

The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Certified Mail

October 9, 2009
In reply refer to SHEA-109204

Ms. Tracy Egoscue
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Mr. James Pappas, Chief
N. California Permitting and Corrective Action Branch
California Environmental Protection Agency
Dept of Toxic Substances Control
8800 Cal Center Drive
Sacramento Ca 95826-3200

Subject: Happy Valley South Underground Septic Tank Removal Plan
California Water Code Section 13304 Order (NPDES NO. CA0001309, CI NO.
6027, SCP NO. 1111, SITE ID NO. 2040109)

Dear Ms. Egoscue and Mr. Pappas:

The Boeing Company (Boeing) provides the attached plan, prepared by MWH in response to the identification of a septic tank within Outfall 008 in the vicinity of ISRA Area HVS-3. This plan summarizes historical background information and characterization results of the contents of the tank, and presents the removal, management, and disposal plans of the tank and associated contents, and the soil confirmation sampling plan.

We understand the handling and disposal procedures of the tank and associated contents, and the soil in the vicinity of the tank are of interest to both the RWQCB and DTSC; if you have any questions or require anything further, please contact me at 818-466-8795. Boeing will consider this approach acceptable for project implementation if no further questions or requirements are indicated by the RWQCB or DTSC staff. Thank you for your attention to this information.

Very truly yours,



Art Lenox
Environmental Remediation

LNB:bjc



Ms. Tracy Egoscue, RWQCB (SHEA-109204)
Mr. James Pappas, DTSC
October 9, 2009
Page 2

Attachments:

MWH, 2009. Happy Valley South Underground Septic Tank Removal Plan, October 09, 2009. Including:

Figure 1: Location of Happy Valley South Underground Septic Tank Photographs,
Septic Tank and Associated Piping (2009) Photographs, Leach Pit (1999 and 2009)
Table 1: Happy Valley South Underground Septic Tank Liquid Sampling Results

cc: Ms. Cassandra Owens, RWQCB (with attachments)
Mr. Peter Raftery, RWQCB (with attachments)
Mr. Buck King, DTSC (with attachments)
Mr. Jim O'Tousa, Ventura County (with attachments)
Ms. Dixie Hambrick, MWH (without attachments)





MWH

BUILDING A BETTER WORLD

Hand Delivered

October 9, 2009

Mr. Art Lenox
Ms. Lori Blair
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304

Subject: Happy Valley South Underground Septic Tank Removal Plan, California Water Code Section 13304 Order (NPDES NO. CA0001309, CI NO. 6027, SCP NO. 1111, SITE ID NO. 2040109)

Dear Mr. Lenox and Ms. Blair:

The purpose of this letter is to present the removal plan for the underground septic tank located within an Outfall 008 Interim Source Removal Action (ISRA) Area and within the boundaries of the Happy Valley South (HVS) Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the Santa Susana Field Laboratory (SSFL). ISRAs, including those at the HVS site, are being performed to address potential soil sources of constituents that exceeded National Pollutant Discharge Elimination System (NPDES) permit limits and benchmarks at Outfalls 008 and 009 pursuant to a California Water Code Section 13304 Cleanup and Abatement Order (CAO) issued by the Los Angeles Regional Water Quality Control Board (RWQCB) dated December 3, 2008. The ISRA project is an interim cleanup action under RWQCB oversight; final remedial requirements for the SSFL, including the Outfall 008 and 009 areas, will be addressed as part of RCRA Corrective Action project under oversight of the Department of Toxic Substances Control (DTSC). Removal of the septic tank is under oversight of the Ventura County Environmental Health Division and Department of Building and Safety.

This letter summarizes historical background information and characterization results of the contents of the tank, and presents the removal, management, and disposal plans of the tank and associated contents, and the soil confirmation sampling plan.

Background

A steel manhole cover was identified in the southeastern portion of ISRA Area HVS-3 following vegetation clearance on August 19, 2009. The manhole was discovered flush-mounted in the ground in an area that had been covered with dense shrubs prior to vegetation clearance. The manhole is a 20-inch diameter steel clamping hatch cover to 2-inch long, 20-inch diameter steel access pipe leading to an underground septic tank. As described below, it is believed that the septic tank was installed south of Building 1399 in the late 1950s, and was connected to a former leach pit located approximately 135 feet southeast of the septic

tank. The locations of the septic tank, former leach pit, and Building 1399 are shown on Figure 1. Historical facility records reviewed for the RFI indicate the presence of the leach pit, but not the existence of the septic tank at this location (MWH, 2009a).

The septic tank is constructed of steel, cylindrical in shape, and approximately 6 feet in diameter and 6 feet deep. Its estimated capacity is approximately 1,300 gallons based on observations to date. It was installed vertically below grade into an excavation made predominantly into bedrock, and surrounded by sandy gravel. A 3-inch diameter vertical metal pipe has also been identified about 1 foot northwest of the hatch that connects to the septic tank, and may have been an inlet to the tank. This vertical pipeline is cut flush with ground surface. The hatch also had a grounding wire attached.

The septic tank hatch was opened and the tank interior was visually inspected on September 18, 2009. The tank seemed intact with no visible damage, and was filled with approximately 6 feet of clear liquid with no visible hydrocarbon sheen. A photo ionization detector did not detect volatile organic compounds within the tank. Samples were collected of the liquid contained in the tank for waste characterization purposes (results presented below).

Once the feature was confirmed as a septic tank and ambient screening performed, excavation of surficial soils in vicinity of the tank continued (ISRA Area HVS-3). Excavation activities carefully removed surficial soils around the vertical access pipe and the upper portion of the tank was exposed on September 25, 2009. During excavation activities, no vapors were detected with the PID and no staining observed. Bedrock was observed surrounding the cemented sandy gravel surrounding the metal tank. Two downward sloping, 3-inch diameter metal pipes connecting to the top of the eastern side of the tank were identified. One of the pipes continues east from the tank for approximately 6 feet before terminating. Near the terminus of this pipe fragments of terra cotta pipe were observed. The other pipe continues southeast from the tank for approximately 3 feet before connecting to a 4-inch diameter terra cotta pipe. Approximately 6 inches of the terra cotta pipe were exposed and the pipe appears to continue underground to the southeast. The tank and associated piping are shown on attached photographs.

The former location of the leach pit for Building 1399 is located approximately 150 feet to the southeast of the septic tank (Figure 1). This location was inspected on September 30, 2009, where a slight depression still exists, and terra cotta pipe was observed. Surface exposures of the terra cotta pipe were also observed between the leach pit and the septic tank. Photographs of the leach pit in 1999 and in 2009 are provided as attachments to this letter.

Historical Records Review

Historical records reviewed for the RFI include building plans, drawings, and numerous historical reports and memos. The results of the historical review for the HVS RFI Site, identifying potential chemical use areas such as underground tanks and leach pits, are documented in the Group 1A RFI Report (MWH, 2009a). These records do not indicate the presence of a septic tank near Building 1399, although they do identify the location of the former leach pit. The location of the former leach pit is shown in conflicting locations in site reports, but based on recent field observations, has now been corrected to reflect its location as shown on Figure 1.

Building 1399 was constructed in the late 1950s. The area where Building 1399 was located was initially used for perchlorate curing operations (curing was a means by which perchlorate pellets or other shapes/forms were hardened). A curing oven, an aboveground fuel oil tank, and associated fuel piping and control equipment were located in the area of Building 1399, and in the late 1950s, were relocated to another area within the HVS RFI Site and Building 1399 was converted into a change house, and included shower and restroom facilities. Although not documented in site plans, the newly identified septic tank is believed associated with restroom/shower facilities within the converted Building 1399, and installed in the late 1950s. Building 1399 was demolished in the late 1990s based on review of historical aerial photographs.

In 1999, a domestic waste leach pit was identified southwest of former Building 1406 during an interim measure remediation project overseen by DTSC to investigate the Happy Valley site for suspect unexploded ordnance items. The location of the leach pit is shown on Figure 1 and photographs of the leach pit are attached. The leach pit was approximately 4 feet deep and 3 feet wide, and constructed of concrete walls with an earthen floor and a wooden cover. As shown in the leach pit photograph, a terra cotta pipe connects to the northern side of the leach pit, the general direction of the septic tank adjacent to Building 1399. Based on the presence and direction of the terra cotta pipe in the leach pit and the terra cotta pipe connecting to the 3-foot long metal pipe that connects to the eastern side of the septic tank, it is believed that waste liquids from the septic tank drained to the leach pit. The vertical pipe and the eastern trending metal pipe that connect to the septic tank are believed to be inlets to the septic tank, possibly from Building 1399 and Building 1390, respectively.

During implementation of the 1999/2000 interim measure, the leach pit was excavated to bedrock, combined and characterized with other excavated materials from Building 1372, and disposed as non-RCRA hazardous waste at Chemical Waste Management Kettleman Hills facility (UXB, 2002). Approximately 10 cubic yards of material were removed during the excavation of the waste leach pit, including soil and leach field gravels.

The following briefly describes the historical uses of the buildings near Building 1399 and the septic tank. The building locations are shown on Figure 1.

- Building 1267 – Storage Building and Electronics Workshop; used from early 1960s to 1993. Prior chemical use considered unlikely.
- Building 1390 – Recording and Control Center for propellant testing operations in the area; used from 1960 through early 1990s. Prior chemical use considered unlikely.
- Building 1406 – Propellant Grain Fabrication Laboratory and Machine Shop; used from the mid 1960s to early 1994. Perchlorate, energetics, metals, and fuels used, stored, and handled; specific types of fabrication not described.
- Building 1745 – Solid Propellant Test Pad; used 1960s to 1994. Small motors tested in vertical stand using high energy propellants, including perchlorate, RDX and HMX.

The above listed buildings and foundations have been removed. As described in the ISRA Work Plan (MWH, 2009b) and detailed in the Group 1A RFI Report (MWH, 2009a), interim remedial measures have been conducted within the HVS RFI Site. As noted above, the first was in 1999/2000 to address suspect ordnance items, and included removal of the Building

1399 leach pit. The second was in 2003/2004 to address perchlorate migration to surface water. During the latter action, the former Building 1406 and Building 1745 areas were excavated to bedrock, and backfilled using clean soils from a DTSC-approved backfill source.

Septic Tank Liquid Characterization Information

Samples of liquid contained within the tank were collected and analyzed for the following:

- VOCs by USEPA Method 8260B,
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270C,
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082,
- Metals by USEPA Method 6010/6020/7470A,
- Fluoride using USEPA Method 300.0,
- Cyanide using USEPA Method 9012A,
- pH using USEPA Method 9040,
- Perchlorate using USEPA Method 314.0,
- Energetics using USEPA Method 8330,
- Gamma-emitting radionuclides using USEPA Method 901.1 Modified,
- Tritium using USEPA Method 906.0, and
- Strontium 90 using USEPA Method 905.0 Modified.

Chemical detections included barium, cobalt, copper, lead, and thallium. Radionuclides were not detected in the sample. Chemical sampling results are summarized in Table 1. A complete tabulation of the data will be presented in the chemical waste certification being prepared by Boeing. Radiological results will be presented in the radiological waste certification being prepared by Boeing. Chemical and radiological waste characterization data and certifications will be available on the Boeing website (http://www.boeing.com/aboutus/environment/santa_susana/isra.html).

Planned Removal Activities, Soil and Waste Management, and Confirmation Sampling

As described above, once the underground feature was confirmed as a septic tank, removal of surficial soils surrounding the tank hatch was performed following procedures described in the Final ISRA Work Plan and addenda, under the oversight of the RWQCB. Confirmation sampling pursuant to that plan is also proceeding under RWQCB oversight.

Ventura County Environmental Health Division and Building and Safety Department will oversee removal of the septic tank. Boeing is in the process of applying to Ventura County for a permit to remove the septic tank; work will not proceed until this permit has been issued and a 10-day clear weather forecast maintained. It is expected that a Ventura County inspector will be onsite during removal activities. The following is a brief description of planned activities.

Boeing expects to remove the septic tank and associated piping leading from the tank. Water will be pumped from the tank and contained for offsite disposal. The tank will be removed from below grade, and any sludge present at the bottom of the tank removed, containerized,

and sampled for waste characterization prior to offsite disposal. The sampling suite for the removed sludge material will be the same as that described above for the liquid sample (using soil analytical methods), with a rapid laboratory turn-around time requested to allow review by overseeing agencies prior to disposal. Septic tank waste (contained liquid, sludge, and tank/piping materials) will be managed and disposed of according to waste characterization results. Disposal will be to the appropriate landfill as specified in the ISRA Soil Management Plan, or otherwise as required by Ventura County Environmental Health Division.

Following tank removal, the excavation will be inspected and logged by a Professional Geologist, noting soil type and thickness, bedrock, and if any odor, debris, or staining is present. If any portions of the removed tank are observed to be structurally compromised during or immediately after removal, confirmation samples will be collected from soil that was adjacent to structurally compromised tank areas when the tank was in the ground. If the tank is in good condition upon removal and soil is present, one confirmation soil sample will be collected from the floor of the excavation and two confirmation samples collected from opposing sidewalls of the excavation. Please note, initial observation suggests the tank was installed into a bedrock excavation. Additionally, one confirmation sample will be collected from soils beneath at the terminus of the 3-foot discharge pipeline leading away from the septic tank. Planned septic tank confirmation samples are shown on Figure 1.

Confirmation soil samples will be collected and analyzed for the following using DTSC-approved RFI protocols:

- Polynuclear aromatic hydrocarbons (PAHs) by USEPA Method 8270SIM,
- Metals by USEPA Method 6010/7000,
- pH using USEPA Method 9045,
- Perchlorate using USEPA Method 314.0, and,
- Energetics using USEPA Method 8330

Additional analyses may be requested if detected in the sludge sample analyzed from the tank. Additional excavation is not anticipated once the tank is removed unless heavily stained soils are present, or elevated ISRA Constituents of Concern are present in deeper soils. Further evaluation of confirmation sample results will be conducted in the RFI under DTSC oversight.

The excavation will be backfilled with soils from the local soil borrow source being used for the ISRA project once the soil borrow source is approved for use by the RWQCB and DTSC. The Ventura County Grading Department will be notified to inspect the final excavation and be present for backfilling. The excavation will be backfilled following procedures in the grading permit to achieve grades that will restore the pre-excavation drainage pattern.

All septic tank and septic tank confirmation sampling results will be reviewed and discussed with the RWQCB, DTSC, and Ventura County prior to tank excavation backfill activities. All ISRA confirmation sampling results will be reviewed with the RWQCB and DTSC prior to completion of ISRA backfill and regrading activities. Final remedial requirements for the SSFL, including the HVS site, will be addressed as part of RCRA Corrective Action project under oversight of DTSC.

Closing

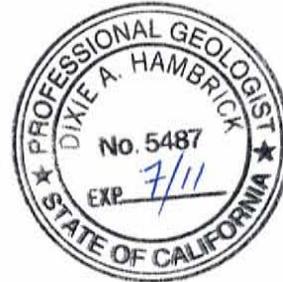
MWH understands this letter plan is being submitted under Boeing cover letter to the RWQCB and DTSC for review. The work described in this letter plan will not proceed until authorized by Boeing following agency review and acceptance of the proposed procedures.

Sincerely,

MWH



Dixie Hambrick, P.G. 5487
Surficial Media Program Director



Alex Fischl, PMP
ISRA Project Manager

Attachments:

Figure 1: Location of Happy Valley South Underground Septic Tank

Photographs, Septic Tank and Associated Piping (2009)

Photographs, Leach Pit (1999 and 2009)

Table 1: Happy Valley South Underground Septic Tank Liquid Sampling Results

References:

UXB International, Inc. (2002) Happy Valley Area of Concern (AOC) Subsurface Clearance, Geophysical Mapping, and Debris Removal Report. June.

MWH, 2009a. RCRA Facility Investigation, Group 1A RFI Report, Santa Susana Field Laboratory. February.

MWH, 2009b. Final Interim Source Removal Action (ISRA) Work Plan, Santa Susana Field Laboratory. May.

Location of Happy Valley South Underground Septic Tank

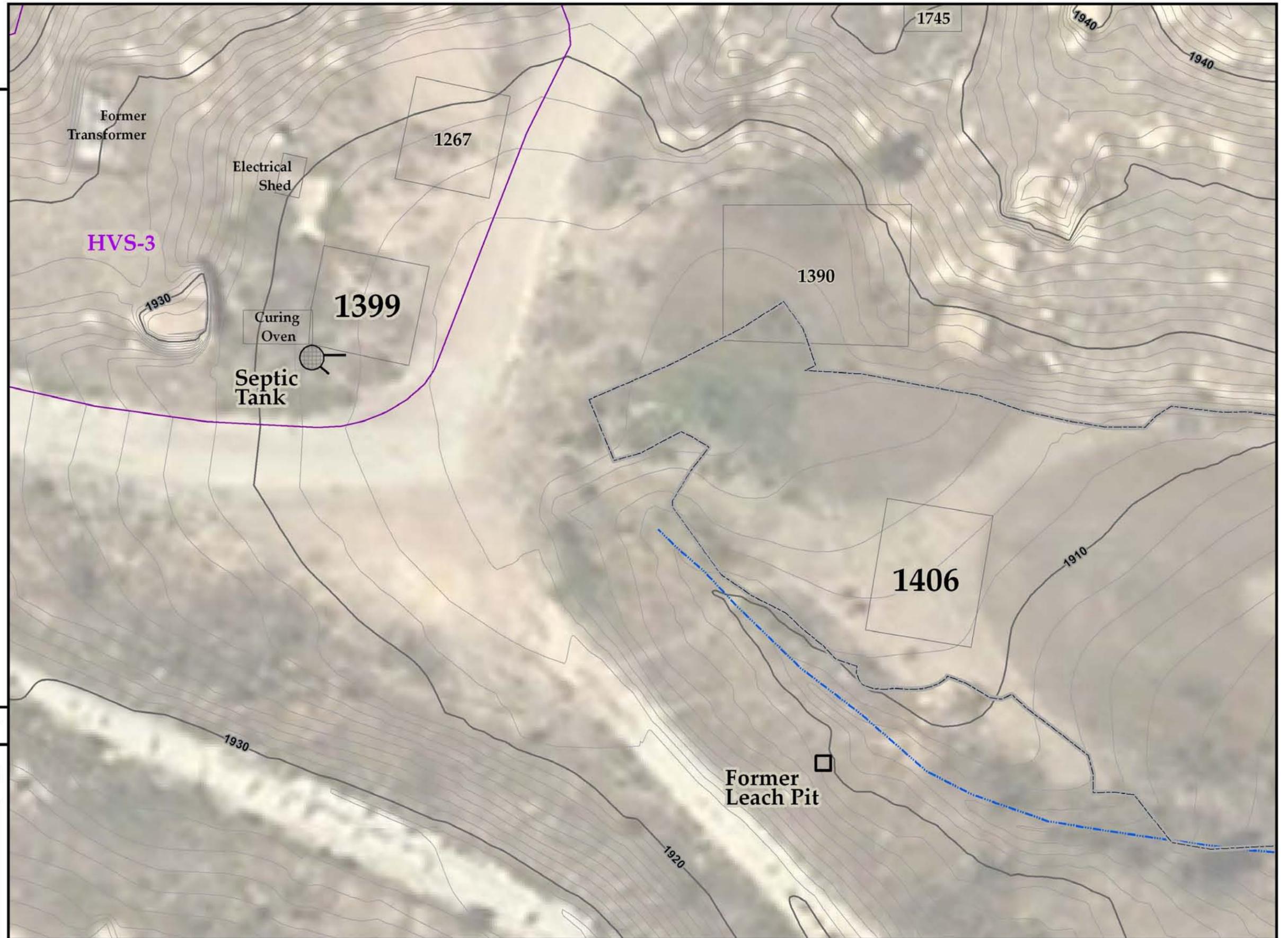
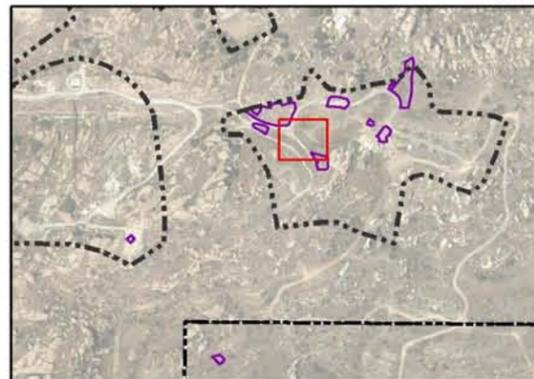
Base Map Legend

-  RFI Site Boundary
-  Removed Building or Structure
-  Planned ISRA
-  Surface Water Drainage
-  Elevation Contour
-  Septic Tank
-  Septic Tank Pipeline
-  Previously Excavated Area
-  Former Leach Pit

Note:

1. Aerial imagery from Google Earth, 2007.
2. Topographic contours from Sage, July 2009.

Date: October 8, 2009



S A N T A S U S A N A F I E L D L A B O R A T O R Y



2009 Photograph of the Septic Tank and Associated Piping, Looking North



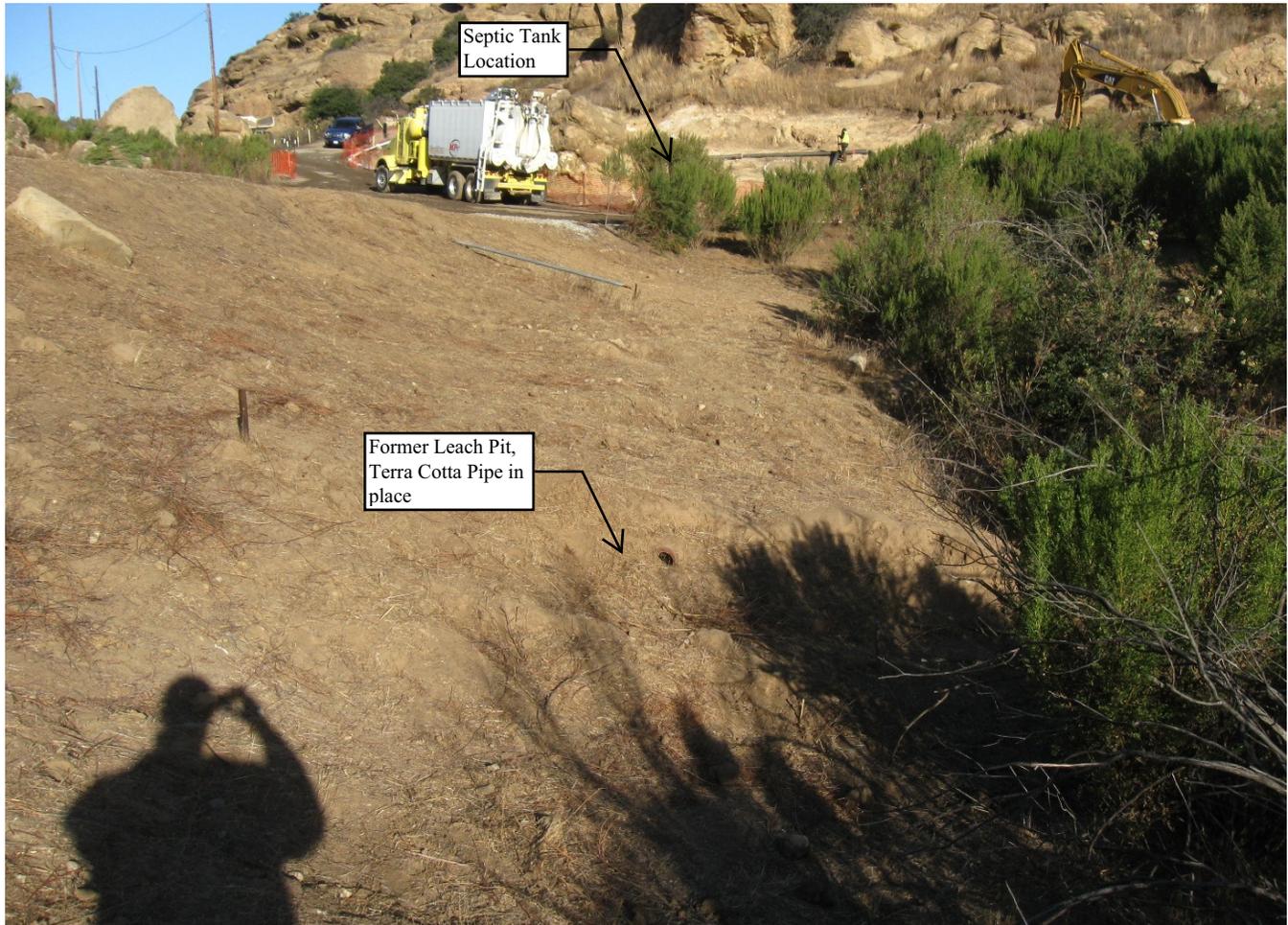
2009 Photograph of the Septic Tank and Associated Piping, Looking Northwest



2009 Photograph of the Septic Tank and Associated Piping, Looking Southeast Towards the Leach Pit



1999 Photograph of the Leach Pit, Looking North (UXB, 2002)



2009 Photograph of the Former Leach Pit, Looking North

TABLE 1

**HAPPY VALLEY SOUTH UNDERGROUND SEPTIC TANK LIQUID SAMPLE RESULTS
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

ANALYTE	UNITS	RESULT	RESULT	RESULT
METALS				
Antimony	ug/L	<3.0	--	--
Arsenic	ug/L	<1.6	--	--
Barium	ug/L	6.43	--	--
Beryllium	ug/L	<0.1	--	--
Cadmium	ug/L	<0.110	--	--
Chromium	ug/L	<2.0	--	--
Cobalt	ug/L	0.114 J	--	--
Copper	ug/L	0.911 J	--	--
Lead	ug/L	1.89 J	--	--
Mercury	ug/L	<0.066	--	--
Molybdenum	ug/L	<0.167	--	--
Nickel	ug/L	<0.500	--	--
Selenium	ug/L	<1.0	--	--
Silver	ug/L	<0.2	--	--
Thallium	ug/L	0.393 J	--	--
Vanadium	ug/L	<3.0	--	--
Zinc	ug/L	<3.0	--	--
GENERAL CHEMISTRY				
pH	SU	--	7.97 H	--
Perchlorate	ug/L	--	<4.0	--
Fluoride	mg/L	--	<0.10	--
Cyanide, Total	ug/L	--	--	<5.0
RADIONUCLIDES				
		R	--	--
ENERGETICS				
	ug/L	All ND (<1.30 to <1.95)	--	--
PCB				
	ug/L	All ND (<0.098)	--	--
SVOC				
	ug/L	All ND (<1.0 to <20)	--	--
VOC				
	ug/L	All ND (<1.0 to <10)	--	--

TABLE 1

HAPPY VALLEY SOUTH UNDERGROUND SEPTIC TANK LIQUID SAMPLE RESULTS THE BOEING COMPANY SANTA SUSANA FIELD LABORATORY

NOTES

"--" - not applicable, not analyzed

<0.10 - Analyte concentration is not detected above the detection limit

H - Analytical holding time was exceeded

J - Estimated Value

ug/L - micrograms per liter

mg/L - milligrams per liter

R - Radiological analysis includes gamma spectroscopy (Na-22, K-40, Mn-54, Co-60, Cs-134, Cs-137, Eu-152, Eu-154, Th-228, Th-232, U-235, U-238 and Am-241), strontium-90, and tritium. Boeing is preparing a document that presents the radiological results. Based on the results, the document will certify the liquid to be "radiologically" acceptable for shipment to Class 1, 2, and/or 3 disposal facilities. The analysis and data interpretation will comply with procedures approved by the California Department of Public Health.

SU - Standard units