

Pharmco Laboratories, Inc.
3520 South Street
Titusville, FL
County: Brevard
District: Central
Site Lead: Waste Cleanup Program
Approved for Cleanup: February 13, 2008
ERIC ID # 3920

Site Description and History

The Pharmco Laboratories site is a pharmaceutical manufacturing facility located at 3520 South Street (State Road 405), Titusville, Brevard County, Florida in Township 27S, Range 35E, Section 18 at 28° 34' 41.7579" N, 80° 50' 51.7251" W. Pharmco manufactures bulk pharmaceutical products, agricultural chemicals and specialty chemicals. Some of the raw materials used in production include phenol, methanol, acetone, toluene, and ethylene dichloride. Used solvents include ethylene dichloride, toluene, acetone, and methanol. The solvents are reportedly recycled. The facility occupies approximately 2 acres and consists of a dodecahedron shaped steel framed building, a covered concrete pad and bulk storage concrete slab. A 1,500- gallon concrete tank was reportedly used as a temporary holding tank for floor washings prior to being discharged to the City wastewater system. The site is bounded by a ditch and State Road 405 (South Street) to the east, Bobbi Lane to the north and a U-Store-It storage building complex to the west. The immediate site area is sparsely populated.

The Florida Department of Environmental Regulation (FDER, now DEP) conducted a hazardous waste compliance inspection of the Pharmco site in 1984. During the inspection, strong solvent organic odors were noted from the 1,500-gallon tank. Soil and groundwater contamination was suspected from leaks in the tank. In addition, stressed vegetation was observed in two areas of the site.

Elevated levels of 1,2- dichloroethane (1,2-DCA), benzene, toluene, trichloroethene (TCE), and chloroethane were detected in water samples taken subsequent to the inspection. 1,2-DCA, TCE and benzene were detected above the Federal and State Primary Drinking Water Standard.

On December 13, 1991, FDER conducted an onsite inspection of the Pharmco site. A tanker, containing methanol, was found leaking in the southwest corner of the facility.

On December 26, 1992, a hydrochloric acid vapor cloud was created at the Pharmco site. Numerous first responders and HazMat teams from Brevard, Seminole, Volusia and Orange Counties were involved. FDER Emergency Response was also involved. The Pharmco building and a number of nearby residential homes were evacuated. A bulging drum of thionyl chloride and a leaking drum of phosphorous trichloride were also found. The drums were stabilized, the leak stopped and the spilled hydrochloric acid was neutralized with soda ash.

Pharmco had been performing assessment activities at the site since 1987 with numerous reports prepared and submitted to FDER/DEP. On April 5, 2001, DEP notified Pharmco that it had not received the additional assessment results scheduled for September 2000. DEP requested information regarding the progress of the assessment. DEP also requested Pharmco to provide

documentation regarding its financial status if it was not capable of proceeding with the contamination assessment.

On April 19, 2001, Pharmco notified DEP of its financial hardship and its inability to conduct further assessment at the site. Pharmco indicated that it would provide the proper documentation regarding its financial status. On April 2, 2002, based on financial records submitted by Pharmco, DEP determined that the facility could not pay for any further assessment. The DEP Central District office notified Pharmco that it was requesting State assistance in completing the contamination assessment at the Pharmco site.

Threat

The majority of the site area is provided drinking water by the City of Titusville municipal water system. This system currently serves a population of 43,845 people and consists of two well fields. Storm water runoff from the site is collected by ditches located along SR 405 and at the southwest corner of the storage building complex. The ditches likely connect to an extensive wetland system located approximately 400 feet west of the site. The nearby wetland system contains the St. Johns Wildlife Refuge. The refuge is a habitat for a number of Federal and State designated threatened species including the Bald Eagle and Florida Scrub Jay. No terrestrial sensitive environments or residents have been identified onsite or within close proximity of the site. An elementary school is located approximately 600 feet Northeast (upgradient) of the site.

A Department of Health potable well survey showed no public supply wells within ½ mile and no private wells within ¼ mile of the site. However, the groundwater migration pathway is a concern because the surficial aquifer system is the aquifer of concern and is at a shallow depth. Elevated levels of chlorinated solvents and heavy metals, likely attributable to site activities; have been detected in site groundwater. Since an extensive wetland system with a number of State and Federal designated threatened species is in close proximity of the site, the surface water migration pathway may also be a concern. No residential population or terrestrial sensitive environments have been identified at or adjacent to the site.

Response Strategy and Status (December 2020)

On March 28, 2002, the DEP Central District office forwarded this site to the DEP Waste Cleanup Program in Tallahassee for State-funded cleanup evaluation. On September 10, 2002, the DEP Waste Site Cleanup Section referred this site to the CERCLA Site Screening Section for a Hazard Ranking System (HRS) score. The HRS score is one of several factors that influence State Cleanup eligibility. Based on a review of the site information, the US EPA determined that Pharmco was not eligible for cleanup under the Federal Superfund program.

The Pharmco site was accepted for State-funded cleanup on February 13, 2008. A Site Assessment Workplan was submitted by HSA Engineers & Scientists (HSA), in June 2010 and was approved by DEP on June 24, 2010.

DEP initiated site assessment activities in February 2011. Direct push borings were completed to delineate the contamination in the soil and groundwater. The highest groundwater contamination detected during the initial assessment phase was 18,500 µg/L for 1,2-DCA at DP015. The location of this groundwater contamination is near a sewer line and upgradient of the Pharmco site.

In April 2012, permanent monitoring wells were installed to delineate the extent of groundwater contamination and source area. Monitoring wells were installed based upon prior direct push sampling results. The highest concentration detected in the recently installed monitoring wells was 1,620 µg/L 1,2-DCA in MW038. This well is located upgradient of the Pharmco site and in the vicinity of the DP015.

Off-site notification was provided to nine property owners on October 7, 2011, and August 24, 2012, for groundwater contamination above the Groundwater Cleanup Target Level's for 1,2-DCA, TCE, and vinyl chloride. Soil sampling analytical results yielded no results above Cleanup Target Levels.

The Revised Site Assessment Report was submitted to DEP in October 2012 and was approved on November 13, 2012. The DEP has tasked additional site assessment to delineate the groundwater plume and suspected source area. The first phase of the additional assessment included investigation of the sewer line offsite, and additional sampling of groundwater wells. DEP is currently completing assessment, including assessment of the sewer line onsite and installation of two well clusters. The Site Assessment Report Addendum (SARA) was completed on February 12, 2013 and approved by DEP on March 26, 2013. The SARA recommended additional assessment. The final Site Assessment Report Addendum was completed on February 25, 2014. DEP approved the report on March 31, 2014. A Remedial Alternatives Evaluation was submitted in May 2014 and was approved May 14, 2015. Three well clusters were installed on April 1, 2016 to delineate the plume in preparation for the approval of a Remedial Action Plan. Two of the well clusters identified contamination in the intermediate groundwater zone. In 2016 GHD conducted additional assessment in order to establish the horizontal limits of the groundwater plume. Additional monitor well installation and groundwater sampling were conducted in March and April 2016. The results indicated concentrations of 1,2-DCE exceeding the Groundwater Cleanup Target Level (GCTL).

The Revised Pilot Test Plan was submitted to DEP in July 2017 and was approved on July 25, 2017. The DEP has tasked the Pilot Test to evaluate the effectiveness of pump and treat remediation on the aquifer. Results will be included in the revised Remedial Action Plan to be evaluated by DEP.

The Remedial Action Plan detailing the results of the Pilot Test and the implementation of a groundwater recovery system was submitted to the Department May 1, 2018, and revised June 4, 2018. The report was approved by FDEP June 6, 2018.

GHD completed the construction of the groundwater recovery system and initiated startup on March 4, 2019. Shortly after startup, iron scaling and biofouling were observed at the location of the inline particle filters and carbon vessels and the system was shut down. DEP requested a

Remedial Action Plan Modification (RAP Mod) be prepared to detail the proposed system adjustments to reduce biofouling.

DEP approved the RAP Mod on March 27, 2020 and system modifications were completed in September 2020. Upon completion of system modifications, continued iron and biological fouling of the remedial system was observed. To overcome the fouling, an additional RAP Mod was submitted to propose replacement of the existing transfer pump with a larger model. The subsequent RAP Mod was approved by DEP on November 10, 2020.

Schedule

Remedial system pump replacement is scheduled to be completed by mid-February 2021.