United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Wednesday, November 4, 2009
From: Sam Borries, OSC

Subject: Plainwell No. 2 Dam
Plainwell, MI
Latitude: 42.4279865
Longitude: -85.6292009

POLREP No.:	2	**Site #:**	059B
Reporting Period:		**D.O. #:**	
Start Date:	8/5/2009	**Response Authority:**	CERCLA
Mob Date:	8/5/2009	**Response Type:**	Time-Critical
Demob Date:		**NPL Status:**	NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description

Former industrial and waste water treatment practices from approximately the 1950s to the mid-1970s, released polychlorinated biphenyls (PCB) into the Kalamazoo River in southwest Michigan. At least one source of the PCB was a result of paper mills in the Kalamazoo, Michigan area processing/de-inking carbonless copy paper containing PCB. These paper mills released PCB from their waste water into the Kalamazoo River system, some of which deposited in the area of the river known as the Plainwell Impoundment (which was created as a result of the building of a hydroelectric dam on the Kalamazoo River in the early 1900s).

Beginning in 2007 and continuing through 2008, investigations in Area 1 of the Kalamazoo River OU, including Plainwell Dam #2, were conducted as part of the Supplemental Remedial Investigation/Feasibility Study (SRI/FS). Phase 1 of that work involved the delineation of frequently inundated areas of the floodplain upstream of Plainwell Dam #2. Phase 2 of the investigation involved the sampling of Plainwell Dam #2. Results of the Phase 2 investigation of Plainwell Dam #2 found elevated levels of PCBs in bank and floodplain soils and, to a limited extent, in in-stream sediment. Samples were collected at 94 locations from a uniform grid in the floodplain, including in-stream islands. A total of 302 individual samples were collected from the floodplain, and total PCB concentrations ranged from non-detect to 60 milligrams per kilogram (mg/kg). Bank soil samples were collected from 78 locations. A total of 265 samples were analyzed for PCBs, with total PCB concentrations ranging from non-detect to 45 mg/kg. Sediment samples were collected from 60 locations, resulting in 267 samples analyzed for PCBs. PCB concentrations in sediment ranged from non-detect to 100 mg/kg. A summary of the investigation results is presented in the Plainwell No. 2 Conceptual Design Report.

On December 10 and 11, 2008, MDEQ collected 30 sediment cores and 18 bank cores. A total of 50 individual sediment and 25 soil samples were analyzed for PCBs. Total PCB concentrations in sediment ranged from non-detect to 80.2 mg/kg. Total PCB concentrations in soil ranged from non-detect to 80.5 mg/kg.

The Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site (Site) encompasses the Kalamazoo River from Morrow Dam to Lake Michigan and approximately 3 miles of Portage Creek to the Kalamazoo River. The Plainwell Dam #2 (Site) is located approximately 3.5 miles upstream of the former Plainwell Dam in the Township of Gun Plain, T 1N, R 11 W, in portions of Sections 32 and 33 upstream to the Penn Central Railroad Bridge.

On June 8, 2009, an Administrative Order on Consent (AOC) was entered into between U.S. EPA and Georgia-Pacific, LLC, whereby, Georgia-Pacific agrees to conduct a time-critical removal action at the Site. The response actions include dredging and/or excavation of sediment, riverbank soils and floodplain soil, containment, monitoring, water treatment, stabilization and off-Site disposal of excavated material in accordance with federal PCB regulations at 40 C.F.R. § 761.61. The response activities will require approximately 200 on-Site working days to complete, and will result in the removal of approximately 12,000 cubic yards of waste material, containing approximately 89% of the PCBs in the Plainwell Dam

Additional site description and history can be found in the July 2009 Plainwell No. 2 Dam Area Time-Critical Removal Action Design Report, the June 8, 2009, Administrative Settlement Agreement and Order on Consent for Removal Action, the June 8, 2009, Time-Critical Removal Action Memorandum, and other Administrative Record documents.

Current Activities

From August 5 to September 19, 2009, Terra completed the construction of the project support zone (site trailers and parking zones); the soil/sediment treatment area (Staging Area 3); the material hauling and river access roads; and a bridge from Area 1 to Island 1. Terra also completed the installation of turbidity curtains along the shoreline of Area 1.

During the week ending September 26, 2009, Terra began excavating floodplain soil from Area 1; continued the construction and assembly of the pugmill at Staging Area 3; consolidated, into one area, all of the tree stumps that Terra had pulled while preparing Area 1 for excavation; installed sheet piling and turbidity curtains around Island 1; and began and completed the excavation of floodplain soil from Island 1. Terra also shipped fifteen loads of non-TSCA floodplain soil (689.56 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected nine floodplain soil samples from Area 1 (TS20273 to TS20281), two floodplain soil samples from Island 1 (TS20282 and TS20283), two surface water samples from the Kalamazoo River (TS30132 and TS30133), and one rinsate sample (TS30134). Arcadis split Sample TS20282 with START, which, in turn, designated its sample as PD2-092509-01-SD/TS20282. Note: Of these samples, Sample TS20279 failed with a total PCB level of 6.9 mg/kg. Given this result, Arcadis directed Terra to excavate additional soil from Grid 6 of Area 1.

Arcadis also began taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). All downstream readings were less than twice the upstream measurement.

During the week ending October 3, 2009, Terra continued excavating floodplain soil from Area 1; installed turbidity curtains along the shoreline of Area 2; installed a sheet piling head wall at the downstream end of Area 2; began tree removal and floodplain soil excavation in Area 2; began shearing the pulled tree stumps in order to prepare them for eventual landfill disposal; removed the bridge that extended from Island 1 to Area 1; and began laying river run rock along the shoreline of Area 1. Terra also shipped 32 loads of non-TSCA soil (1,258.37 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected five floodplain soil samples from Area 1 (TS20284 to TS20287 and TS20294 (resample of TS2079)); six floodplain soil samples from Area 2 (TS20288 to TS20293), two water samples from the Kalamazoo River (TS30135 and TS30136), and one rinsate sample (TS30137). Arcadis split Sample TS20291 with START, which, in turn, designated its sample as PD2-100109-02-SD/TS20291. The analytical results for all of these samples were below the cleanup criteria for total PCBs (5.0 mg/kg).

Arcadis continued taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). On September 29 and October 1, 2009, elevated readings, at the further of the two downstream monitoring stations, resulted from the installation of a sheet piling head wall. When the elevated readings were discovered, Terra ceased excavation activities until the turbidity readings returned to less than two times the upstream monitor.

During the week ending October 10, 2009, Terra completed excavating floodplain soil from Area 2; and began excavating floodplain soil from Area 3A. Terra also shipped fourteen loads of non-TSCA soil (476.47 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected five floodplain soil samples from Area 2 (TS20295 to TS20299); three floodplain soil samples from Area 3A (TS20300 to TS20302); ten water samples from the water treatment system located at Staging Area 3 (W_SA3_In_001, W_SA3_In_002, W_SA3_RM_001, W_SA3_RM_002, W_SA3_LM_001, W_SA3_LM_002, W_SA3_RE_001, W_SA3_RE_002, W_SA3_LE_001, and W_SA3_LE_002), two water samples from the Kalamazoo River (TS30138 and TS30139) and one rinsate sample (TS30140). The analytical results for the floodplain soil samples were below the cleanup criteria for total PCBs, while the water samples collected from the water treatment system effluent were below the discharge criteria for PCBs.

Arcadis continued taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). On October 8, 2009, an elevated reading occurred at approximately 1400 hours, at which point the excavation ended for the day.

On October 8, 2009, JFNew conducted restoration and stabilization activities on site by installing biologs and seeds in the cleared grids of Area 1.

During the week ending October 17, 2009, Terra continued excavating floodplain soil from Area 3A; installed additional turbidity curtains along the remaining shoreline grids of Area 3A; began installing turbidity curtains along the shoreline of Area 4A; and began disposing of the processed tree stumps. Terra also shipped 28 loads of non-TSCA sediment (1,091.37 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected fourteen floodplain soil samples from Area 3A (TS20303 to TS20316), split Samples TS20303 and TS20309 with START, six water samples from the water treatment system located at Staging Area 3 (W_SA3_In_003, W_SA3_RM_003, W_SA3_LM_003, W_SA3_RE_003, W_SA3_LE_003, and W_SA3_Dup_001), three water samples from the Kalamazoo River (TS30141 to TS30143), and one rinsate sample (TS30144). Note: The START-designated names for the floodplain soil samples are PD2-101209-03-SD/TS20303 and PD2-101409-04-SD/TS20309, respectively. The analytical results for the floodplain soil samples were below the cleanup criteria for total PCBs, while the water samples collected from the water treatment system effluent were below the discharge criteria for PCBs. The monthly discharge criteria was set by the MDEQ in permit MIU990029 which states that it is permissible to discharge 0.7x10-8 pounds of total PCB's per day at a maximum concentration of 2.6x10-5 ug/L.

Arcadis continued taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). All downstream readings were less than twice the upstream measurement.

JFNew continued the restoration and stabilization activities in the cleared grids of Area 1.

During the week ending October 24, 2009, Terra completed excavating floodplain soil from Area 3A; began and completed excavating floodplain soil from Areas 4A and 5A; continued processing tree stumps for landfill disposal; and completed the removal of the turbidity curtains from Areas 1 and 2. Terra also shipped 31 loads of non-TSCA soil (963.20 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected four floodplain soil samples from Area 3A (TS20317 to TS20320), nine floodplain soil samples from Area 4A (TS20321 to TS20329), two floodplain soil samples from Area 5A (TS20330 and TS20331), two water samples from the Kalamazoo River (TS30145 and TS30146), and one rinsate sample (TS30147). Arcadis split two of the floodplain soil samples with START (TS20322 and TS20330). The START-designated names for these samples are PD2-102009-05-SD/TS20322 and PD2-102209-06-SD/TS20330, respectively. The analytical results for all of these samples were below the cleanup criteria for total PCBs (5.0 mg/kg).

Arcadis continued taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). On October 19, 2009, elevated turbidity readings occurred at a downstream monitor during resuspension control activities. Work was halted until turbidity readings returned to below two times the upstream monitor. In the meantime, Terra processed stumps. On October 22, 2009, elevated turbidity readings occurred at a downstream monitor. The elevated readings were attributed to a boat propeller disturbing the river bank. The readings returned to below two times the upstream monitor when the boat was moved.

During the week ending October 31, 2009, Terra began laying geofabric and river run rock in Areas 3A, 4A, 8B, and 9B; excavated additional floodplain soil from Grid 4 of Area 5A; and removed the turbidity curtains and head walls of the cleared excavation areas. Terra also shipped 10 loads of non-TSCA soil (447.25 tons) to the Ottawa Farms Landfill in Coopersville, MI.

Arcadis collected three floodplain soil samples from Area 3A (TS20335 to TS20337), four floodplain soil samples from Area 5A (TS20332 to TS20334 and TS20338 (resample of TS20333)), five water samples from the water treatment system located at Staging Area 3 (W_SA3_In_004, W_SA3_RM_004, W_SA3_LM_004, W_SA3_RE_004, and W_SA3_LE_004), two water samples from the Kalamazoo River (TS30148 and TS30149), and one rinsate sample (TS30150). Aside from the analytical result for Grid 4 in Area 5A Sample TS20333 (total PCBs of 8.2 mg/kg), the analytical results for the other floodplain soil samples were below the cleanup criteria for total PCBs. Grid 4 in Area 5A

was re-excavated to a depth of six inches and sampled on October 28th . The sample was designated as TS20338 and indicated a result of 0.38 mg/kg PCB. The water samples collected from the water treatment system effluent were below the discharge criteria for PCBs.

Arcadis continued taking turbidity readings from three locations in the Kalamazoo River (one upstream and two downstream of the excavation areas). All downstream readings were less than twice the upstream measurement.

Planned Removal Actions

See Pollution Report #1.

Next Steps

(1) Remove the remaining turbidity curtains in Areas 3A through 5A;
(2) Complete laying geofabric and river run rock along the banks of Areas 3A, 4A, 5A, 8B, and 9B;
(3) Begin and complete the removal of the top three inches of backfill that comprise the surface of the haul road and river access road and dispose of this material at the landfill;
(4) Decommissioning Staging Area 3; and
(5) Demobilization of the support zone office and supply trailers for winter break.

Key Issues

The progress of excavation activity is based on weather conditions.

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