MOGAS UST LEAK SITE

ST-08

Joint Base Andrews February 2013

BACKGROUND

The gasoline underground storage tank (UST) leak site (ST-08) is located on the eastern side of Joint Base Andrews (JBA). This site includes the former Military Gas Station and the associated Motor Pool located east of the gas station. The site was used by the 89th Transportation Squadron to maintain, repair, and refuel base vehicles. Several leaks from USTs at the gas station occurred during the 1970s. Removal of tanks and contaminated soils in 1997 may have eliminated most of the source materials.

As part of the Interim Remedial Action, ORC (Oxygen Releasing Compound) was injected into contaminated areas of ST-08 in August 2000 and again in 2005. ORC is intended to help degrade the petroleum constituents in the shallow groundwater by stimulating the microbial communities that consume the petroleum. Subsequent monitoring of groundwater indicates a continuing decreasing trend in petroleum constituent concentrations, at a steady and measured rate.

CHALLENGES

The slow rate of decrease in the levels of contamination indicates that there may still be a source material bound in the subsurface clay material. Due to the source of the groundwater plume not being clearly identified and remediated, an extended operations and maintenance (O&M) period and long term monitoring (LTM) is required by the Maryland Department of the Environment (MDE).

PERFORMANCE BASED APPROACH

A Performance Based Contract (PBC) was awarded in 2008 to remediate the petroleum constituents at ST-08. An Expanded Site Investigation/Corrective Action Plan (ESI/CAP) has been completed. The remedy chosen via the ESI/CAP

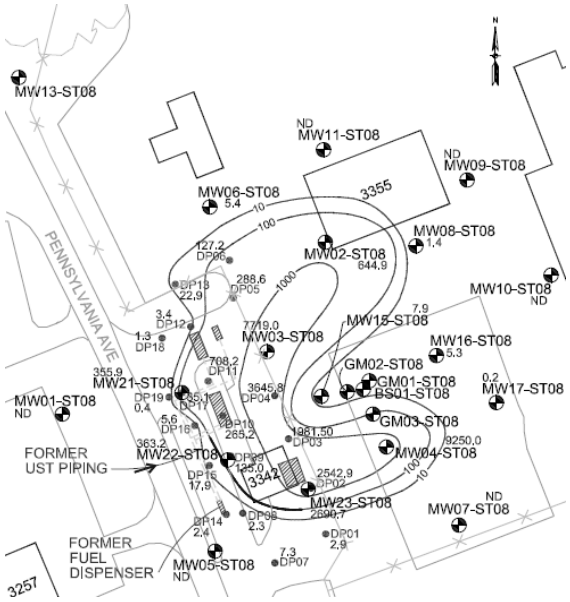

Figure 1: ST-08 and Benzene Plume (Source: URS, 2008)

process is enhanced in-situ aerobic biodegradation. Two rounds of substrate injections, which included nutrients for bioremediation microbes and a Treatability Study using chemical oxidation at the source area have been employed to aggressively push site clean-up. Continued dissolved-phase concentrations in groundwater led to a further investigation of source areas in late 2012, confirming that some of the source area remained untreated. In January 2013, additional chemical oxidant injections and soil mixing was performed in these remaining source areas. Monitoring continues to determine the effectiveness of this latest phase of the remedial action.

RISK DRIVERS

Contaminants: Petroleum constituents.
Impacted Media: Groundwater
Exposure Pathways Completed: Human (construction worker)
Current Land Use/ Surface Cover: Industrial
Reasonably Anticipated Land Use: Industrial
Relative Risk: Medium