

Brice Lumber
State Road 24 (West of US 27)
Archer, Florida
County: Alachua
District: Northeast
Site Lead: Waste Cleanup Program
Approved for Cleanup: September 12, 2001
HWC # 121
ERIC ID # 3892

Site Description and History

The Brice Lumber & Wood Preserving Company site is a former wood preserving plant that operated from approximately 1951 to 1962, using copper, chromium, and arsenic (CCA) solutions to pressure-treat lumber. It is located in Township 11S, Range 18E, Section 16 at 29° 32' 04.2329" N, 82° 31' 16.2341" W. Mr. Carl L. Brice (now deceased) became the property owner through asset distribution when Brice Wood Preserving Corporation was liquidated.

S&S Electric purchased a portion of the property directly adjacent to the existing Brice buildings in 1961/62. There is information to suggest that at one time the site was used to service railroad locomotives. Grease and oil from this servicing was believed to be collected in a network of drains and was released through a culvert to the southwest.

The former Brice property has been redeveloped and is currently occupied by the Archer Mini-Storage facility. The property consists of six storage buildings constructed between 1999 and 2000, with new asphalt drives and an asphalt parking lot on the southeast site of the property. Retention ponds are located along the east, south, and southwestern edges of the property. The University of Florida is using a large unpaved area in the vicinity of the former wood treating building to conduct a phyto-remediation research project to determine if plants can be used to clean up soil contamination. A chain link fence secures the entire mini-storage facility.

In April 1987, in response to a citizen complaint, the Alachua County Department of Environmental Services and the Florida Department of Environmental Regulation (FDER, now DEP) conducted an inspection of the abandoned site and collected two surface soil samples just outside of an in-ground concrete block foundation where green staining was observed. Soil sample analysis by EP-Toxicity showed arsenic concentrations of 6.6 mg/L and 2.2 mg/L and copper at 0.78 mg/L and 46 mg/L in the leachate. Concrete lined trenches bordered the former facility concrete foundation and an underground storage tank containing about 1 foot of oily water and an oily sludge was reported. An asphalt-like material and another area containing possibly ash and slag from a boiler was observed immediately south of the facility. An improperly abandoned six-inch diameter well was located just northwest of the concrete facility. No locations of drip areas that would commonly be used in the wood preserving process were identified.

A contamination assessment was completed in May 1992 by Woodward-Clyde Consultants for FDER to determine if contamination by copper, chromium, and arsenic was present in soil and groundwater at the site. The assessment included installation and sampling of 4 new onsite monitoring wells completed to depths of 54 to 60 feet below land surface in the Floridan Aquifer and sampling and analysis of 18 surface soil samples. No contaminants were detected in

groundwater above drinking water standards. All of the surface soil samples exceeded DEP industrial health-based soil criteria for arsenic with concentrations ranging from 19 – 690 mg/kg. Three soil samples exceeded the health-based criterion for chromium with concentrations up to 550 mg/kg. The highest copper concentration was 530 mg/kg. Supplementary site sampling by the DEP Site Investigation Section (SIS) in May 1994 included resampling of onsite monitoring wells, sampling of the former onsite production well, and two nearby City of Archer production wells, and sampling with analysis by the Toxicity Characteristic Leaching Procedure (TCLP) of six additional surface soil samples. Arsenic was detected in one monitoring well at 57 µg/L, just above the 50 µg/L drinking water standard that was applicable at that time. The TCLP leaching results for arsenic in 3 surface soil samples exceeded drinking water standards, indicating a potential source of groundwater contamination.

Threat

The potential for contaminated soils to act as a source of groundwater contamination is of concern, as well as the potential for public exposure to contaminated soils in unpaved areas both on- and offsite, or during site development activities that could bring contaminated soils to the surface. Historic detections of arsenic and chromium in onsite monitoring wells indicate that potential leaching to groundwater may be a concern.

The Floridan aquifer is unconfined in this area and serves as the primary source of drinking water. The City of Archer has two production wells that are completed in the Floridan aquifer and located approximately 800 feet east of the site and 3,000 feet south of the site. Sampling results in 1992, 1994 and 2010 have confirmed that the City production wells do not exceed drinking water standards. A door-to-door well survey during the contamination assessment indicated no private domestic wells within ¼ mile. The 2004 potable well survey confirmed that the closest two private potable wells are located more than ½ mile from the former Brice facility.

There are currently six onsite shallow Floridan monitoring wells. Only one of two previously reported onsite production wells has been located and was converted to a deeper Floridan aquifer monitoring well during the 1992 contamination assessment. With the exception of two detections of arsenic in one monitoring well at 11 and 12 µg/L (in 1992 and 2010 respectively), and arsenic reported in one monitoring well during the 1994 supplemental sampling, none of the monitoring wells have shown exceedances of groundwater cleanup target levels (GCTLs) during monitoring conducted from 1992 through 2013.

Response Strategy and Status (December 2016)

The site was accepted by the DEP Waste Cleanup Program for State-funded cleanup in September 2001. A Site Assessment Work Plan was completed in June 2004 by the DEP hazardous waste contractor. The work plan outlined the steps necessary to determine the extent of soil and groundwater contamination at the site. Initial field work was completed in October 2004, with the resulting data indicating that elevated levels of arsenic, chromium, and copper exist in soils above soil cleanup target levels for both unrestricted residential use and commercial/industrial use. Deeper onsite soil sampling was completed in the early 2005 with samples collected to depths up

to 30 feet below land surface, to determine the extent of onsite soil contamination present in soils above the groundwater table. Initial groundwater sampling results of the four onsite monitoring wells and the production well indicate that onsite groundwater does not exceed drinking water standards.

The draft Site Assessment Report documenting the results of the onsite sampling of groundwater, soil, surface water, and sediments was submitted in June 2005. Following review and revisions in response to DEP comments, the final Site Assessment Report was completed in April 2006. The assessment confirmed the presence of soil contamination onsite at depths up to approximately 30 feet below land surface (bls) in the former process area with concentrations of arsenic, chromium and copper at levels up to 3,900, 1,300 and 1,400 mg/kg, respectively. Depth to groundwater fluctuated from 50 to 42 feet bls, between two separate sampling events. Based on the sampling results for 3 onsite monitoring wells and 1 former Floridan Aquifer production well, groundwater quality does not exceed drinking water standards. Only chromium was detected in 1 monitoring well at 56 µg/L, below the State groundwater target cleanup level (GCTL) of 100 µg/L. The current arsenic GCTL of 10 µg/L was not exceeded. Sediment sampling in the storm water ponds showed arsenic at 14 and 15 mg/kg, slightly above DEP's sediment quality guidelines.

Groundwater monitoring and additional onsite soil sampling was conducted in December 2009 to confirm the presence of deeper soil contamination and to support identification of final offsite soil sampling locations. Further onsite, as well as offsite soil sampling, along with the installation and sampling of additional onsite monitoring wells, was completed in October 2010. Results were documented in the November 2010 Supplemental Assessment report. Based on those results, additional offsite soil sampling was conducted to determine the extent of contamination. In June 2011, a SAR Addendum report was provided to DEP, documenting the results. The SAR Addendum reported that the site groundwater did not exceed groundwater cleanup target levels, based on the May 2011 sampling data from the 7 onsite monitoring wells. Soil contamination comprised of arsenic with lesser chromium and copper above commercial soil cleanup target levels was confirmed onsite. Offsite soil contamination above residential or commercial cleanup target levels consists primarily of arsenic with the furthest extent of contamination observed east of the former Brice facility. Offsite soil contamination has also been confirmed north of SR 24 and to a limited extent west and south of the former Brice facility.

DEP provided written notice of offsite soil contamination to affected property owners in June 2011. Results of groundwater monitoring in April 2012 indicate that groundwater continues to meet State cleanup criteria at the site.

A remedial alternatives evaluation (RAE) was completed by the DEP contractor in May 2012 to identify remedial technologies that can be used for site cleanup and to support selection of the final site cleanup approach. The recommended remedy included removal of contaminated soils both on- and offsite as well as installation of an asphalt cap in the former process area onsite.

Onsite and offsite soil sampling was conducted in the fall of 2012 to identify the extent of soil contamination and support selection and design of the remedy. Evaluation of the existing storm water management system capacity was completed in March 2013 to determine the feasibility of

expanding an asphalt cap as an engineering control on the onsite source property and to identify necessary design modifications to the storm water system if a cap is included in the site remedy. The evaluation indicated that expansion of the existing storm water management system would be necessary if an asphalt cap was installed.

Further onsite and offsite soil sampling was conducted in 2013 and 2014 to more accurately delineate the extent of offsite soil contamination and determine the extent and volume of hazardous soils onsite in the upper two-foot soil horizon. Soil data including TCLP analysis was used to profile soils for offsite disposal.

The May 2013 annual monitoring results confirmed that groundwater continued to meet GCTLs at the site.

The final Remedial Action Plan (RAP) was approved in May 2014. The recommended onsite and offsite soil remedy on properties with current or anticipated commercial/industrial land use consists of excavation of contaminated soils to a maximum depth of 2 feet below land surface (bls) based on commercial soil cleanup target levels. Existing onsite asphalt and buildings on the former Brice lumber facility property will be used as engineering controls to prevent direct contact. Contaminated soils on offsite residential properties will be excavated based on residential soil cleanup target levels. Excavated soils may be disposed at a permitted landfill facility as non-hazardous material based on site-specific soil profiling.

Schedule

The soil remedy is being implemented under State funded cleanup through a DEP contractor and a remedial subcontractor, in a phased approach. Remediation of the onsite source property and adjacent commercial properties was initiated in June 2015. Soil excavation, backfilling with clean fill and surface grading was completed in September 2015. Site restoration including seeding/sodding and asphalt repair was completed in October followed by a final site inspection in December 2015. The February 2016 construction completion report has been approved by DEP. DEP is working with property owners to establish final institutional controls on those properties where engineering controls have been applied and soils remain above unrestricted use levels.

Remediation of contaminated soils on the remaining offsite residential properties will be conducted in 2017 and is anticipated to take approximately four weeks to complete.

Groundwater monitoring will resume in 2017 following completion of the soil remedy to confirm that groundwater continues to meet GCTLs at the site.