

Alaric Area Groundwater Plume
2110 North 71st Street
Orient Park
Tampa, Florida
County: Hillsborough
District: Southwest
Site Lead: EPA
Placed on National Priorities List: December 1, 2000
ERIC ID # 3913
(Cross Reference: State-Funded Site # ERIC_3886)

Site Description and History

The Alaric site is located in the Orient Park area of Tampa, Florida in Township 29S, Range 19E, Section 14 at 27° 57' 50.3176" N, 82° 22' 31.7444" W. The site covers approximately 1.72 acres and the surrounding area is an urban mix of commercial and residential properties. Three schools are located within 1.5 miles of the site: Kenley School, 0.5 miles northwest; Palm River School, 1.5 miles southwest; and Mary Help of Christian School, 1.5 miles north. Heavy residential areas are located 0.5 miles north and 1.5 miles south of the site. A production well is located near the southeastern corner of the property and a building stands in the south-central portion of the property. The production well has been capped and the site is now on city water.

Lee Oglesby is the owner of the site and has leased the site to various businesses over the years. The site is currently leased to Hartshorn Custom Contracting, Inc. Concrete Equipment and Supply (CES) operated an assembly and repair business for concrete mixers and related machinery between 1973 and 1981. CES degreased and steam-cleaned mechanical parts using chlorinated solvents tetrachloroethene (PCE) and trichloroethene (TCE). The degreasing activities occurred in the southern and western portions of the building located onsite. Alaric, Inc., and Dana Marine Laboratories leased the site between 1981 and 1988. Alaric recycled plastics, manufactured synthetic marble and produced specialty acrylic coatings onsite. Dana was a packager and distributor of marine lacquers and varnishes, and shared use of the property with Alaric. In 1986, contamination was discovered in the onsite production well.

Threat

Groundwater contamination comprised of PCE and daughter products as been identified in the surficial aquifer, the Hawthorn, and the upper portion of the Floridan Aquifer. The groundwater contaminant plume has migrated offsite and on to the adjacent Helena Chemical Superfund site property as well as other properties to the south, east and west. Several community well systems are located approximately 2 miles from the site. No potable water wells have been identified within the site study area.

Response Strategy and Status (December 2020)

The site came to the Florida Department of Environmental Regulation's (FDER, now DEP) attention in 1986, when Alaric achieved small quantity generator status. During the preparation of the site management plan, Hillsborough County Health Department identified contamination in the onsite potable well. Between 1986 and 1991, five studies were conducted at the site and in the

surrounding area by the DEP Southwest District Office, Hillsborough County Public Health Unit, NUS Corporation, and the EPA Region IV Field Investigation Team. Each study identified PCE or TCE in the groundwater. Subsurface sampling did not indicate soil contamination, but soil gas samples indicated elevated levels of PCE, TCE and toluene onsite. The analytical data did not indicate contaminant releases to surface water or ambient air.

In 1989, the DEP Southwest District Office initiated enforcement actions against Mr. Lee Oglesby, which resulted in an Administrative Consent Order (#89-0499) being signed. Under the stipulations of the consent order, Mr. Oglesby was to reimburse the DEP for expenses incurred by the Operation Response Team and pay \$18,198.26 in civil penalties.

In January 1995, the DEP Southwest District Office submitted a request to the DEP Waste Cleanup Program to include the Alaric site as a State Action Site. The Waste Cleanup Program and Office of General Counsel (OGC) reviewed all applicable reports and a hazard ranking score (HRS) evaluation was conducted. The site was not eligible for NPL listing; therefore, the site was added to the State-action list in March 1996.

IT Corporation was tasked by DEP to conduct additional fieldwork activities and to prepare a Contamination Assessment Report (CAR), which included recommendations for remedial activities at the site. The final CAR was submitted to the DEP in April 1998 and approved in May 1998. The CAR indicated an offsite area of inferred, dense non-aqueous phase liquid (DNAPL).

Due to the apparent commingling of the Alaric and Helena Chemical Superfund site plumes, the Alaric site was referred to the Environmental Protection Agency (EPA). The EPA evaluated this site for acceptance on the National Priorities List (NPL) and finalized its listing on December 1, 2000.

The Draft Work Plan for the development of the Superfund Remedial Investigation/Feasibility Study (RI/FS) was reviewed by DEP with comments submitted to the EPA in May 1999. The comments were submitted to IT in June 2000, and a final Work Plan was approved in August 2000. The purpose of the RI was to determine the nature and extent of the contamination associated with past activities, and to evaluate the level of risk posed to human health and the environment. The Feasibility Study (FS) consisted of the identification, evaluation and comparison of remedial alternatives capable of mitigating site conditions.

A Site-Specific Field Sampling and Analysis Plan for the RI/FS was submitted by EPA in June 2000. The DEP drafted comments and submitted them to the EPA in July 2000. The comments were addressed in the August 2000 Final Field Sampling and Analysis Plan, approved by EPA.

The Draft Phase 1 RI Report was submitted in November 2000. The DEP submitted review comments to the EPA in January 2001, and the report was approved in June 2001. DEP concurred with the approval; however, DEP noted that the intermediate plume depth was poorly defined to the south and should be addressed during the interim remedial action.

The Draft Focused Feasibility Study was submitted December 2000. The DEP submitted review comments to the EPA in February 2001. The DEP comments were addressed, and the document was approved in June 2001.

The IT Corporation submitted a Draft Treatability Study Scope of Work, to evaluate the remaining data gaps prior to construction and implementation of the Interim Remedial Action. The DEP reviewed the document and submitted comments in March 2001. All DEP comments were addressed, and the document was approved in August 2001. Treatability work was to begin in November 2001; however, the EPA lacked sufficient funding to commence these activities.

In November 2001, the EPA released an Interim Remedial Action Proposed Plan, which outlined remedial options for the source soils and groundwater. The proposed plan identified a source soil removal, followed by in situ chemical oxidation and groundwater containment via pump and treat, as the preferred EPA remedy.

In June 2002, the EPA submitted a draft Interim Action Record of Decision (ROD), which outlined the proposed interim remedy for the site. The DEP submitted comments to the EPA in June 2002. All DEP comments were addressed, and the EPA signed the ROD in July 2002. A determination of the final remedy for offsite groundwater contamination would be completed following implementation and evaluation of the final remedy for contaminated groundwater at the adjacent Helena Chemical Superfund site. The DEP and EPA entered into a State Superfund Contract for the design and implementation of the interim action remedy in September 2002.

Also, in September 2002, the EPA submitted the Interim Action Remedial Design for the Septic System/Soil Removal. The DEP provided comments to the EPA in September 2002. The comments were adequately addressed, and the design was approved in September 2002. The EPA contractor, Shaw Environmental, submitted an Excavation Work Plan to the EPA for the septic system/soil removal in March 2003. Excavation activities were completed in April 2003. Additional "hot spot" soils with PCE contamination were identified at the southern corner of the Alaric building and under the concrete pad that extends from the southern edge of the building. The results were discussed between DEP, EPA, the US Army Corps of Engineers (USACE) and Shaw to determine if an additional excavation was warranted or whether KMnO₄ should be used to treat the soil underneath the concrete slab and building corner.

In March 2003, Shaw met with the EPA, DEP, and USACE to discuss the preliminary design and offer comments. The final design was approved, and site construction and startup were completed in October 2003.

Sampling results in an August 2004 status report indicated that soils previously containing PCE at concentrations as high as 5,720 mg/kg are now at 0.02 mg/kg. Also, groundwater collected in the source area had significant reductions (in some instances to non-detect) with the exception of MW43, which was at 3,800 µg/L.

In June 2005, intermediate groundwater monitoring wells were installed for assessment. Based on the groundwater assessment results, additional remediation using in situ chemical oxidation and groundwater containment via pump and treat was implemented.

Excavation of highly contaminated soil was completed in December 2006. The January 2007 Draft Phase II RI report was intended to identify any ongoing data gaps and provide a basis for the Intermediate Zone Feasibility Study. In response to the identification of the remedy stalling out at the *cis*-1,2-dichloroethene daughter product, sodium permanganate was applied via soakage trenches under the primary source area. Supplemental soil and groundwater sampling was performed in April 2007.

In February 2008, the EPA, DEP, USACE and Shaw met onsite as part of the Five-Year Review, to discuss the status of the Interim ROD and to evaluate whether the goals were met. The conclusion of the meeting was that the surficial groundwater treatment system should be shut-down for a period of four months and the groundwater re-evaluated at that time. It was also determined that the permanganate injection for soil had not been completely successful, and soil containing concentrations as high as 3,000 mg/kg should be excavated in order to reduce “source loading” into groundwater. Excavation of 17 tons of soil was completed in June 2008, and sent to Michigan Disposal Inc., for treatment and disposal.

A Feasibility Technical Memorandum was submitted to DEP for review in November 2008. DEP provided EPA with review comments on the document in February 2009. EPA signed an Amendment to the Interim Record of Decision in September 2010, selecting In Situ Thermal Remediation (ISTR) as the most effective remedy for reducing the remaining mass of VOCs and DNAPL in the subsurface onsite soils. EPA anticipates that the original pump and treat groundwater remedy will continue to operate, to prevent further migration of the surficial groundwater contaminant plume.

The site visit for the 2013 Five-Year Review (FYR) was conducted in October 2012 and the FYR report was released in July 2013. The 2013 report recommended reevaluation of the potential for vapor intrusion based on the collection of new data to verify that there is no risk to onsite workers or people living or working on surrounding parcels.

The 90% design for In Situ Thermal Remediation (ISTR) was submitted to EPA in September 2012. Due to the age of the data on which the ISTR design was based, the EPA contractor conducted additional groundwater and soil sampling in June 2015 to support development of a remedial design.

The EPA issued a Five-Year Review (FYR) Addendum in September 2016 as a follow up to the 2013 FYR report, which recommended a re-evaluation of the potential risk from vapor intrusion at the site. As part of the FYR Addendum, the EPA performed a screening-level vapor intrusion assessment in 2015 to evaluate the current risk for people working onsite in the building near the contaminant source area and for people living and working above the groundwater contaminant plume outside of the main site property. The onsite building is currently unoccupied. The EPA assessment predicted a vapor intrusion risk if the building were occupied in the future, based on existing conditions. The FYR Addendum concluded that re-evaluation based on new data is needed to definitively determine the risk and anticipates a determination can be made in late 2017.

The final ISTR performance based bid package was approved by EPA in March 2016 and used for procurement of an in situ thermal remediation contractor. Based on submittals in response to the request for proposals, EPA selected a contractor to design and conduct the thermal remedy using Electrical Resistance Heating (ERH) to address onsite subsurface soil contamination to a depth of approximately 70 ft. below land surface. The draft design was submitted in September 2016. The final design was approved by EPA in March 2017, followed by startup of the in situ thermal remedial system. The ERH remedial system operated from March until mid-July 2017, when it was temporarily shut off to allow for performance sampling to determine if the treatment criterion of 1 mg/kg total chlorinated VOCs had been met in saturated soils located between 5 to 67 ft. below land surface. Based on the data, ERH system operations resumed including the installation and operation of 3 additional electrodes to address the deeper contamination. Performance soil sampling in December 2017 confirmed that the soil treatment criterion had been met and the ERH treatment system was decommissioned. A Final Remedial Action Report documenting ERH remediation of the saturated soils was submitted in June 2018.

EPA conducted a groundwater sampling event in 2018 to determine the remaining extent of groundwater contamination following ERH treatment and to support selection of a final groundwater remedy for the site. A draft FYR report evaluating the progress of site remediation and protectiveness of the remedy was submitted in June 2018 for DEP review. The draft report recommended review of the need for onsite institutional controls addressing future land use, and re-evaluation of potential risk from vapor intrusion onsite and offsite.

Schedule

EPA is developing a Sampling and Analysis Plan for the site. EPA issued a draft Risk Assessment in 2020 to estimate site risk to future human receptors and provide information to support further evaluation or action decisions. The FDEP has begun the review process for both of these documents.