

Sydney Mine Sludge Ponds
State Road 60, 1 mile east of Dover Road
Valrico, Florida
County: Hillsborough
District: Southwest
Site Lead: EPA
Placed on National Priorities List: October 4, 1989
ERIC ID # 3806

Site Description and History

The Sydney Mine waste disposal site is located near Brandon, Hillsborough County, Florida in Township 29S, Range 21E, Section 27 at 27° 55' 51.4840" N, 82° 12' 02.4060" W. The site occupies 9.5 acres of what once was a 1,700-acre phosphate mine. Hillsborough County originally leased the waste disposal site from the American Cyanamid Company. It was sold to Waste Management, Inc. in 1981.

The county used three small, man-made ponds to dispose of an estimated 16 million gallons of liquid wastes from 1974 to 1981. The largest pond (1.5 acres) primarily received septic sludge and grease trappings from restaurants. The smaller ponds (0.6 acres and 0.25 acres) received industrial cutting oil and other types of waste oil.

In 1982, the county filed a closure-permit application with the Florida Department of Environmental Regulation (FDER, now DEP) to close and remediate the site. The county hired a consulting firm to conduct sampling and to evaluate cleanup and restoration alternatives. The onsite investigation activities were completed in 1984, and revealed onsite groundwater contamination of the surficial aquifer, as well as soil contamination in and around the disposal ponds. The contaminants of concern were primarily volatile organics.

Threat

The potential for contamination of the Hawthorn and Floridan Aquifers was the major concern. The immediate threat to any nearby wells was alleviated by the installation of a groundwater recovery and treatment system and the remediation of contaminated material.

Response Strategy and Status (December 2020)

Operating under a FDER closure permit, Hillsborough County initiated a site cleanup program in November 1984. The main tasks were: 1) construction of a slurry wall for groundwater containment; 2) surface cleanup consisting of the excavation and incineration of more than 10,000 cubic yards of contaminated materials; 3) installation of a groundwater extraction, treatment and disposal system in the slurry wall vicinity and; 4) groundwater monitoring and the installation of additional monitoring wells. The surface cleanup was completed in February 1986. The groundwater system treated more than 41 million gallons of water during its years of operation. Upon completion of these actions, sampling was conducted to search for additional contaminated areas. The FDER conducted confirmatory sampling and analysis in December 1986 to determine the need for further remediation. Several areas of soil contamination were detected. Subsequently, the county treated approximately 15,000 cubic yards of soil by air-drying and biological treatment

onsite, and skimmed approximately 3,225 gallons of floating oils from the disposal ponds for offsite recycling. Due to elevated contamination in downgradient monitor wells, and in an attempt to accelerate cleanup of the site, the county installed additional monitor and recovery wells.

The county funded the entire project through May 1989. At that time, the county executed an administrative order with the EPA in which the county committed to: 1) complete an Endangerment Assessment; 2) provide documentation necessary for fulfillment of the Remedial Investigation/Feasibility Study (RI/FS) process and; 3) purchase the existing groundwater recovery and treatment system (to be made available for operation by the EPA or other responsible parties). The other identified responsible parties took over operation of the existing groundwater system and negotiated with the EPA for completion of the cleanup.

In June 1989, Hillsborough County submitted an Endangerment Assessment. In March 1990, the EPA completed a Record of Decision (ROD) for groundwater remediation, which required additional evaluation and recommendations for the existing groundwater treatment design. In August 1990, the EPA issued a Unilateral Administrative Order to the responsible parties. The responsible parties hired Blasland, Bouck & Lee as their contractor and initiated remedial design activities. Subsequent samples revealed the horizontal & vertical extent of contamination to be more extensive than previously expected. In August 1991, the EPA issued an Explanation of Significant Differences to the ROD, which required additional design work to address the extended contamination.

In November 1991, the PRPs submitted a 60% design to the EPA and FDER for review. This report was approved in March 1992. An investigation into the intermediate (Bone Valley) aquifer included the installation of wells in October 1992. Sampling of the new wells in November 1992 revealed the contaminated groundwater was present in the Hawthorne aquifer. A final Remedial Design (RD) was completed in January 1994, and the second groundwater treatment system was completed in February 1995.

The EPA and FDER agreed to allow the discontinuation of the groundwater recovery system of the surficial aquifer to measure the natural attenuation of groundwater in the absence of active groundwater recovery in this zone.

Natural attenuation monitoring studies progressed in two phases with the final report submitted in June 2000. Additional monitoring wells were installed to further evaluate contamination and flow pattern in the Bone Valley aquifer.

The Army Corps of Engineers completed the second Five Year Review in September 2006. A determination of the site's protectiveness of human health and the environment was withheld pending the installation of downgradient wells to completely delineate the length of the plume.

Additional investigations, including installation of several new monitor wells, were conducted by the county in early 2007, to satisfy recommendations in the EPA Five Year Review Report. Analytical results of the newly installed wells indicated that the horizontal extent of the plume was defined.

Waste Management, Inc. sold the property to Sydney Mine Reclamation in September 2005. The EPA instructed Waste Management and Sydney Mine to place a restrictive covenant on the site to manage risk and prevent future exposure to contaminated soils and groundwater. This restrictive covenant was approved by the EPA and the DEP Office of General Counsel and signed by all parties in March 2011.

In 2011, the EPA conducted a Five-Year Review (FYR). The County addressed several recommendations, including the installation of additional wells to the northeast. The site remains protective of human health and the environment. Another FYR completed in March 2016, confirmed that the site remains protective.

Schedule

A fifth Five-Year Review will be completed in 2021. The site remedy progressed to Monitored Natural Attenuation as allowed by the 1989 ROD. Low levels of benzene and vinyl chloride remain in site groundwater. Monitoring continues semi-annually until groundwater contaminants fall below their respective Groundwater Cleanup Target Levels.