

Cohee – Barnes Battery Recycling
2144 Sapp Road
Cottdale, Florida
County: Jackson
District: Northwest
Site Lead: Waste Cleanup Program
Approved for Cleanup: November 15, 2002
ERIC ID # 3918

Site Description and History

The Barnes Battery Recycling site is located at 2144 Sapp Road in Cottdale, Jackson County in Township 04N, Range 12W, Section 27 at 30° 43' 20.9884" N, 85° 25' 18.2384" W. The site occupies an area of approximately twenty-six acres. A house and barn are located on the western portion of the property near Sapp Road, and the eastern portion of the property consists of horse pasture and a cypress wetland. The former owner of the property, Mr. Harold Barnes, reportedly conducted a battery cracking and recycling operation on the eastern portion of the property, approximately 1,000 feet from the current onsite residence. A hydraulic ram was reportedly used to crack batteries to salvage the lead plates and posts. Mr. Edward and Mrs. Georgia Cohee owned the property and resided in the house until early October 2012. The Cohees purchased the property in November 1989, from Mr. Barnes' ex-wife, Mary Lou Hanley, and were unaware of the battery cracking operation at the time of purchase. In early October 2012, Mrs. Cohee sold the property to Mr. William Davis who currently resides on the property.

Threat

Previous groundwater and soil investigations revealed contamination of onsite soils and the surficial aquifer. The shallow aquifer exhibits elevated concentrations of aluminum, antimony, chromium, copper, and lead. Contaminated groundwater is a potential health threat to local residents through direct contact and use of private surficial aquifer wells. Additionally, contaminated groundwater is a potential threat to the two municipal wells that serve the 572 persons living within a 4-mile radius of the property.

Based upon the analytical results for surface and subsurface soil samples, surficial soil contamination is present throughout the property, especially in the vicinity of the earthen loading dock. Inorganic contaminants detected at elevated concentrations in surface and subsurface soil samples when compared to background samples include aluminum, antimony, chromium, copper, cyanide, iron, lead, potassium, and vanadium. No organic contaminants were detected at elevated levels in the surface and subsurface soil samples.

Response Strategy and Status (December 2020)

On June 28, 1982, an anonymous informant reported to the Florida Department of Environmental Regulation (FDER, now DEP) that battery reclamation activities were occurring at the Sapp Battery facility during evening hours, and that battery cracking operations were also occurring at the private residence of Mr. Harold Barnes, a former Sapp Battery employee. At least six separate inspections were conducted by FDER/DEP investigators and Jackson County Health Department (JCHD) from September 1982 through September 1999, with no conclusive evidence regarding alleged battery cracking operations at the Cohee – Barnes site.

On September 30, 1999, the property was referred to the DEP Site Screening Section for investigation. On October 6, 1999, the DEP and JCHD inspected the property and discovered a battery cracking operation located approximately 1,000 feet east of the residence. An area of bare ground and stressed vegetation approximately 600 square feet in size was observed. Various small battery parts were visible in the soil, and a hydraulic ram was found adjacent to the bare area. An inspection of the adjacent swamp revealed numerous battery casings and at least 5 rusted 55-gallon drums. Battery parts were also found around a shed and horse corral near the residence. On October 13, 1999, the onsite private well was sampled for heavy metals by JCHD. Lead was detected at a concentration below the State of Florida's groundwater cleanup target level (GCTL) of 15 µg/L, but was attributed by JCHD to well construction.

The Cohee – Barnes Battery Recycling site was accepted for State-funded cleanup in November 2002. In September 2003, Ecology & Environment, Inc. (E&E) began soil and groundwater assessment activities at the site to delineate any onsite and offsite soil and groundwater contamination. Assessment activities were completed in August 2004, and a Site Assessment Report (SAR) was submitted for DEP review and approval. The assessment activities concluded: that no Florida Primary Drinking Water Standards were exceeded in any groundwater samples collected; that lead contamination is present in some of the adjacent wetlands sediment samples and an ecological risk assessment should be performed to determine the constituent's fate and possible impacts to biota; and that the surface soil at two source area locations were contaminated by lead from the former battery cracking/recycling operations at concentrations exceeding the residential soil cleanup target level (SCTL).

The Screening Level Ecological Risk Assessment (SERA) was performed in March 2005. The SERA found the ecological Preliminary Risk Goals (PRGs) for lead in sediments ranged from 32.2 mg/kg to 81.9 mg/kg. DEP concluded the SERA was conducted appropriately and determined that the cleanup criterion for lead in sediments should be 200 mg/kg (identical to the lead level accepted at the Sapp Battery Superfund Site). This cleanup criterion resulted in the average lead concentration in sediment falling within the developed PRGs. The Department also recommended the collection of additional sediment samples for lead analysis to completely delineate the extent of possible lead contamination.

An ISR (Interim Source Removal) was completed in March 2005, based upon the results of the SAR. The lead-contaminated soil at the two source area locations was excavated to 2 feet below ground surface and replaced with clean fill. Soda ash filters were placed on both of Mrs. Cohee's potable supply wells. Additionally, the holding tank and associated plumbing were replaced at one potable supply well. The soda ash filters will be maintained indefinitely by Florida DOH.

Groundwater samples collected from five onsite monitoring wells and two supply wells showed no lead or cadmium concentrations above the method detection limits. All groundwater samples contained estimated concentrations (2.2 to 2.8 mg/L) of sulfate. During the initial assessment, only a low concentration of lead (6.1 µg/L) was detected in one monitoring well sample.

Additional sediment samples were collected from the wetland for lead analysis in September 2005. The data was inconclusive as to whether or not additional delineation of lead concentrations within the wetland will be necessary, or if E&E's recommendation for No Further Action at the site is appropriate.

In July 2006, September 2008, and July 2010, groundwater samples were collected from the onsite monitoring wells and the new drinking water supply well, and analyzed for lead, cadmium, and sulfate. No contaminant concentrations were detected above the Florida Primary or Secondary Drinking Water Standards during any of these sampling events. After re-examination of the 2005 additional sediment sample concentrations, DEP wetland specialists recommended additional delineation of lead concentrations within the wetland sediments.

In October 2012 additional wetland delineation and sediment sampling was performed by E&E. Ten sediment samples were collected from ten different soil boring locations and analyzed for lead. Lead was detected in all samples. Lead concentrations in seven locations were below the Sediment Quality Assessment Guidelines (SQAGs) concentration. Lead concentrations at three locations exceeded the SQAGs threshold effect concentration of 36 mg/kg. The lead concentration in one location exceeded the SQAGs for probable effect concentration (130 mg/kg), the toxic effect threshold (170 mg/kg), and the severe effect level (250 mg/kg).

The Wetlands Delineation and Sediment Sampling Report was submitted in January 2013. The report identified the size of the wetland area to be 12 acres. The report was approved in June 2013 and concluded the wetland area required further delineation. Additional wetlands delineation was performed in October 2014. The report was submitted in December 2014.

An updated wetlands delineation survey was completed in September 2017. A portion of the wetlands were sold to an adjacent property owner and an access agreement has been signed to permit DEP to continue work on his property.

The assigned contractor for the site has submitted two Interim Source Removal Plans (ISRPs) (Upland and Wetland Source Areas) that present rationale and engineering design for the proposed interim source removal. The wetlands ISRP includes a revegetation plan for uplands and wetlands at the site. The ISRP objectives are to remove lead impacted soil from the three upland lead contaminated areas of concern (AOCs).

Schedule

Additional soil and sediment sampling has been completed. DEP is currently discussing source removal and excavation with the contractor. A source removal action is anticipated following approval of the work plan as funding permits.