MOBILE LAUNCH PLATFORM/VEHICLE ASSEMBLY BUILDING (MLP/VAB) AREA REMEDIATION FACT SHEET

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
KENNEDY SPACE CENTER
BREVARD COUNTY, FLORIDA

Location

The MLP/VAB is located east of State Road 3 (Kennedy Parkway) in the Launch Complex 39 Area.

History

The MLP and VAB are active NASA-operated facilities which were originally built to support Apollo/Saturn-V vehicle assembly and later modified (1976) to support Space Transportation System (STS) shuttle missions. Construction of the MLP and VAB started approximately in 1963 and was completed in 1966. Historically the MLP sites were used to repair post launch corrosion and/or blast damage on the launch platforms prior to their reuse. The MLP sites were the original construction sites for the three Apollo Mobile Launchers and the VAB is used to stack and prepare the space vehicles prior to launch. The Space Shuttle's solid rockets booster segments, external tank, and the orbiter are processed and mated inside the VAB. Preliminary investigations at the MLP indicated that metals and polynuclear aromatic hydrocarbons (PAHs) were present in soil. It also determined the presence of volatile organic compounds (VOCs) in groundwater. A RCRA Facility Investigation (RFI) was conducted from 1997-2003 which determined that approximately 115 acres of groundwater were negatively impacted by VOCs. In addition, an Interim Measure (IM) was performed from 1999-2000 to remove PCB-impacted soils. A Corrective Measures Study (CMS) evaluated potential sources of VOCs, distribution of ammonia in groundwater, and groundwater cleanup alternatives.

Treatment

The final selected remedy for groundwater is enhanced bioremediation of the source area, biosparging and monitored natural attenuation, and institutional controls. This treatment train will remove VOCs in groundwater at MLP/VAB.

Source Area Treatment

A Resource Conservation and Recovery Act (RCRA) CMS was conducted to identify and evaluate potential technologies for reducing contaminants present in groundwater to acceptable regulatory cleanup target levels…

Biosparging and Monitored Natural Attenuation (MNA)

A Resource Conservation and Recovery Act (RCRA) CMS was conducted to identify and evaluate potential technologies for reducing contaminants present in groundwater to acceptable regulatory cleanup target levels. Biosparging and MNA were chosen as the final remedy to address vinyl chloride in groundwater across the toe of the plume.

The biosparging technology uses indigenous microorganisms to reduce organic constituents in the saturated zone. The system injects air into the saturated zone to increase biological activity of the indigenous microorganisms, thereby promoting biodegradation of VOCs. A row in 25 biosparge wells were installed northeast of Launcher Road across the toe of the vinyl chloride plume to a depth of approximately 50 ft. bls. A compressor located in an equipment building at the East MLP Park Site supplies air to the sparge wells. Installation and startup was performed in early 2005 and the system has been in continuous operation since then. Groundwater is monitored semiannually to document the performance of the system.

Conclusion

Both the Source Area Treatment and Biosparge Wall appear to have been effective in reducing contaminant concentrations at the site. Source Area Treatment .

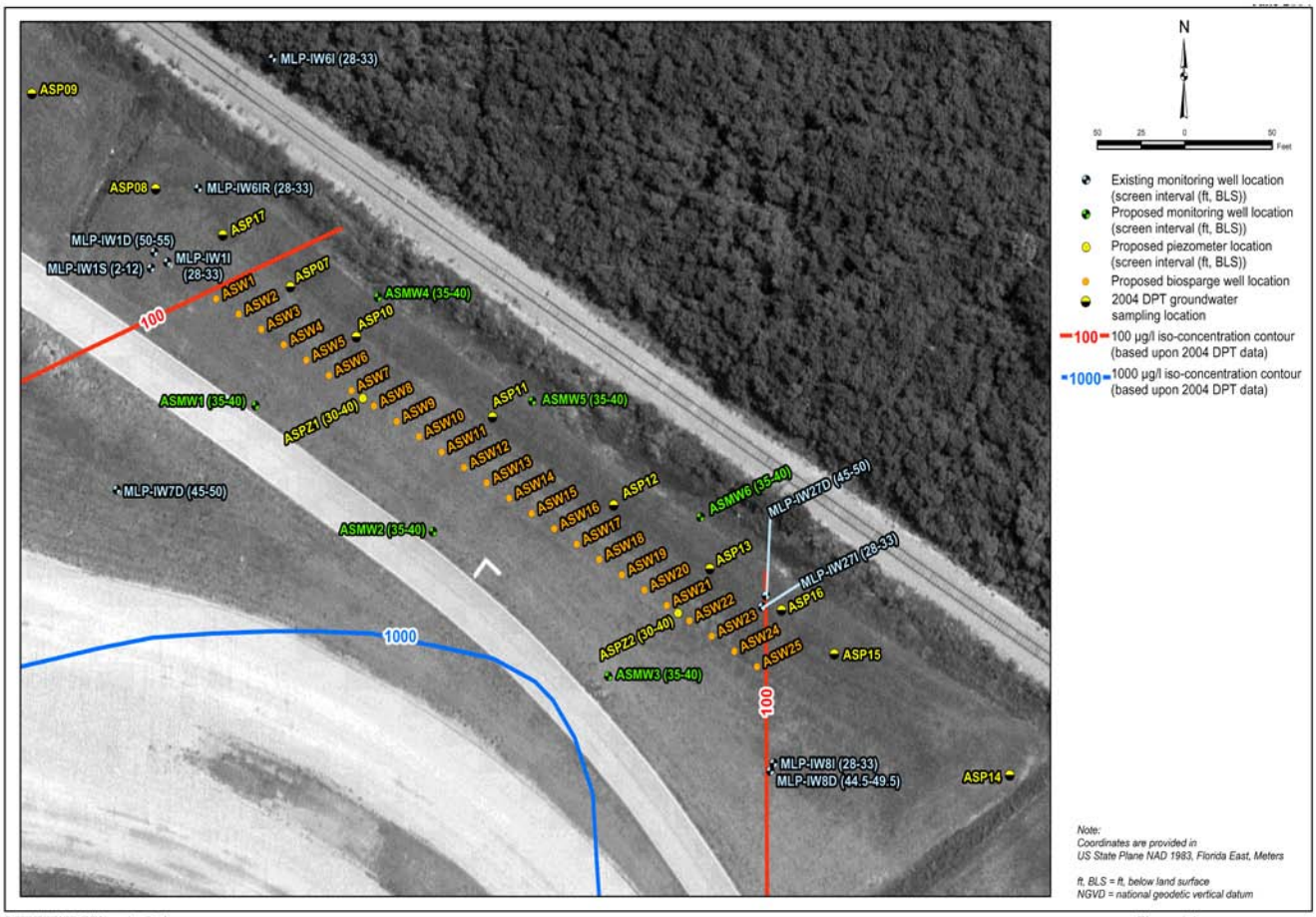

Figure 6-1
Biosparge Well Layout

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This Fact Sheet was written and produced by the NASA/KSC Environmental Program Office. All comments or questions can be made by calling (321) 867-6971 or by writing to the following address:

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