

Flash Cleaners
4131 North Federal Highway
Pompano Beach, Florida
County: Broward
District: Southeast
Site Lead: EPA
Placed on National Priorities List: September 3, 2008
ERIC ID # 3933

Site Description and History

Flash Cleaners and Laundry is located at 4131 North Federal Highway, Pompano Beach, Broward County in Township 48S, Range 43E, Section 18 at 26° 16' 56.5950" N, 80° 05' 48.7034" W. The area is mixed commercial and residential. Flash Cleaners operated as a drycleaning facility from 1977 to approximately 2001. Drycleaning operations were discontinued at the site, and the site currently operates as a drop-off location. A February 1999, DEP inspection of the facility noted a nonoperational drycleaning machine was located on a bare concrete floor with no secondary containment, and drums containing drycleaning wastes were not all stored within secondary containment. Hazardous wastes had been stored for years in the back of the building, which had a dirt floor. Wastewater from drycleaning activities was reportedly discharged to the ground and to an onsite septic tank, which resulted in soil and groundwater contamination. In September 1998, the facility applied for participation in the DEP Drycleaning Solvent Cleanup Program. In May 1999, the facility was determined ineligible due to the facility's gross operational negligence and lack of secondary containment.

Threat

Previous groundwater and soil investigations have revealed contamination of onsite soils as well as the shallow aquifer both on- and offsite. Onsite soils are contaminated with tetrachloroethene (PCE), trichloroethene (TCE), *cis*-1,2-dichloroethene (CIS), and *trans*-1,2-dichloroethene. The soil source area is onsite and measures approximately 40 feet by 90 feet with a total volume of 1,600 tons. The shallow aquifer is approximately 8 feet below land surface, and contaminated with a variety of volatile organic compounds; primarily PCE, TCE, CIS, and vinyl chloride (VC), above State groundwater cleanup target levels (GCTLs). Contaminated groundwater is a potential health threat to local residents through direct contact and use of private surficial aquifer wells. The groundwater plume is approximately 1,875 feet long and covers an area of 27 acres. Surface water in the nearby canals and Hillsboro River may also be contaminated from groundwater emanating from the site. These surface water bodies are habitats for federally designated endangered and threatened species.

Response Strategy and Status (December 2020)

In August 2000, the Pollution Prevention & Remediation Division of Broward County issued an Environmental Assessment and Remediation License (No. 0538) to John & Susan Ferrel, owners of Flash Cleaners & Laundry. In September 2000, REP Associates, working for the responsible party, collected soil samples at the back door of the facility and at the south side of the septic drain field. Three (3) soil samples were sent to a fixed laboratory for analysis and two shallow monitor

wells were installed at the front and back doors of the facility. This information was presented in the September 2000 Limited Site Assessment Report by REP, which indicated the presence of both soil and groundwater contamination.

In December 2000, JAEE Environmental Services, Inc. performed direct push groundwater sampling at seven (7) locations. The PCE concentrations in groundwater increased with depth, with the highest PCE concentration being 4,025 µg/L at 15 ft below land surface.

In March 2001, REP collected a sludge sample from the septic tank. Sludge analysis showed concentrations of PCE, TCE, and Freon 11 (trichlorofluoromethane). In April 2001, Statewide Environmental removed the sludge and pressure washed the septic tank. A blockage found in the drain field line was removed, and ten drums of sludge and rinse water were generated. This information was presented in the April 2001 Source Removal Report – Flash Cleaners & Laundry by REP.

From September 2001 to January 2002, the Broward County Department of Planning & Environmental Protection (DPEP) issued a Citation Warning, a Citation, and a Notice of Violation to Flash Cleaners & Laundry for failure to submit a site assessment report. In March 2002, Broward County issued their Final Order and fined the facility owners. In May 2002, Broward County requested DEP conduct a Superfund assessment to determine if the site met EPA's criteria for Superfund response action or placement on the National Priorities List. In August 2002, the owners of Flash Cleaners & Laundry submitted a Draft Preliminary Assessment Report to Broward County DPEP.

In May 2003, DEP submitted a draft Site Assessment Work Plan for Flash Cleaners & Laundry site to EPA.

In June 2003, the facility owner reported an estimated 30 gallons of diesel spilled at the rear of the facility. DEP Emergency Response Section responded and investigated the spill. After their investigation, Post, Buckley, Schuh & Jernigan (PBS&J) conducted site inspection fieldwork at Flash Cleaners for the property owner in response to the diesel spill. As part of the fieldwork, PBS&J performed soil and groundwater sampling at the Cole Muffler property to the south. Groundwater analytical data showed PCE, TCE, CIS, and VC concentrations exceeding the Florida GCTLs. In June 2003, H2O Environmental removed the diesel-contaminated soil from the spill area. In July 2003, PBS&J submitted the Site Inspection Work Plan – Flash Cleaners & Laundry to the DEP.

In April 2005, the DEP received a copy of the Site Inspection Sampling Plan by Weston Solutions, Inc. In July 2005, the Superfund Technical Assessment & Response Team (START) conducted additional soil and groundwater assessment at Flash Cleaners & Laundry. However, no soil or groundwater samples were collected from beneath the facility floor slab. PCE was detected in soil at concentrations exceeding the leachability cleanup target level. PCE, TCE, CIS and VC were all detected in concentrations exceeding the Florida GCTLs. The Expanded Inspection Report by Weston Solutions, Inc. detailing these results was submitted to the DEP in November 2005.

In November 2007, the EPA proposed to list Flash Cleaners & Laundry on the National Priorities List (NPL). In January 2008, DEP provided a letter to the EPA supporting the addition of the Flash Cleaners site to the NPL. On September 3, 2008, the site was placed on the NPL.

The EPA initiated Phase I field investigations at the site in February 2009. Based upon the soil and groundwater analytical data, additional fieldwork was required to delineate the vertical and areal offsite extent of the chlorinated solvent groundwater contaminant plume. The additional fieldwork was performed in October 2009. The EPA completed the remedial investigation/feasibility study (RI/FS) in June 2010.

The Superfund Record of Decision (ROD) was issued by EPA in September 2010, which documented selection of the following remedial actions for the site: excavation and offsite disposal of contaminated soil from accessible areas; soil vapor extraction (SVE) for treatment of contaminated soil underlying the Flash Cleaners building; in situ enhanced bioremediation of contaminated groundwater; and implementation of temporary institutional controls (ICs) to prevent unacceptable risk from exposure to contaminated groundwater.

The DEP entered into a Superfund State Contract with the EPA in early March 2011 for remedial activities at the site consisting of soil excavation, soil vapor extraction and in situ bioremediation. The final Remedial Design was completed in March 2011. The septic tank was pumped and abandoned in place, and source area soil excavation was completed in April 2011. Approximately 172 tons of soil were removed from the site and disposed. Installation of the SVE system was completed in June 2011. The SVE system operated until December 2015 when performance monitoring confirmed that soil remedial goals were met based on soil and soil vapor monitoring results.

The in situ groundwater remedy was initiated in June 2011 when, from mid-June to mid-August 2011, approximately thirty-nine thousand pounds of emulsified oil substrate (EOS) and the microbial inoculant BAC-9 were injected into the source area groundwater plume. Annual groundwater monitoring was conducted for the first three years of remedial activities to document the response in groundwater to the remedial activities and to determine if additional in situ treatment was necessary. Groundwater monitoring results confirmed an overall decline in groundwater contaminant levels, particularly in the offsite plume.

Based on the results of groundwater monitoring and the observed rebound of PCE concentrations in groundwater in an onsite monitoring well, additional in situ groundwater treatment using EOS and a microbial inoculant was performed in November 2016 in accordance with the Design Addendum. Injections of the EOS amendment were performed onsite and in an area immediately offsite to promote further in situ treatment of the groundwater contaminants. Post injection groundwater monitoring is ongoing in accordance with the Design Addendum and the December 2016 Groundwater Operation and Maintenance Plan, Addendum 3.

EPA completed the first Five Year Review of the ongoing site remedy in July 2016.

Groundwater and surface water/pore water monitoring is ongoing to document the progress of the site remedy. The EPA has estimated the time for completion of remedial activities to be 12 years from the initiation of the remedial action.

The Addendum to the Final Groundwater Remedial Design (Versar, 2016) first laid out the performance monitoring schedule for post injection groundwater monitoring for the EOS injections that occurred in November and December 2016. Additional injection events were completed in April and December 2020 respectively.

Schedule

Another addendum will be forthcoming to address further performance and long-term compliance groundwater monitoring. Following injection, remediation monitoring is ongoing.

The following wells will be added to the performance groundwater monitoring for the 1st quarterly event: FCMW09, FCMW13, FCMW15, FCMW19, FCMW20 and irrigation well FCIW02.