
Report

**Group 5 - Central Portion of Areas III and IV
RCRA Facility Investigation Report
Santa Susana Field Laboratory
Ventura County, California**

**Volume XI - Group 5 Debris Survey
Appendix U**

Prepared for:

The Boeing Company

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DRAFT IN PROGRESS



**Jill Bensen
Program Manager**

**Michael O. Bower, P.E.
Project Manager**

**John Lovenburg, P.G.
Senior Reviewer**

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Acronyms and Abbreviations

bgs	below ground surface
Boeing	The Boeing Company
DOE	United States Department of Energy
DTSC	Department of Toxic Substances Control
GPS	global positioning system
MWH	MWH Americas, Inc.
NASA	National Aeronautics and Space Administration
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
RBSL	risk-based screening level
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act Facility Investigation
SSFL	Santa Susana Field Laboratory
TPH	total petroleum hydrocarbon
VOC	volatile organic compound

Appendix U

U.1 Introduction

Appendix U presents the results of the Group 5 debris survey activities performed in 2008 at the Santa Susana Field Laboratory (SSFL) in Ventura County, California. CH2M HILL has prepared this report for The Boeing Company (Boeing) and the United States Department of Energy (DOE). The project was performed to support the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Program at SSFL.

The debris survey included the entire SSFL and was performed as a joint effort by CH2M HILL and MWH. Each consultant performed the survey activities for select RFI groups, as summarized below:

- CH2M HILL: Groups 1B, 2, 3, 4, 5, 7, 9, and 10
- MWH: Groups 1A, 6, and 8

The information presented in Appendix U is limited to Group 5. Debris survey information for the other groups will be provided in their respective group reports.

U.2 Purpose and Scope

The purpose of the debris survey was to conduct systematic visual inspections of the SSFL for surficial evidence of solid waste disposal (referred to herein as debris areas) and sampling for chemical analytes at the debris areas. Types of solid wastes that were targeted as part of this survey included, but were not limited to, the following:

- Containers, including cans, bottles, drums, and tanks.
- Soil piles with intermixed debris, including concrete, asphalt, metal or wood debris.
- Hummocky terrain areas that may indicate historic dumping of soil. Note that some areas at SSFL, particularly in the undeveloped portions of the facility, have evidence of soil mounding that appears to be associated with firebreak grading performed during recent wildfire events (e.g., the 2005 Topanga Fire). These areas are typically not identified as debris areas.
- Building demolition debris, including pieces of broken concrete or asphalt pavement. Note that small, scattered pieces of concrete and/or asphalt unassociated with a debris or soil pile are not typically identified as debris areas.
- Wood debris and pipe segments, including metal, transite, clay, and plastic.
- Skeet target (clay pigeon) fragments.
- Miscellaneous other non-household-type debris.

This debris survey was not intended to address the following types of features:

- Household-type debris (e.g., food containers)
- Features consisting solely of nonhazardous items such as concrete, asphalt, and rebar and other inert metal piles (i.e., items are not intermixed with soil).
- Areas with materials of known origin and quality (i.e., no hazardous substances present), or material stockpile areas that are being actively managed.
- Areas with buried debris potentially present, but with no indications on the ground surface based on visual inspection.

Debris identified as potentially hazardous or as being a potential source of contamination will be considered for further evaluation in the RFI sampling programs. Specific recommendations for further evaluation, including sampling as appropriate, are discussed in Section U.4.

Note that household-type debris (such as food containers and other nonhazardous waste-related items) was not targeted in the debris survey. As a general site-wide housekeeping effort, however, the debris survey crews collected small volumes of household-type waste where encountered, which was subsequently disposed of offsite with the regular municipal wastes generated at SSFL.

U.3 Methodology

The debris survey was conducted as a pedestrian survey inspection of the visible ground surface. Prior to conducting fieldwork, the survey crews reviewed information relevant to the survey task (such as previous SSFL debris area survey reports and other relevant historical documents, and aerial photographs). The field survey teams consisted of two individuals: one consultant staff and one SSFL facility maintenance staff (subcontracted by Boeing).

The survey crews followed predetermined transects approximately 50 feet apart and visually scanned the ground surface for evidence of debris. Closer transect spacing was used, as appropriate, based on ground conditions encountered. For example, closer attention was given to densely vegetated areas and drainages to achieve thorough visual inspection. Survey teams utilized global positioning system (GPS) equipment to accurately navigate within the survey area and record the location of debris sites that were documented. A map grid system was also developed to aid in tracking geographic information (refer to Figure 1).

Some areas of the SSFL could not be safely accessed due to the presence of steep terrain and rock outcrops. During the survey, inaccessible areas were visually inspected (typically using binoculars) from the nearest vantage point and documented accordingly.

The locations and descriptions of the debris sites were documented using hand-held GPS units that were preprogrammed with data dictionaries to enable efficient data collection. The units also allowed keyed entry of debris descriptions that were not included in the data dictionary. Debris sites that were approximately 100 square feet or less in size (that is, less than approximately 10 feet by 10 feet) were recorded with a single set of GPS coordinates. Debris areas larger than 100 square feet were documented with the GPS unit by recording the visible surface perimeter of the debris site. Figure U.3-1 presents the debris locations identified.

Digital cameras were used to photograph each debris area identified. Generally, a minimum of two digital photographs, one showing a close-up of the debris and another showing the larger debris site area, were collected for each site. Representative photographs of each container were typically obtained. Attachment U-1 presents the photographic logs from debris sampling locations.

U.4 Sampling

Based on field observations collected during the debris survey, each debris area was evaluated to determine whether further evaluation as part of the RFI was warranted (that is, sampling and analysis). Table U.4-1 presents sampling determinations for each debris area identified in accordance with the rationale described in subsections U.4.1 and U.4.2.

U.4.1 Sampling Decision Rationale for Containers

- If the container volume could have contained no more than 1 gallon, no sampling was performed. This decision might be modified based on surrounding site chemical use and professional judgment.
- If more than one small (for example, less than 1 gallon) container was present within an approximate 20-foot by 20-foot area, samples were collected at a minimum of one location within the area.
- If the cumulative container volume was greater than 55 gallons, typically samples were collected at two locations – the container(s) location and one location downslope. The additional sampling location was recommended to account for potential liquid migration associated with larger volumes potentially involved. The number and position of the sample locations might be adjusted based on site-specific characteristics and professional judgment.
- At each identified sampling location:
 - Soil vapor samples were collected at 5 and 10 feet below ground surface (bgs) (as permitted by bedrock depth).
 - Soil samples were collected at 0 to 1, 5 to 6, and 9 to 10 feet bgs (as permitted by bedrock depth); the 10-foot-bgs sample was held and analyzed only if the 6-foot-bgs sample had background exceedances of metals and/or dioxins, as well as an exceedance of risk-based screening levels (RBSLs). Analysis of volatile organic compounds (VOCs) in soil was performed only if VOCs were detected in soil vapor. If no soil vapor sampling was possible due to shallow bedrock, soil VOC samples were collected from the shallow sampling depth.

U.4.2 Soil Piles with Intermixed Debris

- If the debris pile size was less than 5 cubic yards (approximate volume), no sampling was performed. Sampling might be performed if evidence of a release (for example, soil staining) is present, or if warranted based on surrounding site chemical use and professional judgment. For example, if wood or metal debris (stainless steel tubing and pipes, for example) is present, sampling might be performed.
- If the debris pile size was greater than 5 cubic yards but less than 50 cubic yards (approximate volume), one soil sample was collected from the interior portion of the debris pile (in other words, grab samples were not collected from the surface of debris pile) with a hand auger or exploratory trenching.

- If the debris pile size was greater than 50 cubic yards (approximate volume), exploratory trenching was performed to assess the potential for presence of buried debris (such as containers). Grab samples were collected from the walls of trenches (that is, from materials at the interior portion of the pile), and samples were targeted toward areas within the trench that exhibited evidence of staining, odors, or other visual evidence of hazardous substances.

U.4.3 Laboratory Analyses

Soil samples were analyzed for the RFI screening suite: VOCs, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPHs), and metals. Analysis of additional chemicals might be included based on surrounding site chemical use, results of sampling in nearby operational areas, and professional judgment. For example:

- If electrical equipment or light ballasts that might have contained fluid are present, analysis for polychlorinated biphenyls (PCBs) is included.

U.5 Sampling Results

All sampling location with the exception of debris locations 1001, 3007, and 3009 were contained within the investigation boundaries of one of the 17 RFI sites. The results of current and historic surveys within RFI site investigation boundaries, are presented in the appropriate site reports (Appendices D through T where applicable). Since debris locations 1001, 3007, and 3009 lie outside of site investigative boundaries, the dateable results are presented in this section and in Table 5-1.

A sample collected from debris location 1001 contained detectable concentrations of semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), and total metals. Only aluminum was detected above its background concentration (20,000 mg/kg) and its Ecological RBSL (12 mg/kg) at a concentration of 21,000 mg/kg in surficial soil (0-1 feet bgs). The concentrations of aluminum may be consistent with naturally occurring concentrations in the soil in the Santa Susana Formation. All other detectable results were below screening levels. A sample collected from debris location 3007 contained detectable concentrations of SVOCs, TPH, and total metals. All the detectable results were below screening levels. A sample collected from debris location 3009 contained detectable concentrations of SVOCs, TPH, and total metals. All the detectable results were below screening levels. No further action is recommended at debris locations 1001, 3007, or 3009.

Tables

Table U.4-1
Group 5 Debris Location Evaluation
Appendix U - Waste Debris Survey

Waste Debris Area Identifier	Date of Discovery	RFI Site and Description	Estimated Debris Area Size (sq. ft.)	Coordinates ¹		Status ²	Sampling Proposed?	Number of Sampling Locations	Sampling	Analytes	Comments/Sampling Rationale
				Northing	Easting						
CH2-G05-1000	1/31/2008	STL-IV: Three-foot long punctured metal cylinder.	360	265065.608	1785716.271	Not removed	Yes	1	Direct Push soil sample. Soil vapor was not able to be installed due to shallow bedrock.	Screening Suite	Located in valley south of STL-IV. Adjacent to rock outcrops. Likely only thin soil layer present. Position sample at feature on downslope side.
CH2-G05-1001	2/1/2008	Unaffiliated Area: Rusted 2.5-gallon metal bucket (filled with rainwater) with wire handle.	< 100	265124.191	1783919.226	Not removed	Yes	1	Direct Push SV + SS	Screening Suite	Position sample at feature on downslope side.
CH2-G05-1002	2/5/2008	STL-IV: Small soil pile intermixed with asphalt.	< 100	264972.839	1785575.106	Not removed	No	0	N/A	N/A	Pile appears to be < 5 cubic yards (minimum size threshold) and limited to soil and asphalt.
CH2-G05-1004	2/5/2008	Pond Dredge Area: Soil pile intermixed with steel mesh coated with crumbling concrete.	< 100	265736.092	1783937.496	Not removed	No	0	N/A	N/A	Debris area was located within Pond Dredge RFI site. Proposed RFI sampling location PDBS1009 located within approximately 5 feet of debris area; therefore, no additional sampling for this feature was proposed. Note that additional evaluation of debris presence in Pond Dredge site was performed as part of the Pond Dredge RFI evaluation.
CH2-G05-2001	1/31/2008	STL-IV: Several soil piles intermixed with concrete and asphalt.	48,119	265158.887	1785330.035	Not removed	Yes	4	Explor. trenching w/grab sampling; possibly only grab sampling at some locations	Screening Suite	Various soil piles and hummocky areas were present in this area west of STL-IV (west of road).
CH2-G05-2002	2/1/2008	Building 100 Trench: Three large soil piles intermixed with concrete, asphalt and scrap metal.	3,645	266521.891	1784303.392	Removed on April 17-18, 2008	No	0	N/A	N/A	South Pile: Estimated as 35-40 CY; primarily concrete demolition debris with some soil intermixed; some concrete from a parking lot; small foam pieces intermixed. Central Pile: Estimated as 50 CY; primarily asphalt demolition debris with some soil intermixed; small foam pieces intermixed. North Pile: Estimated as 40-50 CY; smaller pieces of asphalt and concrete; more soil present than at other piles to south.
CH2-G05-2003	2/1/2008	PDU: Soil pile intermixed with concrete, asphalt, and scrap metal.	< 100	266557.369	1784028.328	Not removed	Yes	1	4-pt composite sample from debris surface	Screening Suite	Debris likely resulted from previous building demolition activities in vicinity. Located west of Building 4006 (approx. 50 west of Location PUBX1000D).
CH2-G05-2004	2/4/2008	DOE LF1: Soil pile intermixed with asphalt.	< 100	267729.799	1785855.908	Not removed	Yes	1	Explor. trenching w/grab sampling	Screening Suite	Debris appeared to be asphalt at the surface of the pile with soil beneath and was located near existing roadway.

Waste Debris Area Identifier	Date of Discovery	RFI Site and Description	Estimated Debris Area Size (sq. ft.)	Coordinates ¹		Status ²	Sampling Proposed?	Number of Sampling Locations	Sampling	Analytes	Comments/Sampling Rationale
				Northing	Easting						
CH2-G05-3001	1/31/2008	STL-IV: Soil pile intermixed with 1/8-inch diameter stainless tubing, screws, asphalt, ceramics, steel cable and plastic.	< 100	265654.333	1785353.940	Not removed	Yes	1	Explor. trenching w/grab sampling	Screening Suite	Located west of STL-IV along southern side of drainage channel leading from NW (possible DOE LF 3); drainage channel converts to below-grade pipe conveyance at road. Soil debris identified at this location may have been sediment historically removed from the drainage channel. Recommended trenching near west side of pile - more soil present and the stainless steel tube. Note: DOE LF3 is upgradient of area; chemicals of interest for this site consistent with standard screening suite.
CH2-G05-3002	1/31/2008	STL-IV: Soil pile intermixed with concrete, asphalt, and threaded metal rod.	< 100	265704.098	1785362.892	Not removed	Yes	1	Explor. trenching w/grab sampling	Screening Suite	Located north of Debris ID 3001 (above), on north side of drainage channel. Likely source of debris was the same as 3001 (channel dredge material). Debris could not be inspected on 4/15/08 due to heavy vegetation present. Note: DOE LF3 is upgradient of area; chemicals of interest for this site consistent with standard screening suite.
CH2-G05-3003	1/31/2008	STL-IV: Soil piles intermixed with concrete, asphalt, and one piece of concrete board.	1000	265046.413	1785409.144	Not removed	Yes	2	Explor. trenching w/grab sampling	Screening Suite	Located south of STL-IV along eastern side of road. Consists of various soil piles/hummocks. Proposed E-W oriented exploratory trenching at approximate 20-25 ft spacing.
CH2-G05-3004	1/31/2008	STL-IV: One approximately 10-oz. glass jar filled with white gel inside, brick, and a short length of small diameter stainless steel tubing.	< 100	265141.122	1785683.237	Not removed	Yes	1	Direct Push soil sample. Soil vapor was not able to be installed due to shallow bedrock.	Screening Suite	Container was less than minimum container threshold (1 gallon) and was closed-topped; however, materials were present in container and were unknown. Additionally, there was a piece of stainless steel tubing present. Sampling was proposed to demonstrate no releases occurred.
CH2-G05-3005	2/1/2008	DOE LF3: Large soil piles intermixed with asphalt and concrete.	4,205	266227.139	1785034.199	Not removed	Yes	2	Explor. trenching w/grab sampling	Screening Suite	Various low-lying soil piles/hummocky areas were present.
CH2-G05-3007	2/1/2008	Unaffiliated Area: Soil pile intermixed with concrete, asphalt and gravel. Many galvanized pipes of various length and diameter, pieces of concrete and asphalt, and street lamp.	< 100	267057.559	1786215.126	Not removed	Yes	1	Direct Push SV + SS	Screening Suite + PCBs	Positioned boring between pipe debris area and adjacent street lamp. Included PCBs in soil sampling suite due to street lamp present (high-intensity discharge [HID] light ballasts contain PCBs).
CH2-G05-3008	2/1/2008	DOE LF1: Metal bars, cable, screws, metal stands, electrical insulator, unmarked approximately 125-ml glass bottle (empty). The metal pieces, cable, and insulator appear to be associated with a nearby inactive power pole.	< 100	267005.030	1786209.693	Not removed	No	0	N/A	N/A	Container was less than minimum container threshold (1 gallon) and empty; other debris does not appear to present a hazardous substance release threat. Therefore, no sampling was proposed.

Waste Debris Area Identifier	Date of Discovery	RFI Site and Description	Estimated Debris Area Size (sq. ft.)	Coordinates ¹		Status ²	Sampling Proposed?	Number of Sampling Locations	Sampling	Analytes	Comments/Sampling Rationale
				Northing	Easting						
CH2-G05-3009	2/1/2008	Unaffiliated Area: One rusted, square, 2-gallon container with rusted top and filled with soil.	< 100	267082.300	1786244.553	Not removed	Yes	1	Direct Push soil sample. Soil vapor was not able to be installed due to shallow bedrock.	Screening Suite	Located adjacent to rock outcrops, so likely only thin soil layer present.
CH2-G05-3010	2/4/2008	DOE LF1: One approximately 250-ml glass bottle containing gel residue.	< 100	267630.699	1786670.184	Not removed	No	0	N/A	N/A	Container was less than minimum container threshold (1 gallon). Located adjacent on rock outcrops, so very little soil was present. Based on container size (small) and site conditions (atop rock outcrops), no sampling was recommended.
CH2-G05-3011	2/4/2008	RFI Group 6: Soil pile intermixed with asphalt and concrete pushed up against rocky outcrop. Potentially from old foundation.	1,449	267857.981	1786773.647	Not removed	No	0	N/A	N/A	Feature traverses the Groups 5 and 6 boundaries. It appeared that the debris likely resulted from previous former Bldg 064 demolition activities and was agreed to be evaluated with Group 6.
CH2-G05-3012	2/4/2008	SE Drum Yard: 5-gallon metal bucket (appears to contain hardened residual paint), two 1.5-inch diameter solid metal bar and barbed wire in a ditch.	< 100	267160.979	1786823.903	Not removed	Yes	1	Direct Push soil sample. Soil vapor was not able to be installed due to shallow bedrock.	Screening Suite	Container exceeded minimum volume threshold. Current contents were limited to dried, hardened paint residue; lid is in tact; container is rusted by no evidence of damage or holes. Sampling needed to verify no releases occurred. Positioned boring at feature (as near the container location as possible given accessibility issues associated with adjacent-located ditch).

Notes:

This table does not include debris areas that were identified in previous waste debris surveys.

Photographs of the waste debris areas are attached and are labeled by the Waste Debris Area Identifier provided in this table.

¹ Northing and Easting coordinates are in State Plane Zone 5, NAD 27. Coordinates are provided for the approximate center point of identified waste debris features.

² Status of debris areas as of March 2008.

ft - foot

ml - milliliter

oz - ounce

sq ft - square feet

Sampling Notes:

Screening Suite: VOCs, SVOCs, TPH, metals

SV = soil vapor (5 and 10 feet bgs unless otherwise noted)

SS = shallow soil (0, 5, 10 feet bgs unless otherwise noted)

Table U.5-1
Debris Sampling Detected Data Results
Appendix U - Waste Debris Survey

Waste Debris Area Identifier	Chemical Group	Object ID	Starting Depth	Ending Depth	Collection Date	Analyte	Concentration (in mg/kg)	Flag
CH2-G05-1001	SVOCs	U5BS1503	0	1	5/13/2008	Benzo(b)fluoranthene	0.00019	J
CH2-G05-1001	SVOCs	U5BS1503	0	1	5/13/2008	Chrysene	0.00025	J
CH2-G05-1001	SVOCs	U5BS1503	0	1	5/13/2008	Diethyl phthalate	0.00036	J
CH2-G05-1001	SVOCs	U5BS1503	0	1	5/13/2008	Naphthalene	0.001	J
CH2-G05-1001	TPH	U5BS1503	0	1	5/13/2008	Lubricating Oil Range Hydrocarbons (C21-C30)	3.2	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Aluminum	21600	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Arsenic	3.175	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Barium	99	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Beryllium	0.997	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Boron	6.6	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Cadmium	0.2425	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Chromium	28.75	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Cobalt	9.415	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Copper	16.55	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Lead	12.55	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Lithium	28.65	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Mercury	0.015	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Molybdenum	0.16	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Nickel	17.55	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Potassium	4900	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Selenium	0.5815	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Silver	0.044	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Sodium	198.5	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Thallium	0.3045	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Vanadium	53.1	
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Zinc	77.25	J
CH2-G05-1001	Metals	U5BS1503	0	1	5/13/2008	Zirconium	6.56	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Anthracene	0.00023	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Benzo(a)anthracene	0.00114	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Benzo(a)pyrene	0.00127	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Benzo(b)fluoranthene	0.0029	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Benzo(ghi)perylene	0.001605	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Chrysene	0.0027	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Diethyl phthalate	0.00215	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Fluoranthene	0.00375	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Indeno(1,2,3-cd)pyrene	0.00097	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Phenanthrene	0.001355	J
CH2-G05-3007	SVOCs	U5BS1500	0	1	5/13/2008	Pyrene	0.00315	J
CH2-G05-3007	TPH	U5BS1500	0	1	5/13/2008	Lubricating Oil Range Hydrocarbons (C21-C30)	6.2	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Aluminum	11000	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Arsenic	2.45	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Barium	100	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Beryllium	0.85	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Cadmium	0.28	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Chromium	18	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Cobalt	5.35	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Copper	8.95	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Lead	14.5	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Lithium	21.5	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Mercury	0.019	J

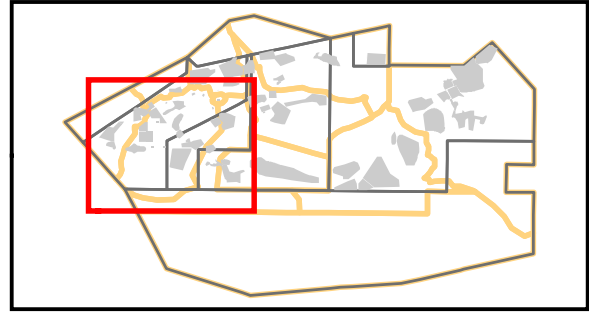
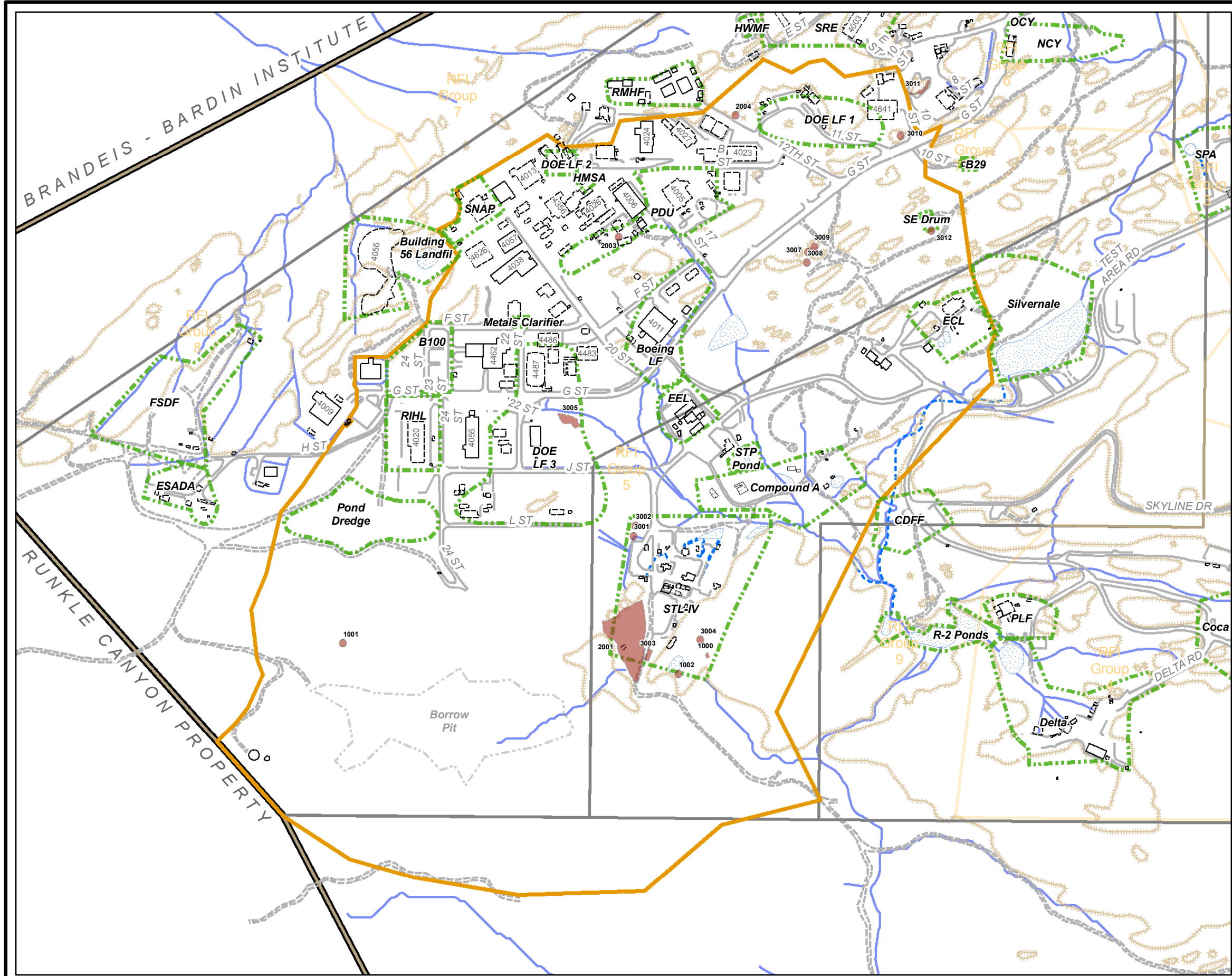
Waste Debris Area Identifier	Chemical Group	Object ID	Starting Depth	Ending Depth	Collection Date	Analyte	Concentration (in mg/kg)	Flag
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Molybdenum	0.44	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Nickel	12	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Potassium	3400	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Selenium	0.33	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Silver	0.062	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Thallium	0.195	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Vanadium	31.5	
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Zinc	104	J
CH2-G05-3007	Metals	U5BS1500	0	1	5/13/2008	Zirconium	2.1	J
CH2-G05-3008	No sampling required.							
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Anthracene	0.00026	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Benzo(a)anthracene	0.000715	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Benzo(a)pyrene	0.00092	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Benzo(b)fluoranthene	0.00205	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Benzo(ghi)perylene	0.00093	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Benzo(k)fluoranthene	0.0015	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Chrysene	0.0021	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Diethyl phthalate	0.00052	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Fluoranthene	0.00265	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Fluorene	0.00027	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Indeno(1,2,3-cd)pyrene	0.000745	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Naphthalene	0.00098	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Phenanthrene	0.00135	J
CH2-G05-3009	SVOCs	U5BS1501	0	1	5/13/2008	Pyrene	0.00215	J
CH2-G05-3009	TPH	U5BS1501	0	1	5/13/2008	Lubricating Oil Range Hydrocarbons (C21-C30)	4.75	J
CH2-G05-3009	TPH	U5BS1501	0	1	5/13/2008	Total Petroleum Hydrocarbons	4.2	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Aluminum	12750	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Arsenic	3.005	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Barium	102.35	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Beryllium	0.707	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Cadmium	0.224	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Chromium	20.1	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Cobalt	5.1	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Copper	10.2	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Lead	12.5	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Lithium	23.7	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Mercury	0.010675	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Molybdenum	0.313	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Nickel	13.5	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Potassium	3790	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Selenium	0.36	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Silver	0.062	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Thallium	0.228	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Vanadium	33.15	
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Zinc	62.65	J
CH2-G05-3009	Metals	U5BS1501	0	1	5/13/2008	Zirconium	2.79	J

Note:

"J" flagging indicates the results was estimated below the laboratory reporting limit.

- : Exceeds background concentrations (Metals only)
- : Exceeds Residential RBSL or Residential RBSL and background concentrations (Metals only)
- : Exceeds Ecological RBSL or Ecological RBSL and background concentrations (Metals only)
- : Exceeds Ecological and Residential RBSL or Ecological and Residential RBSL and background concentrations (Metals only)

Figures

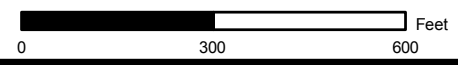


Basemap Legend

Waste Debris Area*	Building - Existing	Surface Drainage Divide
RFI Site Boundary	Building - Removed	Streams
RFI Group Boundary	Building - Not Yet Determined	Pond
Administrative Area	Road - Asphalt	
Property Boundary	Roads - Dirt	
	Rocks	

Note: * This figure displays the last four digits of the waste debris identifier listed in Table F-1

Debris Sampling Locations - Group 5



Attachments
