron was identified as a root cause after the polymer dosage was reduced and the system was shut down May 14–17. The dissolved iron is thought to occur naturally in the groundwater and as an impurity in the ferric sulfate. Prior to shutdown, the water in the DAF effluent tank was very clear; however, after shutdown, the water in the DAF effluent tank was turbid with an orange tinge, indicating the presence of oxidized iron. This is consistent with the observation of the reddish-orange color of the solids plugging the bag filters and organoclay vessel. Further observation of the system operation indicated that the

oxidized iron was being filtered out in the organoclay vessel, which has caused the carbon bed in this vessel to become fouled.

On May 12, Bill Andrae and Jim Mavis called the WAM to discuss their observations regarding the operation of the system and possible future filtration options and upgrades.

On May 17, a rental backwash pump was installed by Carbonair to allow CH2M HILL staff to backwash the organoclay vessel. The vessel was backwashed, the differential pressure across the carbon bed was significantly reduced, and the system was subsequently restarted. CH2M HILL backwashed the system again on May 19. The organoclay vessel is currently being backwashed about once per week.

Since the addition of the backwash pump, the treatment system is operating continuously and routine operation and maintenance activities are presently being performed.

Since the initiation of startup activities, a total of 2.93 million gallons of water have been treated and about 1,100 gallons of LNAPL have been recovered through the end of the reporting period. During startup, system and effluent sampling focused on pentachlorophenol (PCP) alone. The results of the sampling are summarized below. To date, with the exception of one case, effluent PCP concentrations have all been below 0.1 µg/L in all cases.

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 1 | 02/27/2004 | 30 | 2,600 | 0.18 | 0.025J |
| 2 | 02/28/2004 | 97 | 2,800 | 0.076J | 0.026J |
| 3 | 03/01/2004 | 202 | 3,000 | 4.5 | 0.10U |
| 4 | 03/02/2004 | 254 | 2,600 | 0.11 | 0.12U |
| 5 | 03/09/2004 | 288 | 2,700 | 0.084J | 0.11U |
| 6 | 03/10/2004 | 332 | 3,000 | 0.21 | 0.11U |
| 7 | 03/11/2004 | 357 | 3,700 | 0.48 | 0.11U |
| 8 | 03/12/2004 | 392 | 3,100 | 0.41 | 0.11U |
| 9 | 03/15/2004 | 467 | 3,500 | 0.18 | 0.1U |
| 10 | 04/13/2004 | 631 | X | X | X |
| 11 | 04/27/2004 | 1,049 | 14,300B | 0.832B | 0.0271JB |
| 12 | 04/28/2004 | 1,121 | XX | 0.125B | 0.0183JB |
| 13 | 05/06/2004 | 1,280 | 15,500B | 0.0877JB | 0.125B |
| 14 | 05/13/2004 | 1,687 | 12,400B | 0.161B | 0.0260B |
| 15 | 05/24/2004 | 2,327 | $12,300B^{P}$ | $0.142B^{P}$ | $0.0282B^{P}$ |

Notes: $^{P}$ = Preliminary Results
X = Samples were collected, but laboratory failed to perform the analysis using the require reporting limit and the results were rejected. No payment was made for these samples.
XX = No sample available, the sample bottle was broken

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

The "B" qualifiers in the preceding table are attributed to lab blank contamination. The contamination is higher than CH2M HILL would like to see on a regular basis; however, with such a low method detection limit (MDL), and the requirement to report down the MDL, trace levels may occur in the blank periodically. CH2M HILL is working with the lab to resolve the blank contamination issue.

| Summary of Project Status | | | | | | |
|---|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete | Schedule Variance |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 30 | None |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 | None |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 | None |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 100 | None |
| 6-RI | 09/30/03 | 09/30/03 | 12/30/03 | | 100 | None |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 99 | None |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 15 | None |
| 11-CO | 05/01/06 | | 9/29/03 | | 0 | None |

## 2. Problems Resolved

CH2M HILL has successfully resolved the operational issues with the treatment system.

## 3. Problem Areas and Recommended Solutions

As CH2M HILL indicated to USEPA in March 2004 and in subsequent e-mails, costs will exceed the current approved budget by late summer/early fall. The increased expenditure limit received on May 25 will only be adequate for approximately 1 more month. CH2M HILL is in the process of preparing a WPRR.

The equipment installation subcontractor, Clearwater Technologies, Inc., is presently in a billing dispute with one of their subcontractors (Stack Brothers), and CH2M HILL has offered to mediate the dispute. Progress toward a resolution is being made.

| Change Order Status, Subcontract No. 308<br>Clearwater Technologies, Inc. Change Order submitted by CH2M HILL to USEPA (under WA #201) | | | |
|---|---|---|---|
| CO #1 | Final actual quantity adjustment for the Equipment Installation, Option Period 2 | $49,034 | Submitted |

## 4. Deliverables Submitted

On May 28, CH2M HILL submitted Change Order No. 1 for the subcontract with Clearwater Technologies, Inc. The total amount requested in this change order was $49,034.

## 5. Activities Planned Next Reporting Period

CH2M HILL expects to conduct ongoing routine operation and maintenance activities, including normal effluent sampling based on the Substantive Requirements of a WPDES Permit, during the next reporting period. CH2M HILL also plans to submit a document discussing filtration options and associated costs for replacing the organoclay vessel to USEPA, and to update the O&M Manual and prepare the record drawings during the next reporting period. CH2M HILL has requested markups from Clearwater Technologies, Inc.

The Final Inspection is scheduled for June 9.

## 6. Key Personnel Changes

During this reporting period, Bill Andrae has replaced Gina Bayer as the SM and Keli McKenna has replaced Bill Andrae as the ASM.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Carbonair |
| Haz. Waste Disposal: | Onyx |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

Travel for Inan Beydilli in April was reported in last month's Technical Status Report.

Dave Shekoski, Steve Paukner, Heather Hodach, and Gina Bayer were onsite May 3–5 for the spring semi-annual groundwater sampling event.

Bill Andrae was onsite May 3–7, 11–13, and 17–20 to resolve the operational difficulties with the treatment system. In addition, Jim Mavis was onsite May 17–19 as a senior technical resource to assist with the resolution of this issue. Travel charges for Jim Mavis will be invoiced during the next reporting period.

## 9. Laboratories

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

## 10. Project Performance

The treatment system is functioning as designed and routine operation and maintenance activities are presently being performed.

# RAC V TECHNICAL STATUS REPORT

June 26, 2004 to July 30, 2004

| | |
|---|---|
| **WORK ASSIGNMENT NUMBER:** | 201-RALR-05WE |
| **SITE NAME:** | Penta Wood Products-OU 1, WI |
| **ACTIVITY:** | Long-Term Response Action |
| **CH2M HILL JOB NUMBER:** | 184202 |
| **PREPARED BY:** | Bill Andrae, Site Manager<br>Keli McKenna, Assistant Site Manager |
| **PERIOD ENDING:** | July 30, 2004 |

**COPIES:**

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| WAM: | Tony Rutter, 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

A charge of $54,000 plus fee was incorrectly charged to PO 68897, Clearwater Technologies, Inc., on Voucher 125, for the month ending November 28, 2003. A credit has been issued during this reporting period to adjust the billing error.

On July 27, CH2M HILL received a WAF (Revision 7) for WA 201-RALR-05WE which increases the expenditure limit by $663,086. The WAF also requested a WPRR to revise the overall estimate through the end of the period of performance.

System operation during the reporting period can be described as routine. Typical operation and maintenance tasks were performed and the system operated as designed. During the reporting period, an estimated 2.36 million gallons were treated and discharged, and to date, a total of 7.02 million gallons of water have been treated. As of July 30, the free product recovery system removed approximately 514 gallons of oil, bringing the total recovered volume to approximately 3,509 gallons. With continuous operation, the rate of waste generation is being determined and CH2M HILL is discussing waste shipment schedules with the waste hauler to minimize operational downtime.

A solicitation for carbon changeout services was distributed on July 7. The subcontract for carbon changeout services was awarded to Calgon Carbon Corporation on July 23 with a total cost of $247,760 through the end of the period of performance.

CH2M HILL began to prepare a scope of work and solicitation for the provision of hazardous waste disposal services at the site. Additional changes and

enhancements were also made to the PLC software programming during the reporting period to correct operational issues and improve data collection.

On July 8, the following equipment issues were addressed by Clearwater under warranty repair:

a. **Correct inconsistent operation of the make-up air units in the treatment room.** The units needed new belts.

b. **Troubleshoot and correct the DAF ultrasonic probe operation.** Inconsistent operation of the DAF ultrasonic probe was a known possibility due to the configuration of the sludge hopper. The issue was corrected by reprogramming the PLC to use the contact probe in the hopper, thereby bypassing the ultrasonic unit.

c. **Troubleshoot and correct the operation of high/high level probes.** This issue needs to be addressed by the manufacturer's representative.

d. **Troubleshoot and correct excessive propane odor from the emergency generator.** The manufacturer has indicated that excessive propane odor from the emergency generator is normal. During weekly testing, with no load applied, the generator runs rich.

e. **Troubleshoot and correct the trap primer valve for the restroom floor drain.** The trap primer has been repaired.

During startup, system and effluent sampling focused on pentachlorophenol (PCP) concentrations alone. The results of the system and WPDES PCP sampling are summarized in the table below.

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 1 | 02/27/2004 | 30 | 2,600 | 0.18 | 0.025J |
| 2 | 02/28/2004 | 97 | 2,800 | 0.076J | 0.026J |
| 3 | 03/01/2004 | 202 | 3,000 | 4.5 | 0.10U |
| 4 | 03/02/2004 | 254 | 2,600 | 0.11 | 0.12U |
| 5 | 03/09/2004 | 288 | 2,700 | 0.084J | 0.11U |
| 6 | 03/10/2004 | 332 | 3,000 | 0.21 | 0.11U |
| 7 | 03/11/2004 | 357 | 3,700 | 0.48 | 0.11U |
| 8 | 03/12/2004 | 392 | 3,100 | 0.41 | 0.11U |
| 9 | 03/15/2004 | 467 | 3,500 | 0.18 | 0.1U |
| 10 | 04/13/2004 | 631 | X | X | X |
| 11 | 04/27/2004 | 1,049 | 14,300B | 0.832B | 0.0271JB |
| 12 | 04/28/2004 | 1,121 | XX | 0.125B | 0.0183JB |

SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 13 | 05/06/2004 | 1,280 | 15,500B | 0.0877JB | 0.125B |
| 14 | 05/13/2004 | 1,687 | 12,400B | 0.161B | 0.0260B |
| 15 | 05/24/2004 | 2,327 | 12,300B | 0.142B | 0.0282B |
| 16 | 06/10/2004 | 3,274 | 12,000B | 0.293B | 0.0943U |
| 17 | 06/16/2004 | 3,920 | 22,600 | 69.9 | 0.137 |
| 18 | 06/17/2004 | 3,984 | 14,500 | 458 | 0.050U |
| 19 | 06/23/2004 | 4,468 | *NA | *NA | *NA |
| 20 | 06/24/2004 | 4,587 | 14,400 | 2,000E | 0.127 |
| 21 | 06/28/2004 | 4,700 | *NA | *NA | *NA |
| 22 | 06/30/2004 | 4,965 | *NA | *NA | *NA |
| 23 | 07/01/2004 | 5,806 | 11,900B | 209B | 0.081JB |
| 24 | 07/14/2004 | 5,200 | 15,300 | 51.3 | 0.126 |
| 25 | 07/20/2004 | 5,856 | * | * | * |
| 26 | 07/29/2004 | 6,865 | * | * | * |

Notes:

* = Sample results are not yet available from the laboratory or the analysis is on hold per instruction from CH2M HILL. Some samples were placed on hold pending the results of the quick turn-around time samples. If no breakthrough was detected in the GAC1 effluent, the earlier samples were not analyzed.

*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.

X = Samples were collected, but the laboratory failed to perform the analysis using the required reporting limit and the results were rejected. No payment was made for these samples.

XX = No sample was available—the sample bottle was broken.

Qualifiers:

B = Analyte found in the method blank

J = Estimated value

U = Analyte was not detected at or above the stated limit

E = Sample exceeded the instrument calibration range. The sample will be reanalyzed.

CH2M HILL is continuing to work with the lab to reduce the number of samples with "B" qualifiers.

WPDES sampling began on June 10, 2004. A full set of quarterly samples were collected at this time. The results of the WPDES sampling are summarized in the table on the following page.

**WPDES SAMPLING SUMMARY**

| Date | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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 | Zinc, Total Recoverable | Iron, Total Recoverable | Manganese, Total Recoverable | Acid Extractables | Dioxins & Furans (all cogeners) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-Jun-04 | 7.0 | <2.13 | 29 | <0.10 | 0.775B | <5.0 | <5.0 | <10.0 | <1.78 | .0943U | <5.0 | <5.0 | <0.5 | <5.0 | <5.0 | <5.0 | 0.967B | 4.92 | 111 | 412 | 2230 | -- | -- |
| 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 | | | | | | | | | * | | | | | | | | | | | | | |
| 29-Jul-04 | 7.0 | | | | | | | | | * | | | | | | | | | | | | | |

Notes:
* = Sample results are not yet available from the laboratory or the analysis is on hold per instruction from CH2M HILL. Some samples were placed on hold pending the results of the quick turn-around time samples. If no breakthrough was detected in the GAC1 effluent, the earlier samples were not analyzed.
*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.

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

| Summary of Project Status | | | | | | |
|---|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete | Schedule Variance |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 30 | None |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 | None |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 | None |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 100 | None |
| 6-RI | 09/30/03 | 09/30/03 | 03/30/04 | | 100 | None |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 20 | None |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 99 | None |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 27 | None |
| 11-CO | 05/01/06 | | 06/30/06 | | 0 | None |

## 2. Problems Resolved

CH2M HILL has successfully resolved the operational issues with the treatment system.

## 3. Problem Areas and Recommended Solutions

The HVAC unit blowers are experiencing operational difficulties. Servicing these units is challenging, given that the units are suspended from the ceiling. CH2M HILL plans to investigate the options available for making the units easier to service and will present these options to USEPA with recommendations for addressing this issue.

The PCP concentration in the GAC1 effluent indicates that breakthrough occurred after treating approximately 4.6 million gallons of water. At this exhaustion rate, the lead carbon bed will last approximately 40 days; however, subsequent sampling since June 26 shows similar concentrations (i.e., just above 0.1 µg/L) after 5.2 million gallons of water. This observation may be related to the variability of the analytical method for PCP at concentrations below 1 µg/L, as described in the *PCP WPDES Permit Effluent Criteria at Penta Wood Products Superfund Site, Town of Daniels, WI* technical memorandum submitted to USEPA and WDNR on August 20, 2002. CH2M HILL will continue to monitor the PCP concentration in the GAC1 effluent and make arrangements to change out the carbon in the GAC1 vessel.

The equipment installation subcontractor, Clearwater Technologies, Inc., is continuing to work to resolve a billing dispute with one of their subcontractors (Stack Brothers). CH2M HILL has observed progress toward a resolution.

| Change Order Status, Subcontract No. 308<br>Clearwater Technologies, Inc. Change Order submitted by CH2M HILL to USEPA (under WA #201) | | | |
|---|---|---|---|
| CO #1 | Final actual quantity adjustment for the Equipment Installation, Option Period 2 | $49,034 | Approved |

## 4. Deliverables Submitted

None.

## 5. Activities Planned Next Reporting Period

CH2M HILL expects to conduct ongoing routine operation and maintenance activities, including normal effluent sampling based on the substantive requirements of the WPDES permit, during the next reporting period.

CH2M HILL also plans to update the O&M manual and prepare the record drawings. The markups requested from Clearwater Technologies, Inc had not yet been received as of July 30.

In addition, CH2M HILL plans to send out a solicitation for hazardous waste disposal services (effective through the end of the period of performance) and a carbon changeout has been scheduled for the next reporting period.

A WPRR will be prepared and submitted to revise the overall estimate through the end of the project.

## 6. Key Personnel Changes

None.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Calgon Carbon |
| Haz. Waste Disposal: | Onyx |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

None.

## 9. Laboratories

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

## 10. Project Performance

The treatment system is functioning as designed and routine operation and maintenance activities are presently being performed.

# RAC V TECHNICAL STATUS REPORT

August 28, 2004 to September 24, 2004

**WORK ASSIGNMENT NUMBER:** 201-RALR-05WE

**SITE NAME:** Penta Wood Products-OU 1, WI

**ACTIVITY:** Long-Term Response Action

**CH2M HILL JOB NUMBER:** 184202

**PREPARED BY:** Bill Andrae, Site Manager
Keli McKenna, Assistant Site Manager

**PERIOD ENDING:** September 24, 2004

**COPIES:**

| | |
|---|---|
| WAM: | Tony Rutter, 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

USEPA approval for WPRR No.1, which revises the overall budget and LOE estimate through the end of the period of performance, was authorized on September 14 and received by CH2M HILL on September 17.

System operation during the reporting period can be described as routine. Typical operation and maintenance tasks were performed and the system operated as designed. An estimated 1.72 million gallons were treated and discharged during the reporting period, and to date, a total of 10.2 million gallons of water have been treated. As of September 24, the free product recovery system removed approximately 1,898 gallons of oil, bringing the total recovered volume to approximately 6,139 gallons.

Semi-annual groundwater sampling was conducted during the week of September 20. A total of 20 monitoring wells, 5 residential wells, and the potable well for the site were sampled.

The rotary drum vacuum filter (RDVF) manufacturer's field technician was onsite September 20–23 to observe the performance of the RDVF system. The processing rate appears to have decreased over time since the system was started. During the several test runs performed, such variables as knife speed, drum speed, liquid level, and economizer setting were tested to determine their effect on the volume of DAF float processed per hour. No significant increase in the processing rate was observed while the RDVF variables were changed.

Two other variables were unable to be tested at this time: the mesh size of the diatomaceous earth used to precoat the RDVF, and the percent solids of the DAF

float. A sample of the DAF float was sent to the RDVF manufacturer's factory to be tested for percent solids and bench scale testing with different mesh sizes of diatomaceous earth. CH2M HILL will contact the RDVF manufacturer with the results of these tests.

Brust Excavating was onsite this reporting period to perform erosion control repairs. The tasks performed by Brust included lining new ditches with rock, as well as road repair, diversion berm repair and installation, and general grading. The WAM and SM walked the site with Brust on September 22 to inspect the repairs. Additional areas of erosion were identified and the SM asked Brust to prepare cost estimates for the additional work. Brust indicated that the additional rock needed for lining the ditches could not be obtained until the ground was frozen. The rock will be imported this winter and the erosion repair work will be scheduled for early spring.

The full-time operator remains unable to operate the system, which has been staffed with temporary operators from various CH2M HILL offices in the interim. An elevated platform has been installed along side the sludge box and several different rakes have been purchased to facilitate filter cake handling for all staff.

CH2M HILL reviewed the three offers in response to the solicitation for hazardous waste disposal services at the site. The apparent low bidder is North Shore Environmental Construction, Inc., of Germantown, WI. An Advance Notification and Request for Contracting Officer Consent package will be forwarded to USEPA during the next reporting period.

The results of the system and WPDES PCP sampling are summarized in the table below.

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 1 | 02/27/2004 | 30 | 2,600 | 0.18 | 0.025J |
| 2 | 02/28/2004 | 97 | 2,800 | 0.076J | 0.026J |
| 3 | 03/01/2004 | 202 | 3,000 | 4.5 | 0.10U |
| 4 | 03/02/2004 | 254 | 2,600 | 0.11 | 0.12U |
| 5 | 03/09/2004 | 288 | 2,700 | 0.084J | 0.11U |
| 6 | 03/10/2004 | 332 | 3,000 | 0.21 | 0.11U |
| 7 | 03/11/2004 | 357 | 3,700 | 0.48 | 0.11U |
| 8 | 03/12/2004 | 392 | 3,100 | 0.41 | 0.11U |
| 9 | 03/15/2004 | 467 | 3,500 | 0.18 | 0.1U |
| 10 | 04/13/2004 | 631 | X | X | X |
| 11 | 04/27/2004 | 1,049 | 14,300B | 0.832B | 0.0271JB |
| 12 | 04/28/2004 | 1,121 | XX | 0.125B | 0.0183JB |
| 13 | 05/06/2004 | 1,280 | 15,500B | 0.0877JB | 0.125B |

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 14 | 05/13/2004 | 1,687 | 12,400B | 0.161B | 0.0260B |
| 15 | 05/24/2004 | 2,327 | 12,300B | 0.142B | 0.0282B |
| 16 | 06/10/2004 | 3,274 | 12,000B | 0.293B | 0.0943U |
| 17 | 06/16/2004 | 3,920 | 22,600 | 69.9 | 0.137 |
| 18 | 06/17/2004 | 3,984 | 14,500 | 458 | 0.050U |
| 19 | 06/23/2004 | 4,468 | *NA | *NA | *NA |
| 20 | 06/24/2004 | 4,587 | 14,400 | 2,000E | 0.127 |
| 21 | 06/28/2004 | 4,700 | *NA | *NA | *NA |
| 22 | 06/30/2004 | 4,965 | *NA | *NA | *NA |
| 23 | 07/01/2004 | 5,806 | 11,900B | 209B | 0.081JB |
| 24 | 07/14/2004 | 5,200 | 15,300 | 51.3 | 0.126 |
| 25 | 07/20/2004 | 5,856 | -- | -- | 0.0952U |
| 26 | 07/29/2004 | 6,865 | 10,400 | 3,180 | 0.0971U |
| 27 | 08/04/2004 | 7,482 | 10,400 | 3,130 | 0.103 |
| 28 | 08/16/2004 | 8,172 | 8,100 | 4,710 | 0.348 |
| 29 | 08/27/2004 | 8,400 | 10,100 | -- | 0.151 |
| 30 | 09/16/2004 | 9,388 | 7,530B | 0.199B | 0.0724JB |
| 31 | 09/23/2004 | 10,124 | * | * | * |
| 32 | 09/29/2004 | 10,200 | * | * | * |

Notes:

* = Sample results are not yet available from the laboratory or the analysis is on hold per instruction from CH2M HILL. Some samples were placed on hold pending the results of the quick turn-around time samples. If no breakthrough was detected in the GAC1 effluent, the earlier samples were not analyzed.

*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.

-- = Samples were not obtained.

X = Samples were collected, but the laboratory failed to perform the analysis using the required reporting limit and the results were rejected. No payment was made for these samples.

XX = No sample was available—the sample bottle was broken.

Qualifiers:

B = Analyte found in the method blank

J = Estimated value

U = Analyte was not detected at or above the stated limit

E = Sample exceeded the instrument calibration range. The sample will be reanalyzed.

WPDES sampling began on June 10, 2004. A full set of quarterly samples were collected at this time. The results of the WPDES sampling are summarized in the table on the following page.

**WPDES SAMPLING SUMMARY**

| Date | Pentachlorophenol (µg/L) Influent | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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 | .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 | -- | -- | -- | -- |

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.
-- = Not sampled.

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

| Summary of Project Status | | | | | |
|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 38 |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 6-RI | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 57 |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 42 |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 38 |
| 11-CO | 05/01/06 | | 06/30/06 | | 0 |

## 2. Problems Resolved

The HVAC unit in the treatment room (makeup air unit [MAU-1]) was repaired. The repair technician has suggested replacement of the sheaves to alleviate further problems.

## 3. Problem Areas and Recommended Solutions

CH2M HILL has received a quote to relocate the makeup air units (MAU-1 and 2) outside of the building at ground level. However, the quote was not reasonable and CH2M HILL plans to investigate other options available for making the units easier to service. These options will be presented to USEPA along with recommendations for addressing this issue.

The full-time operator is currently unable to operate the system. CH2M HILL will continue to operate the system using temporary operators until the full-time operator can return to work.

The equipment installation subcontractor, Clearwater Technologies, Inc., is continuing to work to resolve a billing dispute with one of their subcontractors (Stack Brothers); however, Stack Brothers has filed a lawsuit against Clearwater, CH2M HILL, and USEPA. CH2M HILL will continue to work to resolve the dispute and will keep USEPA informed of further developments.

| Change Order Status, Subcontract No. 308<br>Clearwater Technologies, Inc. Change Order submitted by CH2M HILL to USEPA (under WA #201) | | | |
|---|---|---|---|
| CO #1 | Final actual quantity adjustment for the Equipment Installation, Option Period 2 | $49,034 | Approved |

## 4. Deliverables Submitted

None.

## 5. Activities Planned Next Reporting Period

CH2M HILL expects to conduct ongoing routine operation and maintenance activities, including normal effluent sampling based on the substantive requirements of the WPDES permit, during the next reporting period.

CH2M HILL plans to submit a revised QAPP in response to the comments received on June 29.

CH2M HILL also plans to update the O&M manual and prepare the record drawings. The markups requested from Clearwater Technologies, Inc. had not yet been received as of September 24.

In addition, CH2M HILL expects to award the hazardous waste disposal services subcontract (effective through the end of the period of performance) during the next reporting period.

## 6. Key Personnel Changes

None.

## 7. Subcontractor Services

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Calgon Carbon |
| Haz. Waste Disposal: | Onyx (Approval for North Shore Environmental is pending) |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

## 8. Travel

Travel for Keli McKenna and Heather Ziegelbauer on August 25-27 was reported in last month's Technical Status Report.

Wayne Ekren was onsite August 31–September 3, September 6–10, and September 12–17 to operate the treatment system.

Dave Shekoski, Craig LaCosse, Steve Paukner, and Heather Ziegelbauer traveled to the site from Milwaukee for groundwater sampling on September 20 and returned on September 24. Travel charges will be invoiced during the next reporting period.

Bill Andrae traveled to the site on September 20 to operate the treatment system. He returned to Milwaukee on September 24. Travel charges will be invoiced during the next reporting period.

## 9. Laboratories

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

## 10. Project Performance

The treatment system is functioning as designed and routine operation and maintenance activities are presently being performed.

# RAC V TECHNICAL STATUS REPORT

September 25, 2004 to October 29, 2004

| | |
|---|---|
| **WORK ASSIGNMENT NUMBER:** | 201-RALR-05WE |
| **SITE NAME:** | Penta Wood Products-OU 1, WI |
| **ACTIVITY:** | Long-Term Response Action |
| **CH2M HILL JOB NUMBER:** | 184202 |
| **PREPARED BY:** | Bill Andrae, Site Manager<br>Keli McKenna, Assistant Site Manager |
| **PERIOD ENDING:** | October 29, 2004 |

**COPIES:**

| | |
|---|---|
| WAM: | Tony Rutter, 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

WAF Revision 9, which revises the expenditure limit budget and provides incremental funding, was authorized by the USEPA on October 6 and received by CH2M HILL on October 11.

On October 6, CH2M HILL submitted the Quality Assurance Project Plan (QAPP), Revision II to the USEPA.

System operation during the reporting period can be described as routine. Typical operation and maintenance tasks were performed and the system operated as designed. An estimated 2.94 million gallons were treated and discharged during the reporting period, and to date, a total of 13.1 million gallons of water have been treated. As of September 24, the free product recovery system removed approximately 511 gallons of oil, bringing the total recovered volume to approximately 6,650 gallons.

CH2M HILL discussed the RDVF laboratory test results pertaining to the mesh size of the diatomaceous earth (DE) and the dewatering of the DAF float directly with the RDVF manufacturer during the reporting period. The RDVF manufacturer did confirm that the DE mesh size currently being used was acceptable, and recommended a bentonite clay additive to the DAF float prior to dewatering. Bench-scale testing showed that this significantly improved the processing rate of the float. CH2M HILL is still evaluating its performance in the field.

A carbon changeout was performed on one of the vessels on October 28.

The full-time operator remains unable to operate the system on a full-time basis. Temporary operators from various CH2M HILL offices continue to staff the system in the interim. The full-time operator's condition is improving, and she may return to work during the next reporting period.

The Request for Contracting Officer Consent package for North Shore Environmental Construction, Inc., of Germantown, Wisconsin, was forwarded to USEPA on September 27. Contracting Officer consent to award the subcontract was received by CH2M HILL on October 6.

The results of the system and WPDES PCP sampling are summarized in the table below.

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 1 | 02/27/2004 | 30 | 2,600 | 0.18 | 0.025J |
| 2 | 02/28/2004 | 97 | 2,800 | 0.076J | 0.026J |
| 3 | 03/01/2004 | 202 | 3,000 | 4.5 | 0.10U |
| 4 | 03/02/2004 | 254 | 2,600 | 0.11 | 0.12U |
| 5 | 03/09/2004 | 288 | 2,700 | 0.084J | 0.11U |
| 6 | 03/10/2004 | 332 | 3,000 | 0.21 | 0.11U |
| 7 | 03/11/2004 | 357 | 3,700 | 0.48 | 0.11U |
| 8 | 03/12/2004 | 392 | 3,100 | 0.41 | 0.11U |
| 9 | 03/15/2004 | 467 | 3,500 | 0.18 | 0.1U |
| 10 | 04/13/2004 | 631 | X | X | X |
| 11 | 04/27/2004 | 1,049 | 14,300B | 0.832B | 0.0271JB |
| 12 | 04/28/2004 | 1,121 | XX | 0.125B | 0.0183JB |
| 13 | 05/06/2004 | 1,280 | 15,500B | 0.0877JB | 0.125B |
| 14 | 05/13/2004 | 1,687 | 12,400B | 0.161B | 0.0260B |
| 15 | 05/24/2004 | 2,327 | 12,300B | 0.142B | 0.0282B |
| 16 | 06/10/2004 | 3,274 | 12,000B | 0.293B | 0.0943U |
| 17 | 06/16/2004 | 3,920 | 22,600 | 69.9 | 0.137 |
| 18 | 06/17/2004 | 3,984 | 14,500 | 458 | 0.050U |
| 19 | 06/23/2004 | 4,468 | *NA | *NA | *NA |
| 20 | 06/24/2004 | 4,587 | 14,400 | 2,000E | 0.127 |
| 21 | 06/28/2004 | 4,700 | *NA | *NA | *NA |
| 22 | 06/30/2004 | 4,965 | *NA | *NA | *NA |
| 23 | 07/01/2004 | 5,806 | 11,900B | 209B | 0.081JB |
| 24 | 07/14/2004 | 5,200 | 15,300 | 51.3 | 0.126 |

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 25 | 07/20/2004 | 5,856 | -- | -- | 0.0952U |
| 26 | 07/29/2004 | 6,865 | 10,400 | 3,180 | 0.0971U |
| 27 | 08/04/2004 | 7,482 | 10,400 | 3,130 | 0.103 |
| 28 | 08/16/2004 | 8,172 | 8,100 | 4,710 | 0.348 |
| 29 | 08/27/2004 | 8,400 | 10,100 | -- | 0.151 |
| 30 | 09/16/2004 | 9,388 | 7,530B | 0.199B | 0.0724JB |
| 31 | 09/23/2004 | 10,124 | -- | 27.8B | 0.393B |
| 32 | 09/28/2004 | 10,200 | 10,900B | -- | 0.102B |
| 33 | 10/05/2004 | 10,986 | -- | 366 | 0.0990 |
| 34 | 10/14/2004 | 11,782 | -- | 843 | 0.265B |
| 35 | 10/19/2004 | 12,272 | * | * | * |
| 36 | 10/26/2004 | 13,040 | * | * | * |

Notes:

* = Sample results are not yet available from the laboratory or the analysis is on hold per instruction from CH2M HILL. Some samples were placed on hold pending the results of the quick turn-around time samples. If no breakthrough was detected in the GAC1 effluent, the earlier samples were not analyzed.

*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.

-- = Samples were not obtained.

X = Samples were collected, but the laboratory failed to perform the analysis using the required reporting limit and the results were rejected. No payment was made for these samples.

XX = No sample was available—the sample bottle was broken.

Qualifiers:

B = Analyte found in the method blank

J = Estimated value

U = Analyte was not detected at or above the stated limit

The results of the WPDES sampling are summarized in the table on the following page.

**WPDES SAMPLING SUMMARY**

| Date | Pentachlorophenol (µg/L) Influent | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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 | .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 | -- | -- |
| 5-Oct-04 | | 7.0 | | | | | | | | | 0.0990 | | | | | | | | | | | | | |

**WPDES SAMPLING SUMMARY**

| Date | Pentachlorophenol (µg/L) Influent | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-Oct-04 | | 7.0 | | | | | | | | | 0.265B | | | | | | | | | | | | | |
| 19-Oct-04 | | 7.0 | | | | | | | | | | | | | | | | | | | | | | |
| 26-Oct-04 | | 7.0 | | | | | | | | | | | | | | | | | | | | | | |

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.
-- = Not sampled.

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

| Summary of Project Status | | | | | |
|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 39 |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 0 |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 6-RI | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 60 |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 42 |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 39 |
| 11-CO | 05/01/06 | | 06/30/06 | | 0 |

## 2. Problems Resolved

None.

## 3. Problem Areas and Recommended Solutions

The residential well samples collected in September were analyzed by the laboratory; however, all of the samples appear to have been contaminated during the analytical testing. Prior to the sampling event, CH2M HILL provided the laboratory with instructions regarding the order in which samples were to be analyzed, but the laboratory failed to follow them. New residential well samples will be collected during the next reporting period.

CH2M HILL has received a quote to relocate the makeup air units (MAU-1 and 2) outside of the building at ground level. However, the quote was not reasonable and CH2M HILL plans to investigate other options available for making the units easier to service. These options will be presented to USEPA along with recommendations for addressing this issue.

The full-time operator is currently unable to operate the system. CH2M HILL will continue to operate the system using temporary operators until the full-time operator can return to work on a full-time basis.

The equipment installation subcontractor, Clearwater Technologies, Inc., is continuing to work to resolve a billing dispute with one of their subcontractors (Stack Brothers); however, Stack Brothers has filed a lawsuit against Clearwater, CH2M HILL, and the USEPA. CH2M HILL will continue to work to resolve the dispute and will keep the USEPA informed of further developments.

| Change Order Status, Subcontract No. 308<br>Clearwater Technologies, Inc. Change Order submitted by CH2M HILL to USEPA (under WA #201) | | | |
|---|---|---|---|
| CO #1 | Final actual quantity adjustment for the Equipment Installation, Option Period 2 | $49,034 | Approved |

4. **Deliverables Submitted**

On October 6, CH2M HILL submitted the QAPP, Revision II to the USEPA.

5. **Activities Planned Next Reporting Period**

CH2M HILL expects to conduct ongoing routine operation and maintenance activities, including normal effluent sampling based on the substantive requirements of the WPDES permit, during the next reporting period.

CH2M HILL also plans to collect new residential well samples, to prepare a design for an additional concrete slab on the west side of the building to facilitate management and disposal of the RDVF filter cake, and to update the O&M manual and prepare the record drawings. The markups requested from Clearwater Technologies, Inc. had not yet been received as of October 29.

6. **Key Personnel Changes**

None.

7. **Subcontractor Services**

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Calgon Carbon |
| Haz. Waste Disposal: | North Shore Environmental |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

8. **Travel**

Travel in September for Heather Ziegelbauer, Craig LaCosse, Steve Paukner, Dave Shekoski and Bill Andrae was reported in last month's Technical Status Report.

Jim Spruill/OMI was onsite from September 27 to October 15 to operate the treatment system. Travel charges will be invoiced during the next reporting period.

Wayne Ekren/LSG was onsite October 17-22 and October 24-29 to operate the treatment system. Travel charges will be invoiced during the next reporting period.

9. **Laboratories**

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

10. **Project Performance**

The treatment system is functioning as designed and routine operation and maintenance activities are presently being performed.

# RAC V TECHNICAL STATUS REPORT

October 30, 2004 to November 26, 2004

| | |
|---|---|
| **WORK ASSIGNMENT NUMBER:** | 201-RALR-05WE |
| **SITE NAME:** | Penta Wood Products-OU 1, WI |
| **ACTIVITY:** | Long-Term Response Action |
| **CH2M HILL JOB NUMBER:** | 184202 |
| **PREPARED BY:** | Bill Andrae, Site Manager<br>Keli McKenna, Assistant Site Manager |
| **PERIOD ENDING:** | November 26, 2004 |

**COPIES:**

| | |
|---|---|
| RPM: | Tony Rutter, 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

On November 18, CH2M HILL received USEPA's comments on the Quality Assurance Project Plan (QAPP), Revision II.

System operation during the reporting period can be described as routine. Typical operation and maintenance tasks were performed and the system operated as designed. An estimated 2.58 million gallons were treated and discharged during the reporting period, and to date, a total of 15.7 million gallons of water have been treated. As of November 26, the free product recovery system removed approximately 465 gallons of oil, bringing the total recovered volume to approximately 7,115 gallons.

CH2M HILL is still evaluating the performance of the bentonite clay additive for the RDVF and comparing the results against the addition of the polymer to the DAF float tank. Initial test results suggest that the use of the polymer is a better option for dewatering the DAF float.

During the reporting period, CH2M HILL also began work on the backwash system design and prepared a design for an additional concrete slab on the west side of the building to facilitate the management and disposal of the RDVF filter cake.

On November 22, the new hazardous waste disposal firm, North Shore Environmental, was onsite to load and transport filter cake, spent carbon, and drums of diatomaceous earth removed from the DAF float storage tank to the approved offsite disposal facilities.

The full-time operator has returned to work on a part-time basis, but she remains unable to completely operate the system by herself. Temporary operators from various CH2M HILL offices continue to staff the system in the interim.

The results of the system and WPDES PCP sampling are summarized in the table below.

**SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS**

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
| 1 | 02/27/2004 | 30 | 2,600 | 0.18 | 0.025J |
| 2 | 02/28/2004 | 97 | 2,800 | 0.076J | 0.026J |
| 3 | 03/01/2004 | 202 | 3,000 | 4.5 | 0.10U |
| 4 | 03/02/2004 | 254 | 2,600 | 0.11 | 0.12U |
| 5 | 03/09/2004 | 288 | 2,700 | 0.084J | 0.11U |
| 6 | 03/10/2004 | 332 | 3,000 | 0.21 | 0.11U |
| 7 | 03/11/2004 | 357 | 3,700 | 0.48 | 0.11U |
| 8 | 03/12/2004 | 392 | 3,100 | 0.41 | 0.11U |
| 9 | 03/15/2004 | 467 | 3,500 | 0.18 | 0.1U |
| 10 | 04/13/2004 | 631 | X | X | X |
| 11 | 04/27/2004 | 1,049 | 14,300B | 0.832B | 0.0271JB |
| 12 | 04/28/2004 | 1,121 | XX | 0.125B | 0.0183JB |
| 13 | 05/06/2004 | 1,280 | 15,500B | 0.0877JB | 0.125B |
| 14 | 05/13/2004 | 1,687 | 12,400B | 0.161B | 0.0260B |
| 15 | 05/24/2004 | 2,327 | 12,300B | 0.142B | 0.0282B |
| 16 | 06/10/2004 | 3,274 | 12,000B | 0.293B | 0.0943U |
| 17 | 06/16/2004 | 3,920 | 22,600 | 69.9 | 0.137 |
| 18 | 06/17/2004 | 3,984 | 14,500 | 458 | 0.050U |
| 19 | 06/23/2004 | 4,468 | *NA | *NA | *NA |
| 20 | 06/24/2004 | 4,587 | 14,400 | 2,000E | 0.127 |
| 21 | 06/28/2004 | 4,700 | *NA | *NA | *NA |
| 22 | 06/30/2004 | 4,965 | *NA | *NA | *NA |
| 23 | 07/01/2004 | 5,806 | 11,900B | 209B | 0.081JB |
| 24 | 07/14/2004 | 5,200 | 15,300 | 51.3 | 0.126 |
| 25 | 07/20/2004 | 5,856 | -- | -- | 0.0952U |
| 26 | 07/29/2004 | 6,865 | 10,400 | 3,180 | 0.0971U |
| 27 | 08/04/2004 | 7,482 | 10,400 | 3,130 | 0.103 |
| 28 | 08/16/2004 | 8,172 | 8,100 | 4,710 | 0.348 |

SYSTEM, EFFLUENT, AND WPDES PCP SAMPLING RESULTS

| Sample Event | Date | Volume (kgal) | DAF PCP (µg/L) | GAC1 PCP (µg/L) | Effluent PCP (µg/L) |
|---|---|---|---|---|---|
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| 30 | 09/16/2004 | 9,388 | 7,530B | 0.199B | 0.0724JB |
| 31 | 09/23/2004 | 10,124 | -- | 27.8B | 0.393B |
| 32 | 09/28/2004 | 10,200 | 10,900B | -- | 0.102B |
| 33 | 10/05/2004 | 10,986 | -- | 366 | 0.0990 |
| 34 | 10/14/2004 | 11,782 | -- | 843 | 0.265B |
| 35 | 10/19/2004 | 12,272 | 8,310B | -- | 0.0702JB |
| 36 | 10/26/2004 | 13,040 | -- | -- | 0.0861J |
| 37 | 11/04/2004 | 13,450 | -- | -- | 0.0447J |
| 38 | 11/10/2004 | 14,120 | -- | -- | 0.0442J |
| 39 | 11/17/2004 | 14,890 | -- | -- | 0.0971U |
| 40 | 11/22/2004 | 15,260 | 9,140 | -- | 0.0900J |
| 41 | 11/29/2004 | 15,930 | -- | -- | 0.0962U |

Notes:

* = Sample results are not yet available from the laboratory or the analysis is on hold per instruction from CH2M HILL. Some samples were placed on hold pending the results of the quick turn-around time samples. If no breakthrough was detected in the GAC1 effluent, the earlier samples were not analyzed.

*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.

-- = Samples were not obtained.

X = Samples were collected, but the laboratory failed to perform the analysis using the required reporting limit and the results were rejected. No payment was made for these samples.

XX = No sample was available—the sample bottle was broken.

Qualifiers:

B = Analyte found in the method blank

J = Estimated value

U = Analyte was not detected at or above the stated limit

The results of the WPDES sampling are summarized in the table on the following page.

**WPDES SAMPLING SUMMARY**

| Date | Pentachlorophenol (µg/L) Influent | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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 | -- | -- |
| 5-Oct-04 | | 7.0 | | | | | | | | | 0.0990 | | | | | | | | | | | | | |

**WPDES SAMPLING SUMMARY**

| Date | Pentachlorophenol (µg/L) Influent | pH Field | Total Suspended Solids (TSS; mg/L) | Chloride (mg/L) | Diesel Range Organics (DRO; mg/L) | Total Organic Carbon (TOC; 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 mg/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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | | | | | | | | | | | | |
| 10-Nov-04 | | 7.0 | | | | | | | | | 0.0442J | | | | | | | | | | | | | |
| 17-Nov-04 | | 7.0 | | | | | | | | | 0.0971U | | | | | | | | | | | | | |
| 22-Nov-04 | 9,140 | 7.0 | | | | | | | | | 0.0900J | | | | | | | | | | | | | |
| 29-Nov-04 | | 7.0 | | | | | | | | | 0.0962U | | | | | | | | | | | | | |

Notes:
*NA = Sample analysis was on hold and cancelled based on the results of the quick turn-around time samples.
-- = Not sampled.

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

| Summary of Project Status | | | | | |
|---|---|---|---|---|---|
| Task No./ Code | Planned Start | Actual Start | Planned Completion | Actual Completion | Percent Complete |
| 1-PP | 09/30/03 | 09/30/03 | 06/30/06 | | 42 |
| 3-DU | 09/30/03 | 09/30/03 | 06/30/06 | | 50 |
| 4-PB | 09/30/03 | 09/30/03 | 06/30/06 | | 90 |
| 5-MS | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 6-RI | 09/30/03 | 09/30/03 | 03/30/04 | | 100 |
| 7-CV | 09/30/03 | 09/30/03 | 06/30/06 | | 60 |
| 8-AI | 09/30/03 | 09/30/03 | 06/30/06 | | 44 |
| 9-PJ | 09/30/03 | 09/30/03 | 06/30/06 | | 42 |
| 11-CO | 05/01/06 | | 06/30/06 | | 0 |

## 2. Problems Resolved

The proper placement of the air make-up units was evaluated during the design, and it was determined that the units would best be placed through suspension to avoid damage at ground level by trucks and other equipment. CH2M HILL has investigated the matter further and has evaluated additional options related to the serviceability of the units. Key maintenance issues have included excessive fan belt replacement and the need for resetting a breaker switch located on top of the unit that tends to trip during power surges. The belt issue appears to have been resolved by installing a fan belt of a higher quality than that initially supplied by the factory. The feasibility of relocating the breaker switch at ground level to alleviate the need for physically accessing the suspended units to reset them is being investigated. The maintenance concerns are addressed by these solutions and therefore the makeup air units do not require relocation.

The residential wells were resampled on November 1, and the preliminary results indicate that PCP was not detected in any of the wells. The laboratory is paying the cost to recollect and analyze the samples. USEPA will not be invoiced for this resampling effort.

## 3. Problem Areas and Recommended Solutions

On November 21, the pump in Well No. 7 stopped operating. CH2M HILL will investigate possible causes for the failure. The pump may need to be pulled from the well and replaced.

The full-time operator has returned to work; however, she is currently unable to completely operate the system by herself. CH2M HILL will continue to assist with system operation by employing the use of temporary operators until the full-time operator can fully return to work.

Labor and expense costs for the temporary operators belonging to OMI, Inc., a CH2M HILL affiliated company, at the Penta Wood site have not been received by CH2M HILL until this reporting period. CH2M HILL has been working with OMI to speed up their invoicing procedures to be compliant with USEPA requirements. CH2M HILL's

contracting group has prepared a new intercompany work exchange agreement with OMI which clearly specifies that OMI charges for each month's work must be submitted to CH2M HILL within 5 working days of the last Friday of each month.

The equipment installation subcontractor, Clearwater Technologies, Inc., is continuing to work to resolve a billing dispute with one of their subcontractors (Stack Brothers); however, Stack Brothers has filed a lawsuit against Clearwater, CH2M HILL, and the USEPA. CH2M HILL will continue to work to resolve the dispute and will keep the USEPA informed of further developments.

| Change Order Status, Subcontract No. 308<br>Clearwater Technologies, Inc. Change Order submitted by CH2M HILL to USEPA (under WA #201) | | | |
|---|---|---|---|
| CO #1 | Final actual quantity adjustment for the Equipment Installation, Option Period 2 | $49,034 | Approved |

**4. Deliverables Submitted**

None.

**5. Activities Planned Next Reporting Period**

CH2M HILL expects to conduct ongoing routine operation and maintenance activities, including normal effluent sampling based on the substantive requirements of the WPDES permit, during the next reporting period.

CH2M HILL plans to submit the final version of the Quality Assurance Project Plan (QAPP), Revision II, which incorporates USEPA's comments received by CH2M HILL on November 18.

CH2M HILL also plans to send out a solicitation for the concrete slab work and the backwash system.

**6. Key Personnel Changes**

None.

**7. Subcontractor Services**

| | |
|---|---|
| Earthworks: | Darcy Brust Excavating |
| Propane Tank and Gas: | Larry's LP, Inc. |
| Contaminated Media Removal: | Calgon Carbon |
| Haz. Waste Disposal: | North Shore Environmental |
| Mechanical Engineering: | Stack Brothers |
| Instrumentation and Controls: | System Technology Services, Inc. |
| Equipment Installation: | Clearwater Technologies, Inc. |
| Treatment System Chemicals: | U.S. Water Services Utility Chemicals |

**8. Travel**

Travel for Wayne Ekren in October was reported in last month's Technical Status Report.

Jim Spruill/OMI traveled to the site in March to provide operation and maintenance support. This transportation charge was the booking fee for his air travel.

Travel for Jim Spruill/OMI from September 27 - October 15 was reported in last month's Technical Status Report.

Jim Spruill/OMI was onsite from November 1-19. Travel charges will be invoiced during the next reporting period.

Les Bruner/OMI was onsite from November 19 through the end of this reporting period. Travel charges will be invoiced during the next reporting period.

**9. Laboratories**

The 2004 analytical services subcontract was awarded to ASC of Lancaster, New York. They are a Wisconsin-certified laboratory.

**10. Project Performance**

The treatment system is functioning as designed and routine operation and maintenance activities are presently being performed.