



KENNEDY ATHLETIC RECREATION AND SOCIAL I (KARS I) PARK SOIL REMEDIATION FACT SHEET

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

Location

KARS I is located along the western shore of the Banana River five miles south of the industrialized area of the Kennedy Space Center on Hall Road, east of State Road 3 (Kennedy Parkway).

History

KARS I was purchased in 1962 by the United States government and has been used by NASA and other civil servants and guests as a recreational park since 1963. Amenities of the park included picnic, sports and recreation areas including gun ranges. The gun ranges consist of the skeet, trap, rifle, and pistol ranges which have been inactive since May 2003. As a result of improper storage of solid waste and petroleum products, KARS I was identified as a Potential Release Location (PRL) 117 pursuant to the Hazardous and Solid Waste Amendments (HSWA) portion of the NASA Resource Conservation and Recovery Act (RCRA) Permit. KARS I has subsequently been designated as Solid Waste Management Unit (SWMU) 84.

Soil Excavation

An environmental investigation conducted by NASA indicated that approximately 19 acres had been contaminated by activities associated with the Spaceport Gun Club. To date, the investigation has determined that soil was impacted by metals (lead, arsenic, and antimony), total recoverable petroleum hydrocarbons (TRPH) and polynuclear aromatic hydrocarbons (PAHs). The lead, arsenic, and antimony are from the shot, the PAHs are from the targets associated with skeet and trap. The TRPH is the result of improper storage of petroleum products. The soil from a burn pit in the main portion of the park was found to be contaminated with arsenic and chromium from the burning of pressure treated wood. In addition,

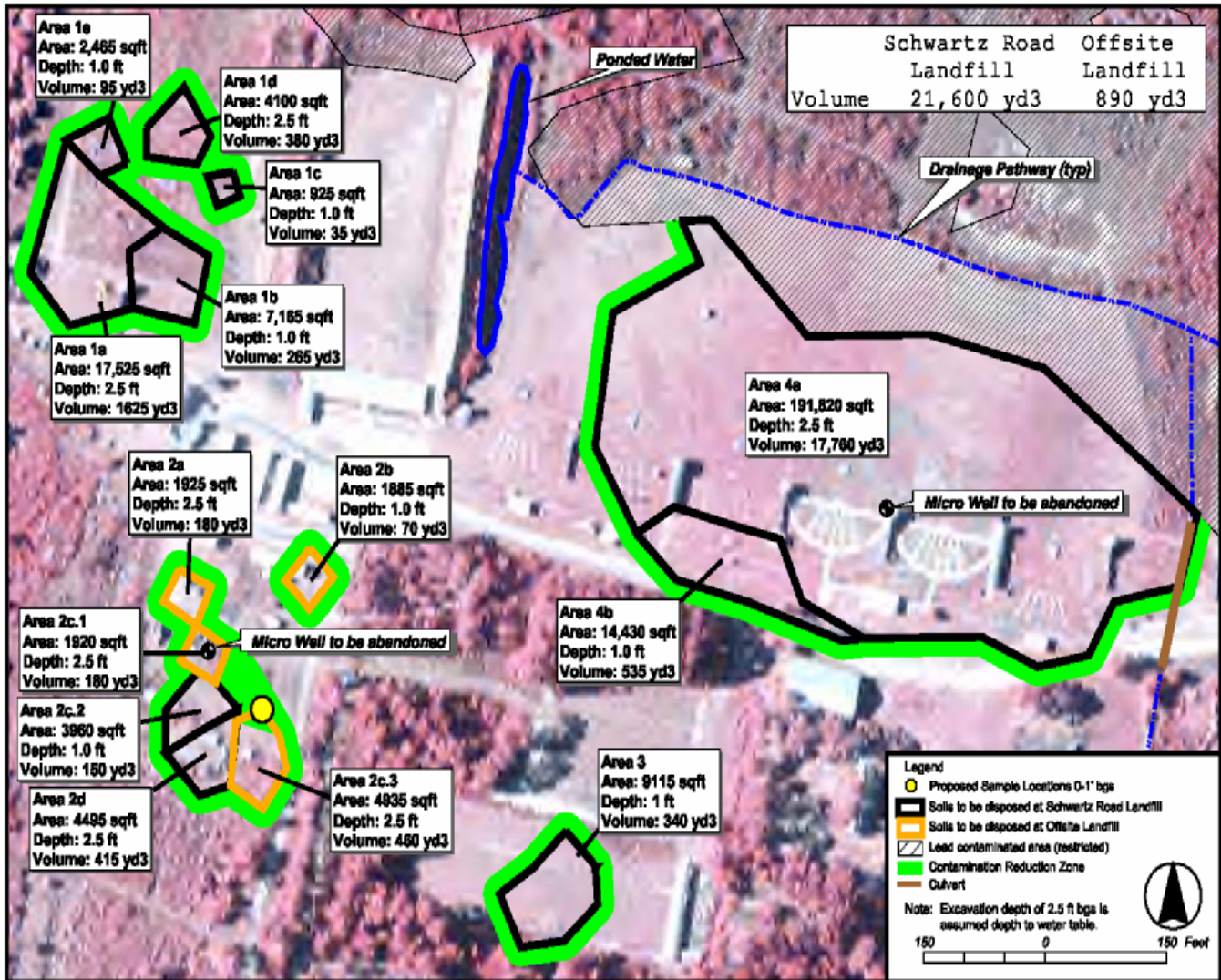
monitoring wells were installed at six locations at the Gun Club that had the highest detections of lead and PAHs. The groundwater results from these wells indicated that groundwater had been impacted by lead. A soil Interim Measure (IM) Work Plan was initiated to reduce concentrations of contaminants of concern in soil at KARS I. Due to the shallow extent of contamination, excavation was selected as the cleanup remedy.

First, the majority of structures associated with the Spaceport Gun Club will be demolished due to ancillary structures being on contaminated soil. Demolition will include such items as gun range equipment, utilities, heavy equipment, modular office trailers and other debris. The demolished items will be disposed of, recycled or salvaged. Secondly, the contaminated areas will be excavated to the vertical extent of contamination. The extent varies from one foot to the water table at two and a half feet. The excavation will remove approximately 22,435 cubic yards of PAH and TRPH contaminated soil and 515 cubic yards of arsenic and chromium-contaminated soil associated with the burn pit. Excavated soils will be disposed of accordingly. After excavation of contaminated soil is complete, the excavation will be backfilled with clean soil from an off-site borrow source. The borrow source will be certified "clean," which requires that the soil have no contaminants greater than Soil Cleanup Target Levels. If required, the excavation will be dewatered to facilitate placement of the backfill. Lastly, the excavation area will then be restored by revegetating disturbed areas.

Conclusion

Cleanup remedies for the remaining inorganic soil and groundwater contamination (lead, arsenic, and antimony) will be evaluated in a Corrective Measures Study (CMS). The CMS will select a final remedy for site cleanup.

FIGURE 1 - KARS PARK EXCAVATION SUMMARY AREA
KARS Park



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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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