



FORMER ARMY AIRFIELD

Sumter County, FL

Contaminants:

BTEX

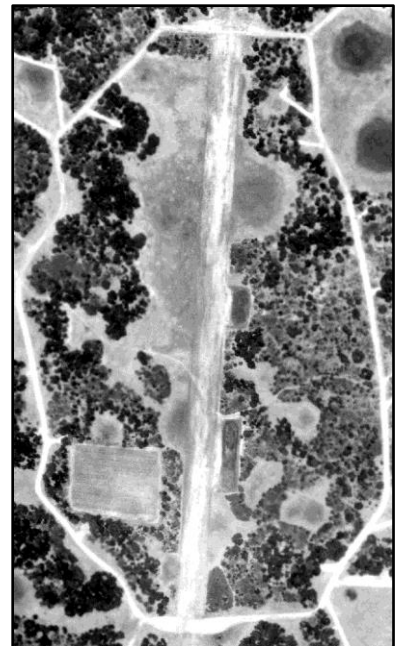
Treatment:

Pilot Aerobic
Enhancement
using Permeox-
Plus®

Site Status:

Active

- The site was a former army air field with a fuel pipeline system that was utilized to dispense jet fuel in the 1940s. Dissolved BTEX constituents were detected as deep as 100 ft-bgs in the Floridan Aquifer. Plume containment and limited removal was performed utilizing a pump-and-treat system. Total BTEX (namely benzene) concentrations were detected at $<100 \mu\text{g/L}$; however, additional treatment was required due to nearby water well usage. The target treatment goal for benzene is $1 \mu\text{g/L}$.
- A treatability study was designed that included an evaluation of chemical oxidants and oxygen release stimulants to promote aerobic bio-stimulation. The aerobic treatability study involved the use of “baited” bead traps suspended in target monitoring wells to evaluate microbial growth with and without the presence of an aerobic stimulator (Permeox-Plus®). Permeox-Plus® was chosen over other oxygen release agents due to the compound’s ability to release a large quantity of dissolved oxygen into the aquifer over a sustained timeframe (6 months-2 years).
- Based on favorable results from the treatability study, a pilot injection treatment was designed using inflatable packers to target delivery of a Permeox-Plus® slurry within the limestone bedrock. A total of 1,500 gallons of an approximate 5% slurry solution was injected into 3 points. Continuous monitoring of groundwater geochemistry was performed during injection through the use of down-hole data loggers.
- Groundwater analytical data collected from nearby monitoring wells indicated a decline in dissolved benzene concentrations as the result of the treatment. Full-scale injection is pending regulatory approval.



Aerial of runway