Case History

Escambia Wood Treatment Superfund Site – Pensacola, FL

In the summer of 2009, DTD installed our longest horizontal well to date, for groundwater remediation. The 1450 foot long well, multi-screen well intersects a naphthalene plume downgradient from a source area at the Escambia Superfund site in Pensacola, Florida. The Escambia site encompasses an old wood treatment plant that used creosote and pentachlorophenol for wood preservation. The site has been the focus of ongoing cleanup efforts to remove or reduce soil and groundwater contamination. Black & Veatch, of Alpharetta, GA is currently managing the site characterization and cleanup activities.

DTD installed three, two-inch diameter well casings and screens in a single borehole for this project. The well screen materials were staggered across the width of the plume and comprised three different materials to assess effectiveness for future cleanup efforts. The well also included two, 1½ inch tremie pipes that were used to inject grout to isolate the separated screened sections. DTD used special techniques to install the multiple pipes in order to minimize the potential for damage to the well screen.

DTD mobilized our American Augers DD210 drilling rig for this project. The rig can produce 210,000 pounds of thrust or pullback, and 25,000 ft/lbs of torque. This big-rig capability proved useful in drilling and pullback through the silty sand formations, prone to borehole collapse, at the project site. To support the drilling operations, DTD also mobilized a Mud Technology International (MTI) mud system, which included a mixing hopper, storage capacity, a scalping screen, desanding shakers, and desilting hydrocyclones. The mud system also included a separate skid mounted high pressure mud pump to supply drilling fluid to the drill rig.

Navigation for the bore was complicated by the site geography. The screened section of the well was 100 feet below ground surface, but prior to reaching that zone, the borehole traversed beneath a 50 foot tall pile of asphalt (stockpiled for recycling) at the entry, then crossed beneath an active railroad switchyard before entering the project site. Navigation was accomplished with a Tru-Tracker system, which induces an artificial magnetic field by energizing a wire loop that is constructed on the ground surface. Due to the length of the well, crossing of the rail switchyard, and steep terrain on the asphalt pile, three separate loops were constructed and activated individually as the boring progressed. A short section of the entry was drilled "blind" without coil coverage. The boring progressed through this section without incident and emerged on target when it re-encountered the final tracking coil.

After preparing the well casing for installation and setup of the drilling equipment, the pilot bore was drilled in three days and the pullback was accomplished in one day. Removal of the carrier casing at the exit end required the power provided by two medium sized tracked dozers, and was accomplished in less than an hour.

DTD also mobilized our Vermeer 24x40 drill rig in order to prepare the carrier casing for pullback by inserting the well casing and tremie lines. Additional support equipment included two rough terrain, extended reach forklifts;

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two excavators; a backhoe; a bulk water storage tank for make-up water; and two rolloff containers for collection of drill spoils and excess drilling mud.

Initial and continuing tests of the wells show promising results for site cleanup, and Black & Veatch is evaluating the relative performance of each well type for potential use in additional wells at the site.

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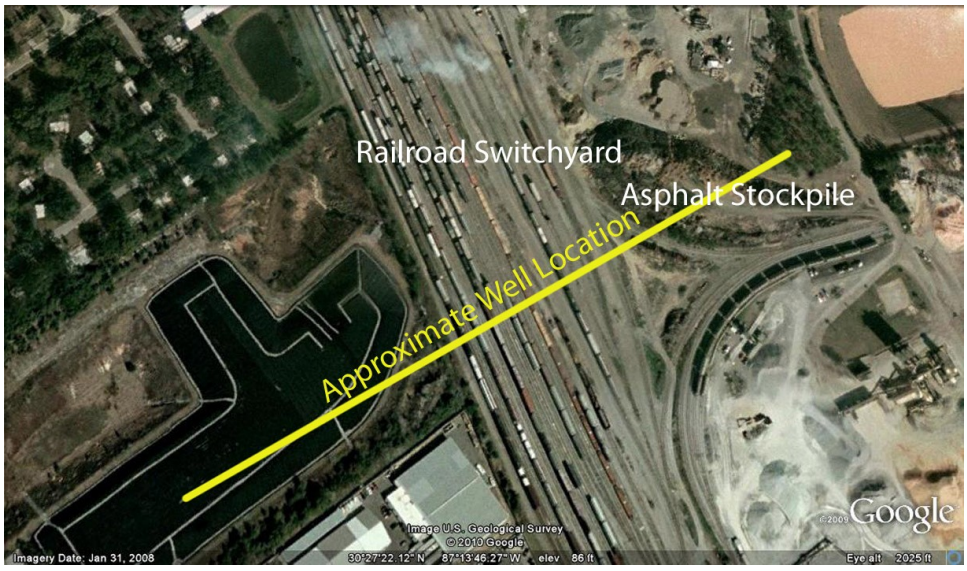

Map adapted from Google Earth

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