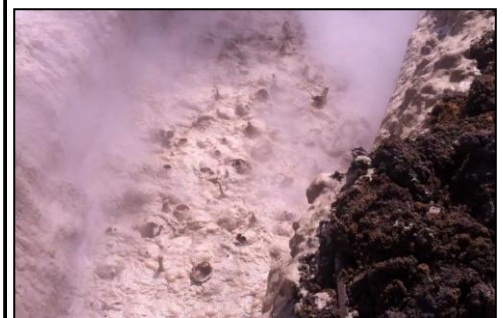
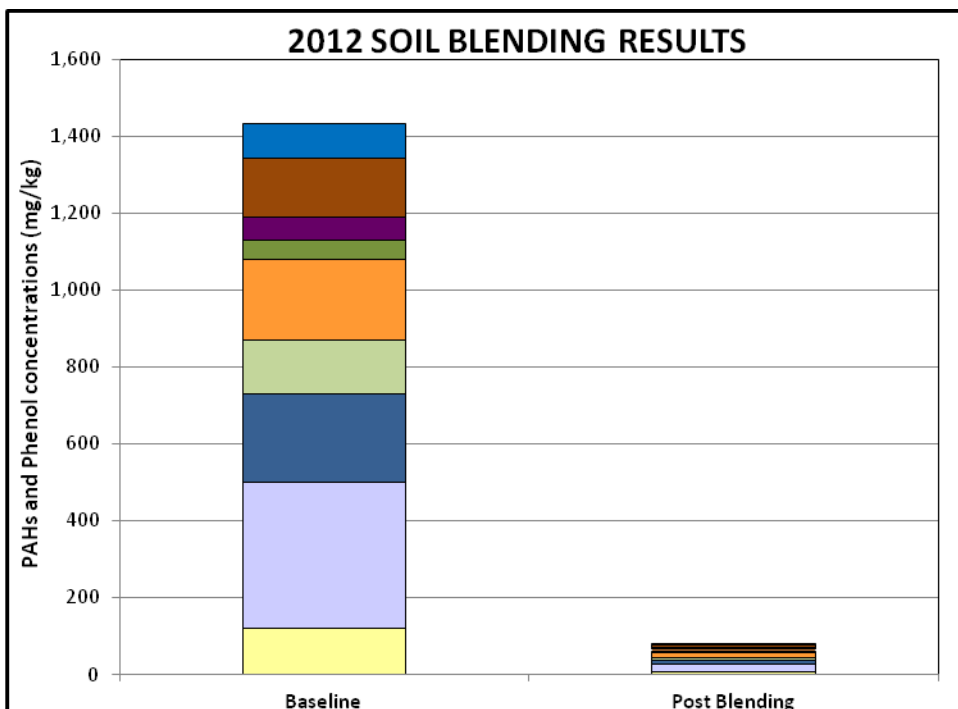


Exo Tech performed a treatability study followed by a successful In-Situ soil blending at an active wood treatment site. The site is located near the Okefenokee Swamp in the Coastal Plain geologic province. Extensive subsurface investigations indicated the presence of creosote NAPL, polynuclear aromatic hydrocarbons (PAHs), and pentachlorophenol associated with past discharges in a surface impoundment. Contamination was observed in shallow and intermediate depth groundwater zones to depths of 55-65 where a clay aquitard was encountered. Based on an evaluation of remedial options, a strategy was devised using soil oxidant blending in the source area coupled with ISCO and/or phytoremediation for boundary control.

Exo Tech performed a treatability study to determine the most effective oxidant blend and dose. The study evaluated the use of catalyzed hydrogen peroxide (CHP), alkaline activated sodium persulfate, and potassium permanganate. Initial results indicated that a 2% dose of potassium permanganate was more effective in the oxidation of target PAHs and phenols, with the exception of NAPL treatment. Follow-up testing was performed using a combination of 15% CHP (by volume) catalyzed with citrus chelators followed by a 1g/Kg dose of potassium permanganate. The tests were allowed to run for 24 hours and the residual oxidants quenched prior to laboratory analysis. The results indicated all target compounds were reduced well below treatment thresholds.

An initial soil blending pilot was performed in 2010 resulting in NAPL removal from CHP-permanganate oxidation. A follow-up pilot was performed in the 1st quarter of 2012 using a higher volume dose of CHP only. The results indicated significant reduction exceeding target goals (see graph below). Full scale treatment is tentatively scheduled for later this year.



CHP Treated Soils Shown in White Coloration