4. SOIL SAMPLING AND ANALYTICAL METHODS

This section describes the soil sampling, handling, and analytical methods employed during the site investigation. The methods were implemented in accordance with the approved Parcel D SAP (IESI 1999e).

4.1 SOIL SAMPLING

Field activities began with the selection of sampling locations for surface soils and a geophysical survey at locations of subsurface investigation, as detailed in Section 3.

Subsurface soils were sampled using direct-push drilling methods. The push technology uses a truck-mounted, hydraulically driven sampler that allows penetration and standard sampling, thus minimizing generation of drill cuttings. The sampler for the push tool was fitted with 2-foot-long, 1-inch-diameter Tenite sleeves. Minimal cuttings were generated using this equipment. The boreholes were backfilled with a cement-bentonite grout. To minimize cross-contamination, the sampling equipment was decontaminated prior to each sample collection. Ten borings were advanced throughout Parcel D (see Figure 3-1 in Section 3).

4.2 SAMPLE IDENTIFICATION AND DESIGNATION

All samples collected in Parcel D were assigned a unique identification number. This number was used on all documentation relating to the collection, handling, analysis, and reporting of the analytical results of each sample. Since a sample is normally analyzed for several different chemical constituents or parameters, each requiring different sample containers and preservation techniques, the same sample identification number was assigned to each portion of the original sample split among the containers. The method of sample identification depended on the type of measurement taken or analysis performed.

Samples were numbered in consecutive order as they were collected. Duplicate samples were assigned the same number as the original, appended with a "D." The following template was used:

ParD-Bx-y-z

where

ParD	=	Parcel D
Bx	=	boring identification (e.g., B1)
y	=	sample number for boring identification (sequentially numbered samples collected from each boring, e.g., 1, 2, 3)
z	=	sample depth (expressed in feet below ground surface)

For example, the second soil sample collected from the fourth soil boring at a depth of 5.5 feet bgs in Parcel D was designated ParD-B4-2-5.5. The first sample from the same boring at a depth of 1.5 feet bgs was designated ParD-B4-1-1.5.

Quality Control (QC) samples were designated as follows and numbered sequentially:

- Trip Blank-#
- Field Blank-#
- Rinsate-#

Labels provided by the laboratory were affixed to each sample collected. Each contained the following information:

- Project name and location
- Project number
- Sample identification number
- Date and time of collection
- Name or initials of sampler
- Analyses to be performed

4.3 SAMPLE HANDLING

Sample handling procedures followed the approved Parcel D, SAP (IESI 1999e). Grab and hand-auger soil samples were collected in glass sample jars, and borehole soil samples were collected in stainless-steel liners with Teflon sheets and capped at each end. Each sample container was labeled and temporarily stored in ice-cooled containers until delivered to the laboratory. The field supervisor maintained custody until the samples were transferred to the laboratory courier. Sample custody was documented on standard chain-of-custody forms. Chain-of-custody forms are included with the laboratory reports in Appendix C.

4.4 SAMPLE ANALYTICAL PROGRAM

Analytical work was conducted by Orange Coast Analytical, Inc. in Tustin, California. Orange Coast Analytical is California-certified for the use of standard U.S. EPA test methods and appropriate state-required modifications.

Analytical methods were selected for constituents of potential concern (COPCs) based on historical uses of the property. The analytical methods selected and the number of samples analyzed for Parcel D are detailed in Section 3.