



Spectron (National Priorities List Site, MD045)

What You Need to Know

Site Location

The 5-acre Spectron site 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. Two 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 1975, the State's Department of Water Resources ordered Spectron to dispose wastes at approved hazardous waste disposal facilities. Spectron filed for bankruptcy in April 1989, abandoning approximately 1,100 drums and 67 large storage tanks containing hazardous chemicals and waste.

Environmental Investigations

Following the Spectron bankruptcy declaration, U.S. Environmental Protection Agency (EPA) conducted an Emergency Removal Action between 1989 and 1990. 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.

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 non-aqueous phase liquid (DNAPL) contaminants were detected in the subsurface. In 1994, the site was placed on the National Priorities List (NPL). Between 1998 and 2000, a stream isolation and groundwater treatment system (SI/GWTS) and a treatment plant for the cleanup of the Little Elk Creek were constructed.

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 and in September 2004, the Record of Decision (ROD) for OU-1 was approved. The ROD specified the continued operation of the SI/GWTS, demolition to grade of the plant area structures, 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. After treatability data evaluation, the agencies determined that in-situ dechlorination was



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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. The ROD Amendment, approved in March 2012, replaced the in-situ reductive dechlorination in the overburden with ISTT.

The RI and FS for OU-2 - Bedrock Groundwater and Office Area Soil were conducted from 2001 through 2012. The Final RI Report was approved by EPA in October 2010 and the Final FS 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 Volatile Organic Compounds (VOC) Plume.

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 (MNA) 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 Office Area Soil consisted of excavation of soil, placement under OU-1 cap,

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.

Current Status

Remedial activities and investigation are ongoing. The ST/GWTS intercepts and treats contaminated groundwater prior to its discharge to Little Elk Creek.

The ISTT system was installed in the target thermal treatment zone (TTZ) of approximately 43,670 ft² and operated from February 2016 through November 2016 with an estimated 15,700 pounds of VOCs removed. The impermeable cap, installed for thermal treatment in the plant area, was temporarily stabilized before the final cap is installed. The remediation of Office Area soils was conducted in September 2016. Approximately 200 cubic yards of contaminated soil



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were excavated, transported and staged at the Plant Area for future consolidation under the final cap. The excavation was backfilled using clean fill materials.

The OU2 interim remedial action for bedrock groundwater is currently in the design phase. The evaluation of the hydraulic capture zone of the stream isolation system is ongoing. Seven rounds of groundwater samples were collected as part of an MNA evaluation. The remedial design is expected to be completed in late 2018. Monitoring of nearby residential wells continues on a semi-annual basis since 1995.

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