



FACTS ABOUT:

Spectron Inc.

(NATIONAL PRIORITIES LIST SITE)

Site Location

The 8-acre Spectron site (MD-45) is located on 111 Providence Road in Elkton, Cecil County, Maryland. The site is in a rural residential area and adjacent to Little Elk Creek.

Site History

The Site was operated as a paper mill until it was destroyed by fire in 1954. Solvent recycling facilities occupied the site from 1961 to 1988. Galaxy Chemicals, Inc. (1961-1975) and Spectron, Inc. (1975-1988) conducted chemical product recycling and reclamation operations that included processing a wide range of industrial solvents on-site in an open lagoon. In late 1968, Galaxy Chemicals, Inc. began transporting these wastes to private landfills for disposal. In 1969, still bottoms from the open lagoon were excavated and also disposed off-site at private landfills. Spectron filed for bankruptcy in April 1989, abandoning approximately 1,100 drums and 67 large storage tanks containing hazardous chemicals and waste.

Environmental Investigations And Actions

In 1975, the State's Department of Water Resources ordered Spectron to stop its existing off-site disposal practices and to remove and treat the wastes previously disposed at the private landfills. The State further required that all future wastes generated from recycling and reclamation operations be disposed off-site at approved hazardous waste disposal facilities.

In 1982, Spectron was required under a Settlement Decree with the U.S. Environmental Protection Agency (EPA) to install and operate a shallow groundwater recovery/treatment system. The purpose of this system was to prevent shallow contaminated groundwater from entering Little Elk Creek. Spectron was also required to excavate and remove contaminated surface soils, install perimeter dikes around process and storage areas, and pave exposed soil areas with asphalt.

Following the Spectron bankruptcy declaration, EPA initiated an Emergency Removal Action in June 1989 at the request of the Maryland Department of the Environment (Department). Approximately 425,000 gallons of bulk waste, 1,100 drums containing waste, 3,100 gallons of still bottoms, and 660 cubic yards of contaminated soil and debris were removed from the site and transported to licensed waste disposal facilities. All contaminated media at or above the ground surface was either decontaminated or removed from the site and properly disposed. Emergency Removal activities were completed in March 1990.



In September 1991, a Consent Agreement was signed between the Spectron Waste Generator and Transporter Group (Potentially Responsible Parties or “PRPs”) and EPA to implement remedial measures necessary to abate surface water contamination in Little Elk Creek. While implementing those measures, dense nonaqueous phase liquid (DNAPL) contaminants were detected in the subsurface of the creek bed. This discovery complicated and delayed remedial measures. In October 1992, the site was proposed to the National Priorities List (NPL). In March 1993, EPA approved the PRPs’ proposal to conduct a Focused Remedial Investigation (FRI) to address DNAPL contamination. The EPA approved the final FRI report in February 1994. In May 1994, the site was placed on the NPL. In September 1995, the PRPs initiated a residential well and creek surface water monitoring program.

In August 1998, the Removal Action to construct a stream isolation and groundwater treatment system (SI/GWTS) for the cleanup of the Little Elk Creek began. The first phase of the Removal Action was the construction of the groundwater collection system. The collection system consists of a series of French drains, piping, collection sumps, and groundwater cutoff walls installed in the creek bed. A watertight synthetic liner was installed above the collection system to separate the clean surface water of the creek from highly contaminated groundwater and chemical seeps that were entering the creek. Construction of the treatment plant was phase two of the Removal Action, and was completed in March 2000.

In June 2001, EPA decided to split the site into two operable units to expedite the cleanup of contaminated soils. Operable Unit 1 (OU-1) addresses contaminated site soils and overburden groundwater. Operable Unit 2 (OU-2) addresses bedrock groundwater contamination.

In March 2003, EPA approved the final Remedial Investigation/Feasibility Study (RI/FS) reports for OU-1. In June 2003 the Proposed Remedial Action Plan was issued and a public meeting was held. The Record of Decision (ROD) for OU-1, approved September 2004, specified the continued operation of the SI/GWTS, demolition to grade of the plant area structures (exclusive of the groundwater treatment facility), installation of an impermeable cap, in-situ reductive dechlorination to treat principal threat waste in the overburden, monitoring, and restrictions on land and groundwater use. Since the 2004 ROD, the Responsible Parties have conducted treatability studies to determine the efficacy of applying the in-situ dechlorination technology at the site. The EPA and the Department oversaw and evaluated these studies. The agencies determined that in-situ dechlorination was not a viable remedial technology.

Alternative technologies to treat the overburden were evaluated, and in-situ thermal treatment (ISTT) of principal threat waste was selected. In November 2011, the EPA presented this proposed remedy to the public with a Proposed Remedial Action Plan. The ROD Amendment, approved in March 2012, retains most components of the 2004 ROD but replaces the in-situ reductive dechlorination in the overburden with ISTT and replaces impermeable cap with low permeability, asphalt (or equivalent) cap.



The RI/FS for OU-2 - Bedrock Groundwater and Office Area Soil (located in OU-1) was conducted from 2001 through 2012. The Final Remedial Investigation Report was approved by EPA in October 2010 and the Final Feasibility Study Report was approved in June 2012. Due to the complex nature of the geology and contamination at the Site, the RI/FS divided the Bedrock Groundwater portion of OU-2 into the Source Area and Dissolved VOC Plume.

In July 2012, an Interim Proposed Remedial Action Plan for OU-2 was issued and a public meeting was held. The Interim ROD for OU-2, issued in September 2012, selects a remedy for the Bedrock Groundwater Source Area and Office Area Soil, and requires additional data collection to facilitate the selection of a remedy for the Bedrock Groundwater Dissolved VOC Plume in a future final ROD. The selected remedy for the Bedrock Groundwater Source Area includes the following: (1) Delineation of the SI/GWTS capture zone and DNAPL extent; (2) Continued operation and maintenance of the SI/GWTS, including modifications/upgrades necessary to treat extracted bedrock groundwater; (3) DNAPL collection/extraction and off-site treatment/disposal; (4) Groundwater extraction and treatment using the existing GWTS; (5) Groundwater monitoring; (6) Surface water monitoring; (7) Monitored natural attenuation evaluation; (8) Residential well monitoring and wellhead treatment; (9) Vapor intrusion monitoring and mitigation; and (10) Land and groundwater use restrictions.

The selected remedy for the Bedrock Groundwater Source Area also includes a Technical Impracticability (TI) Waiver of Groundwater Applicable or Relevant and Appropriate Requirements (ARARs) for a portion of the Bedrock Groundwater Source Area due primarily to the presence of DNAPL in deep bedrock and the low permeability of the geologic formation. Additionally, groundwater will not be remediated to groundwater ARARs within the Waste Management Area (WMA) at the Site because waste would be left in place as a component of the OU-1 remedy, per the 2004 OU-1 ROD. Although EPA has determined that it is technically impracticable to restore bedrock groundwater to meet groundwater ARARs within the TI Zone and WMA, the bedrock groundwater will be restored to meet groundwater ARARs outside of the TI Zone and WMA.

The selected remedy for the Office Area Soil consists of excavation of soil, placement under OU-1 asphalt (or equivalent) cap, confirmatory soil sampling and analysis, backfill of excavation using clean fill, and land and groundwater use restrictions. The remedy for the Office Area Soil was revised after the public meeting held by EPA in July, 2012 to present the preferred alternatives in the proposed plan. Based on comments submitted during the public comment period, the placement of the excavated soil under OU-1 asphalt (or equivalent) cap was selected, rather than off-site disposal that is consistent with the remedy selected in the 2004 OU-1 ROD.

Current Status

Remedial investigation and design activities for OU-1 and OU-2 are ongoing. The Final Remedial Design (RD) Work Plan for OU-1 was approved in September 2013 and pre-RD activities began in September 2012 and are ongoing. The pre-RD activities include: light dense nonaqueous phase liquid delineation, groundwater and surface water sampling, flood plain



review, vegetation evaluation, capture zone evaluation, and building demolition. The demolition of several on-site structures was completed in March 2013. The Draft In-Situ Thermal Treatment Preliminary RD was prepared in October 2013. The final ISTT Design and ISTT installation is expected in 2014/2015. The pre-RD activities for OU-2 began in September 2012 and are still ongoing in 2014. The pre-RD activities include: groundwater sampling, monitoring natural attenuation evaluation, DNAPL delineation and collection, and flow and capture zone evaluation. The RD is scheduled to be prepared in 2015/2016.

All past and recent Spectron site assessment and remediation data are available at EPA's webpage at <http://epa.gov/reg3hwmd/npl/MDD000218008.htm>

