United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Monday, August 8, 2005
From: James Mitchell / Ken Rhame / Anita Boseman

Subject: Watertown Tire Fire
W 7910 Provimi Road, Watertown, WI
Latitude: 43.2198390
Longitude: -88.7874400

POLREP No.:	3	**Site #:**	B5CG
Reporting Period:		**D.O. #:**	
Start Date:	7/20/2005	**Response Authority:**	CERCLA
Mob Date:	7/20/2005	**Response Type:**	Emergency
Demob Date:		**NPL Status:**	Non NPL
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:			

Site Description

On July 19, 2005, a tire fire broke out at the Watertown Tire and Recycling facility which is on the northwest side of Watertown, Wisconsin in the town of Shields. The Watertown Tire and Recycling facility is surrounded by Provimi RD to the south, Rich RD to the west, a creek to the east and agriculture to the north. The facility is in a mixed agricultural and residential area.

The fire spread rapidly and no injuries were reported. The fire engulfed the main building and the large tire stockpile in the rear of the facility. Actions taken by operators on site were able to establish a fire break for the chipped tires in the front of the building. There were several explosions on site from fuel tanks located within the building. Roads were blocked off and the Dodge County Health Department asked residents in the vicinity of the fire to close doors and windows and stay indoors (shelter in place). No evacuation order was made. The plume of smoke extended at least 93 miles to the southeast, stretching across Milwaukee and over central Lake Michigan. More than 637 square miles were covered by the plume, including 290 miles of Lake Michigan. The fire was reported to be out on Monday, July 25, 2005.

On July 20, 2005, Wisconsin DNR requested U.S. EPA's assistance in providing air monitoring and air sampling at the fire. U.S. EPA On-Scene Coordinator Mitchell, the Superfund Technical Assistance and Response Team (START), and U.S. EPA's Emergency Response Team (ERT) mobilized to the site to provide air monitoring assistance.

Current Activities

On August 2, 2005, the water treatment system was temporarily shut down to allow the high concentration of sediment (created when upsteam dams were removed) to settle out. The high sediment load was clogging the bag filters in the treatment system and reducing the efficiency of the system. Additionally, the OSC decided to keep the system off-line until the source of the volatile organic compound (VOC) 1,2-Dichloroethane (1,2-DCA), could be determined. 1, 2-DCA was detected at concentrations ranging from 11 micrograms per liter (ug/L) to 38 ug/L in each of the five samples of effluent (treated water) collected previously (July 31 and August 1, 2005). Two water samples, one effluent sample, collected from the last treatment tank in the treatment system (final pH adjustment tank), and one surface water sample, collected from the drainage ditch, approximately 50 yards downstream from where the effluent is being discharged back into the drainage ditch, were submitted to Test America Laboratory for chemical analyses. The chemical analyses include: volatile and semivolatile organic compounds (EPA's Target Compound List [TCL], metals (EPA's Target Analyte List [TAL]), oil and grease, chemical oxygen demand (COD), pH, total suspended solids (TSS), and biochemical oxygen demand (BOD). The samples were submitted to the laboratory with a 24-hour turnaround time for the analytical results. In addition to the water samples, a sample of the chemical used to fight the fire (F-500

Multi-Purpose Fire Suppression Agent) was submitted to the laboratory for volatile organic analysis to determine if the fire fighting agent is the source of the 1,2-DCA. Because of concern that the source of 1,2-DCA could be in the 18,000 gallon capacity mobile storage/mixing tank, as a residual contaminant that was completely removed from the tank prior to its delivery to the site, the storage/mixing tank was removed from the effluent treatment train and staged for demobilization.
On August 3, 2005, EPA received the analytical results for the two water samples and fire suppression agent sample collected and submitted to the laboratory on August 2, 2005. The results showed that 1,2-DCA was present at a concentration of 140 ug/L in the effluent sample collected from the pH adjustment tank. Additionally, the pH of this sample was 9.6, which is above the state's discharge limit. The pH discharge limit established by the State of Wisconsin is a range between 6.0 and 9.0. 1,2-DCA was also present in the surface water sample collected downstream from where the effluent is discharged, but at a lesser concentration. 1,2-DCA was detected at a concentration of 2.6 ug/L in this sample. The pH for this sample measured 6.8. The sample of the chemical foam used to fight the fire had to be diluted significantly by the laboratory in order to be analyzed and therefore 1,2-DCA would not be detected at the part per billion range as detected in the effluent samples. Additionally, EPA received the final analytical data package from STAT Laboratory for the water samples collected from the containment basin/impoundment and drainage ditch on July 26, 2005. The complete analytical reports for these samples are posted on the EPA webite (www.epaosc.net). The 18,000 gallon capacity mobile storage/mixing tank was demobilized from the site. Inclement weather, including thunder and lightening, restricted site operations. The water treatment system was operated briefly for the purpose of lowering the volume of water that had backed up behind the dam as a result of the heavy rains earlier in the day.
On August 4, 2005, water samples are collected from different stages of the water treatment system to determine if the source of the 1,2-DCA contamination is in one of the filter units of the treatment system. Three samples are collected, one from the organo-clay filter unit, one from the granular activated carbon (GAC) filter unit, and one from the final pH adjustment tank (after the ion exchange unit). The samples were submitted to Test America Laboratory along with a sample of untreated water collected from the drainage ditch on August 3, 2005, for analysis for VOCs only. Because of the elevated water level in the drainage ditch as a result of the heavy rains received on August 3, 2005, the water treatment system is brought on line and treated effluent is discharged downstream. Additionally, one surface water sample is collected from the drainage ditch, approximately 75 yards downstream from where the effluent is discharged. The sample is hand delivered to Test America for the same list of analytical parameters mentioned above. WI DNR collects a surface water sample from the same location but for VOC analysis only. ERRS personnel also collect water samples from different stages of the water treatment system to measure the effectiveness of the filter media. ERRS samples are submitted to CT Laboratory for analysis. OSC and START assess the water quality in drainage ditch to the north of the containment basin/impoundment. Water is still black in color, has a strong odor and does not appear to be flowing downstream. The dissolved oxygen content of this water was less than 1 milligram per liter, however, a frog was observed living in this water. Additionally, frogs, snails, crawfish and a muskrats have been observed downstream in the drainage ditch.
On August 5, 2005, the source of the 1,2-DCA contamination that was detected in each of the effluent samples analyzed, was determined to be the resin used in the ion exchange filter. The ion exchange resin is reportedly soaked in 1,2-DCA to increase its adsorption capacity and then rinsed. It is suspected that the resin was not properly rinsed before being delivered to the site. The supplier of the ion exchange unit was contacted and agreed to provide another GAC unit that could be added to the end of the treatment train to adsorb any remaining 1,2-DCA . Water treatment system operated only briefly to low water level in drainage ditch and problems with sediment clogging the bag filters.
August 6, 2005. Water in drainage ditch has recharged overnight and ERRS crew is able to operated the water treatment system for approximately one hour before water level drops to a level that is too low to effectively pump. The cumulative amount of water treated to date is approximately 400,000 gallons. OSC Rhame is granted access from residents to the properties through which the drainage ditch flows. OSC directs ERRS crew to transport a pump and discharge hose upstream in the drainage ditch and attempt to pump water downstream to the treatment system. Several high spots in the drainage ditch are preventing water in the drainage ditch from flowing downstream.
August 7, 2005. Upstream pumping operations appear to be effective as the water level downstream in the drainage ditch rose approximately 1 foot. Treatment system operated temporarily in morning until water level dropped to below effective pumping level. START delivered two effluent samples to the lab for chemical analysis. Results expected on August 8, 2005.

Planned Removal Actions

Continue with water treatment operations. Current plan is to treat all water in drainage ditch north of SR19 and then disassemble the treatment system and reassemble the system near the containment basin to treat the contaminated water in the containment basin, currently estimated at approximately 2 million gallons.

Next Steps

Continue treating water in drainage ditch from Provimi to HWY 19 and discharging treated effluent downstream (south of SR19) Continue to collect effluent samples to determine effectiveness of treatment system and continue to monitor effluent D.O. concentrations.

Key Issues

U.S. EPA received a request from resident to sample creek sediment. Currently, this issue will be addressed by WDNR.

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