

Whitehouse Oil Pits
Chaffee Road, ½ mile north of US Highway 90
Jacksonville, Florida
County: Duval
District: Northeast
Site Lead: EPA
Placed on National Priorities List: October 23, 1981
HWC # 037
ERIC ID # 3810

Site Description and History

The Whitehouse Oil Pits are in the community of Whitehouse, west of Jacksonville in Township 02S, Range 24E Section 13 at 30° 19' 12.3600" N, 81° 51' 4.6800" W. The oil pits were owned and operated between 1958 and 1968 by a waste oil refining company. Waste dumped into the pits included acid and clay sludges, as well as waste oil. The pits were abandoned in 1969 when the company went bankrupt.

On several occasions, the pit levees ruptured and spilled contaminants onto adjacent private property and into McGirt's Creek. The Environmental Emergency Branch of the EPA conducted an emergency cleanup after a dike collapsed in 1976. Following this cleanup, the City of Jacksonville constructed a treatment system to drain the pits. An attempt was made to stabilize the remaining oil and sludge by mixing it with bentonite clay. A cap of clay and soil was placed over the pits, and perimeter drainage ditches were constructed. In 1980, the Florida Department of Environmental Regulation (FDER, now DEP) and the City of Jacksonville made additional efforts to improve the site by re-seeding the surface grass cover, and re-routing drainage ditches.

In August 1986, the EPA Emergency Response Branch performed repairs at the site to stabilize the dikes and cap, which were damaged by erosion.

Threat

Soils in the pits are contaminated with heavy metals and organic compounds but are contained in a capped, impermeable-walled enclosure cell. The oil pits were a threat to the surficial aquifer, which is used for domestic water supply purposes. Surface water quality in the northeast tributary was also threatened by leachate seeping from the pits. However, these contaminated soils have now been isolated by construction of the cap and slurry wall system. Results from the continued monitoring of groundwater and surface water will be used to confirm that the remedy remains protective of human health and the environment.

Response Strategy and Status (December 2016)

During operation as a waste oil refinery, the property was owned by Allied Petroleum Products, Inc., which went bankrupt in 1968. The subsequent owner acquired the property via a tax deed and was not involved with the disposal of contaminated wastes.

In July 1982, FDER entered into a Superfund Cooperative Agreement providing for a Remedial Investigation/Feasibility Study (RI/FS) and an Initial Remedial Measure (IRM). The IRM

included repair of the dike wall, installation of storm water controls and check dams, re-grading of the cap and sodding.

The RI was completed in December 1983 and showed that contamination of soil and ground water was localized between the northeast tributary of McGirt's Creek to the north of the site and a shallow drainage ditch immediately south of the site. Residential wells downgradient of the site were uncontaminated. The subsequent FS recommended a remedial alternative consisting of a slurry wall surrounding the entire site and connecting with a clay aquitard at a depth of approximately 40 feet. In addition, a groundwater recovery and treatment system and site cap would be installed. The Record of Decision was signed in July 1985 and the lead for design and construction was turned over to EPA.

Project design was subcontracted to Environmental Science and Engineering (ESE), by the US Army Corps of Engineers (USACE) for EPA in March 1986. A Preliminary Design Analysis was submitted in April 1987. In May 1987, EPA in conference with ESE and FDER determined that additional site assessment and evaluation of alternative treatment technologies was necessary. At the same time, ESE continued with tests for compatibility of potential slurry wall and site-capping materials.

EPA began treatability tests for solidification of the waste material in December 1987. The July 1988 results were inconclusive. A draft Risk Assessment was received in September 1989 and was determined to be inadequate. Additional field work was undertaken in May 1990, and revised risk assessments incorporating the new data were submitted in September 1990 and January 1991. Bench scale treatability testing for soil solidification and biological treatment was completed in January 1991.

In a public meeting held in January 1992, EPA presented the revised recommended remedial action of soil washing with biological treatment and fixation/stabilization of contaminated soil. Contaminated groundwater would be recovered and treated. EPA signed an Amended Record of Decision (AROD) in June 1992. FDER signed a Letter of Concurrence for the AROD in October 1992.

EPA negotiations with Potentially Responsible Parties (PRPs) to complete design and perform site cleanup were initially unsuccessful but were re-opened in September 1993. The PRPs conducted additional field investigations during May through August 1994 to estimate more accurately the volume of waste material and to confirm its composition. A larger volume of highly contaminated sludge was found than was previously estimated. The PRPs completed a Supplemental Treatability and Feasibility Study (STFS) in January 1996 with an addendum completed in July 1997.

EPA issued a new Proposed Plan and presented the amended site remedy at a public meeting in December 1997. EPA signed a second AROD in September 1998. The amended remedy includes containment of the site contaminants using a surface cap and slurry wall or sheet piling. The upper layers of fill material were to be solidified to create a stable substrate to support the cap.

Groundwater monitoring was included to confirm the effectiveness of the containment system. In the final AROD, the groundwater cleanup criterion for naphthalene was modified by EPA allowing higher concentrations in groundwater. The revised goal for naphthalene does not reflect the Department's organoleptic guidelines although it is not expected to affect the protectiveness of the cleanup action because naphthalene has not been observed to exceed State guidelines outside of the proposed containment area. The Department concurred with the selected remedy in November 1999. EPA approved the final Remedial Design in September 2000. The PRPs signed a consent order with EPA to complete the site remedy and the order was lodged with the federal court in April 2002.

Additional offsite sampling during design has shown that site-related contaminants exceeding soil and sediment cleanup goals exist over approximately 4 acres along McGirt's Creek downstream of the site. This material was excavated and either relocated to the main site area for incorporation under the onsite cap or disposed of offsite at a permitted landfill facility, as part of the final site remedy. Construction of the site remedy was initiated in November 2003. Excavation and revegetation of the McGirt's Creek floodplain was completed in August 2004. After a delay of several months due to difficulties in assessment of slurry wall materials, construction of the slurry wall began in spring 2005. The slurry wall and cap were completed in November 2005 and EPA and DEP completed a final inspection of the site in April 2006. The Final Remedial Action Report was approved by the EPA on September 26, 2007.

The first Five Year Review for the site was completed in September 2008 and identified issues of site security (fencing), the lack of institutional controls and other minor issues that were addressed by the PRPs. A Restrictive Covenant (Institutional Controls) was signed and recorded in February 2011. The Restrictive Covenant limits the site to commercial/industrial use, prohibits the installation of wells into the surficial aquifer until the groundwater remedy is complete, allows installation of wells into the unaffected deep (Floridan) aquifer, but prohibits activities that would compromise the cap and slurry walls. Periodic Operation, Maintenance & Monitoring (OM&M) inspections/sampling events are ongoing to assure effectiveness of the completed remedy.

During the Five-Year Review, signed by EPA on November 19, 2013, DEP identified an issue with groundwater level differences inside and outside of the slurry wall. The issue was that significant rain events or droughts appear to cause head differences of several feet inside and outside of the slurry wall. DEP requested changes in the site's OM&M Plan to identify and respond to such water level fluctuations. EPA concurred and the PRPs revised the OM&M Plan which has been approved by both the EPA and DEP. Since waste remains on the site, periodic (five-year) reviews will continue to be performed by the EPA, with the next one due in 2018.

Schedule

Routine OM&M continues at the site with periodic reports generated by the PRP's consultant. Water levels inside and outside the slurry wall are being monitored to ensure that levels are maintained for proper operation of the containment cell. EPA is proceeding with delisting the site with DEP concurrence. The PRP's and the City of Jacksonville (site owner) will be responsible for OM&M at the site.