United States Environmental Protection Agency
Region I
POLLUTION REPORT

Date: Monday, January 22, 2007
From: Gary Lipson

Subject: Roosevelt Drive Oil Site
140 Roosevelt Drive, Derby, CT
Latitude: 41.3228000
Longitude: -73.0958000

POLREP No.:	13	**Site #:**	696
Reporting Period:	7/06 - 1/07	**D.O. #:**	ERRS Task Order #: 0042
Start Date:	8/25/1994	**Response Authority:**	OPA
Mob Date:		**Response Type:**	Time-Critical
Demob Date:		**NPL Status:**	
Completion Date:		**Incident Category:**	Removal Action
CERCLIS ID #:		**Contract #**	
RCRIS ID #:		**Reimbursable Account #**	01R0X08302D91CHRZ108
FPN#	014504		

Site Description

The site is located on the eastern bank of the Housatonic River along Route 34 (140 Roosevelt Drive) in Derby, CT. The Site is bordered by the River to the west and south, Route 34 and a canal to the east and the Derby Cellular Products facility to the north. The facility which was constructed along with the canal at the turn of the century has served as a hydroelectric plant since its inception. It is currently nonoperational due to the continuing presence of subsurface oil migrating out from under the facility into the river.

Due to the leaching of oil from the facility property into the river in the summer of 1994, EPA opened Federal Pollution Number (FPN) 014504 with the National Pollution Fund Center (NPFC) Case Officer and prepared a Pollution Removal Funding Authorization (PRFA) which was issued to the DEP to initiate cleanup operations. Subsequent activities included the removal of oil saturated sediment and approximately 10,000 gallons of free product and the installation of an oil recovery well system. This system (Derby-1) is still operating and recovering oil on an intermittent basis.

In 1999, new reports of oil sheening on the river were reported, apparently emanating from the tailrace of the facility. Additional efforts to recover oil from the source area began that year with the installation of a second oil recovery system (Derby-2) consisting of five recovery wells within an interceptor trench. Although the wells are continuously recovering subsurface oil, there has still been significant sheening emanating from the tailrace. Hard containment boom and sorbent boom, which is changed out on a regular basis, are used to contain the oil and preventing it from reaching the river.

Current Activities

EPA's prime contractor, Shaw E & I, is conducting operation and maintenance (O & M) on the two oil recovery systems including repairing or replacing pumps, motors, belts, hoses, and computer software. They have also been replacing contaminated boom and absorbent pads which has been keeping the oil out of the river as well as disposing of recovered oil and the used sorbent material.

Groundwater pumped during the operation of the Derby-2 system to create a zone of depression has been treated in an on-site treatment system consisting of a frac tank, an oil water separator (OWS), filter bags, and finally through three carbon vessels prior to discharge. Fouling of the carbon with oxidized iron has been an ongoing problem. In August 2006, the vessels were replaced due to corrosion issues and the system re-plumbed to allow backwashing. This was done to lengthen the life of the carbon and cut down on ongoing maintenance costs.

In October 2006, drilling operations were conducted inside the building footprint and on the tailrace side of the building to evaluate the extent and source of oil entering the tailrace. Two of the three interior borings and the one exterior boring were finished into 2 inch wells. The borings were logged and samples collected for TPH analysis. Based on the difficulties encountered in the installation of the borings and the results of the TPH analysis, it was determined after the drilling that it was not feasible to turn the borings

into recovery wells, but to maintain them as monitoring wells.

As previously mentioned, one of the ongoing maintenance issues has been iron fouling of the carbon in the treatment vessels. In December 2006, representatives from a company that specializes in chemical treatment of water visited the site to provide further recommendations to address the iron fouling issue. Based on these recommendations, the frac tank was removed from the treatment train. This removed a potential source of oxidation and the precipitation of iron. Samples were also collected from throughout the system to identify where additional oxidation was occurring. Since the oil water separator would now be receiving flow directly from the recovery wells, the coalescing units were replaced for maximum efficiency and the unit was refitted to drain any collected oil out of the system and into a collection vessel. The iron buildup within the vessels will be monitored to determine if chemical treatment will be necessary in the future.

For a number of years, sorbent and containment boom have been used to block the oil emanating from the tailrace and into the Housatonic River. It was decided that a more efficient method would be to install an oil skimmer within the tailrace which would collect the majority of oil prior to it leaving the tailrace. After conducting Markey research and meeting with a number of vendors, a tube type skimmer was decided upon, and Shaw began constructing a pad for the skimmer in December 2006. The pad will support the skimmer, when procured, above the race, allowing the tube to snake through the surface oil and pull it up into a collection vessel. The skimmer will work more efficiently when the tailrace is physically cut off from the river, creating a smaller manageable space and eliminating the use of the boom and sorbent material. EPA and its contractors are currently developing plans to isolate the tailrace from the river by installing a dam.

Planned Removal Actions

Due to contractual issues, there has been a delay in procuring the tube type skimmer. When purchased, it will be secured to the pad, hardwired, and connected to a collection vessel.

A conceptual design for the first phase of damming the tailrace consists of large sandbags and a polyethylene liner, keyed into the banks outside of the narrow walled tailrace, prior to the actual river bed. Once in place, the tailrace can be dewatered which will allow for the construction of an inner gate (second phase), taking advantage of the narrow walls of the tailrace. Dewatering the race will also allow for the inner raceway walls to be examined for oil seepage. It is important to note that the sandbag dam is considered temporary and the gate will be designed to be removed with minimal difficulty. These measures ensure that when the electricity producing turbines are eventually brought back on line, the dam and/or gate will not be a detriment.

Long range plans include the design and installation of horizontal wells which would extend from the source area through the plume. Ideally, the wells would act as a preferential pathway, moving the oil to a collection point, which may be the tailrace or a new recovery well/trench. The design of the wells will also include a method to facilitate the flow of oil, possibly by introducing steam to the subsurface.