

WASTE CHARACTERIZATION: IN-SITU SOIL LOCATED AT ISRA AREA II PLANNED EXCAVATION LOX-1B-3

Introduction

This report presents supporting detailed information relating to the October 8 through October 12, 2010 in-situ characterization of prospective soil wastes at the planned ISRA excavation LOX-1B-3 in SSFL Area II.

Background

Soil to be excavated from designated locations in accordance with the ISRA Workplan for SSFL Area II was characterized prior to excavation. A step-by-step approach was followed to accomplish the in-situ characterization. The first step was to review available historical activity and chemical usage information, as well as existing analytical data from past soil sampling in the area. The objective was to identify all substances that could have an impact on determining whether soil in the planned excavation footprint was hazardous or not.

Once potential impacts to the soil were identified, the next step was to develop a random sampling plan for each planned excavation footprint. Samples were collected according to the plan and analyzed by a state certified laboratory. Analytical results provided by the laboratory were evaluated to determine whether any regulated substances were present at concentrations exceeding regulatory thresholds governing waste management. Furthermore, the results were also evaluated to assure adequacy for waste characterization purposes based upon the guidelines presented in U.S. EPA SW-846. If the number of samples was not sufficient, additional samples would be collected and analyzed. In lieu of further sampling, the soil could be characterized as hazardous.

The review of historical information and existing analytical data relevant to planned excavation LOX-1B-3 was based largely on the Group 2 RFI results. Evaluation of these data and other sources of relevant information suggested that Regulated Metals, pH, Petroleum Hydrocarbons (TPH), and Volatile Organic Compounds (VOC) should be addressed in the LOX-1B-3 excavation footprint. A random sampling plan was developed for collection of forty (40) total samples. As the planned excavation was extremely large and highly irregular in shape, there was concern that sample collection point clustering would exclude some part the excavation footprint from the assessment. This was monitored and the distribution of sample collection points was determined to be acceptable. The samples were analyzed for CAM 17 metals, pH, TPH, and VOCs. All samples were collected, contained, and handled according to field practice requirements in SW-846.

Results

Analytical results for the LOX-1B-3 planned excavation area are presented in TestAmerica reports ITJ0982, issued on 10/18/10, ITJ1147, issued on 10/22/10, ITJ1209, issued on 11/4/10, and ITJ1354 issued on 10/20/10. Regulated metals were detected. Applicable regulatory thresholds for Chromium were exceeded in three cases at concentrations of 50 mg/kg, 97 mg/kg, and 410 mg/kg. As the 10 X STLC threshold of 50 ppm was exceeded by these samples, the California Waste Extraction Test (WET) was conducted as required to determine leaching characteristics. Additionally, the 20 X TCLP threshold of 100 ppm was also exceeded by one of the samples, requiring the analysis using the RCRA TCLP leachate test. The WET resulted in leachate concentrations of 0.58 mg/L and 1.0 mg/L for samples exhibiting the lower

total Chromium concentrations. Both of these samples were below the STLC limit for Chromium of 5 mg/L. The TCLP result for the sample with the higher Chromium concentration (i.e., 410 mg/kg) was 0.17 mg/L, below the TCLP limit for Chromium of 5 mg/L. The WET result for this sample was 22 mg/L, well in excess of the STLC limit. However, if the proportion of Hexavalent Chromium can be partitioned from the Trivalent Chromium contribution, the WET limit for the latter is 560 mg/L, while that for the Hexavalent Chromium remains at 5 mg/L. Further analysis of the sample in question was performed with a resulting WET concentration for Hexavalent Chromium of 0.022 mg/L, below the applicable STLC limit.

Applicable regulatory thresholds for Lead were also exceeded in six cases. The elevated Lead concentrations were observed at 51 mg/kg, 60 mg/kg, 83 mg/kg, 88 mg/kg, 130 mg/kg, and 350 mg/kg. WET and TCLP leachate tests were performed as required on these samples, and four of the samples exhibited leachate concentrations below the regulatory limits for STLC and TCLP, both of which are 5 mg/L. The samples with lower total Lead concentrations yielded WET results of 4.4 mg/L, 2.4 mg/L, 2.8 mg/L, 1.6 mg/L, respectively. At 3.5 mg/L and 0.058 mg/L, leachate concentrations were below the TCLP limit for the two remaining samples with total concentrations of 130 ppm and 350 ppm. However, these samples exhibited Lead concentrations above the STLC limit at 52 mg/L and 22 mg/L, respectively.

Somewhat elevated concentrations of TPH were detected. C10 - C40 Petroleum Hydrocarbons concentrations ranged from non-detect to 400 mg/kg. TPH itself is not directly regulated and does not begin to affect waste disposal until concentrations attain 100 mg/kg. However, the 100 mg/kg limit relates to Subtitle D (MSW) landfill acceptance of gasoline and diesel impacted soils. The Petroleum fraction driving the elevated concentration at LOX-1B-3 is in the C25 - C40 range, which is in the Oil range. The Subtitle D landfill acceptance limit for oil impacted soil is 1,000 mg/kg.

The pH obtained for the soil samples demonstrated a slightly alkaline character. A maximum pH of 9.49 was obtained, which is well below the 12.5 pH limit for hazardous waste.

Methylene Chloride was the most visible VOC that was detected. MDLs were satisfactorily low for waste characterization purposes. All Methylene Chloride detections were "J-flagged" and ranged between 0.0065 mg/kg and 0.0094 mg/kg in a total of 11 samples. The substance was reported to be present in the laboratory Method Blank. Methylene Chloride is regulated under RCRA when it is a spent solvent. However, the very low concentrations that were detected and its widespread use as a solvent in analytical laboratories provides strong evidence that the reported detections are not actually related to the soil samples themselves. Rather, the Methylene Chloride appears to be related to laboratory activities.

One other VOC was detected. A single sample exhibited Trichloroethene, a solvent that may have been used in the area, at 0.0045 mg/kg. No other instances of Trichloroethene were detected in any of the LOX-1B-3 samples. The MDLs for Trichloroethene ranged from 0.00048 mg/kg to 0.00052 mg/kg.

Determination

Soil Impacted Trichloroethene

As a spent solvent, Trichloroethene is a RCRA-Listed hazardous waste. In this case, Trichloroethene is identified as either a F001 or F002 hazardous waste, depending upon whether its use as a solvent was related to degreasing or to other purposes. Both F001 and

F002 are listed based on toxicity. When environmental media is measurably impacted with a toxicity listed spent solvent, the U.S. EPA "Contained-in Policy" states that the media is itself a hazardous waste regardless of the contaminant concentration. The one sample exhibiting Trichloroethene was located in the northwest portion of LOX-1B-3, on the western perimeter of the planned excavation. In accordance with the Contained-in Policy, soil in this area will be hazardous waste when it is excavated for disposal.

Three sample collection points nearest the Trichloroethene location to the east were used to identify a boundary for soil that will be managed as F-Listed upon excavation. As described above, no Trichloroethene was detected in samples collected at these points. Using the three sample collection points as a reference, a diagonal line is established that segregates the entire northwest corner of LOX-1B-3 from the remainder of the excavation footprint. The identified section is referred to as the LOX-1B-3 Northwest Area.

The soil in the SSFL Area II LOX-1B-3 Northwest Area is RCRA F001/F002 HAZARDOUS.

Lead Impacted Soil

Two samples exhibited WET leachate results that exceeded the STLC limit for Lead. One of these samples was located in the northeast corner of LOX-1B-3, while the other was located in the southern end of the excavation footprint protrusion which extends south from the central area of the footprint. When excavated for disposal, the soil associated with these two samples is California only hazardous waste.

Four sample collection points nearest the northeast Lead impacted location to the west were used to identify a boundary for soil that will be managed as California hazardous upon excavation. All of the samples from these collection points exhibited Lead concentrations well below applicable hazardous waste thresholds. Using the four sample collection points as a reference, an arc is established that segregates the entire northeast corner of LOX-1B-3 from the remainder of the excavation footprint. Soil in this area will be managed as hazardous waste. The identified section is referred to as the LOX-1B-3 Northeast Area.

The entire protrusion which extends south from the central area of the footprint was identified for segregation from the main body of LOX-1B-3 where the two sections meet. Soil in this area will be managed as hazardous waste. The identified section is referred to as the LOX-1B-3 Southern Middle Area.

The soil in the SSFL Area II LOX-1B-3 Northeast Area and in the LOX-1B-3 Southern Middle Area is California Only HAZARDOUS for Lead.

Below Threshold Soil

Samples collected from the LOX-1B-3 main excavation body and the west end southern-extending leg (excluding LOX-1B-3 Northwest, Northeast, and Southern Middle Areas) did not exceed regulatory thresholds. A total of 31 samples apply to this portion of the excavation footprint. According to analytical results and generator knowledge, the soil here:

Is Not a Listed Waste (analytical results and generator knowledge)
Is Not ignitable (generator knowledge)
Is Not corrosive (generator knowledge)
Is Not reactive (generator knowledge)

- Is Not toxic (analytical results and generator knowledge)
- Is Not Extremely or Acutely Hazardous Waste
- Does not exceed any RCRA or Title 22 characteristic thresholds
- Is Not subject to the Prop. 65 listing
- Is Not subject to Title 22 Appendix X list
- Is Not known by experience or testing to pose a hazard to human health or environment because of its carcinogenicity, acute toxicity, chronic toxicity, bio-accumulative properties, or persistence in the environment.

The soil in SSFL Area II LOX-1B-3 main excavation body and west end southern-extending leg is NON-HAZARDOUS.

**Outfall 009
Waste Characterization
Sample Locations for LOX-1B-3**

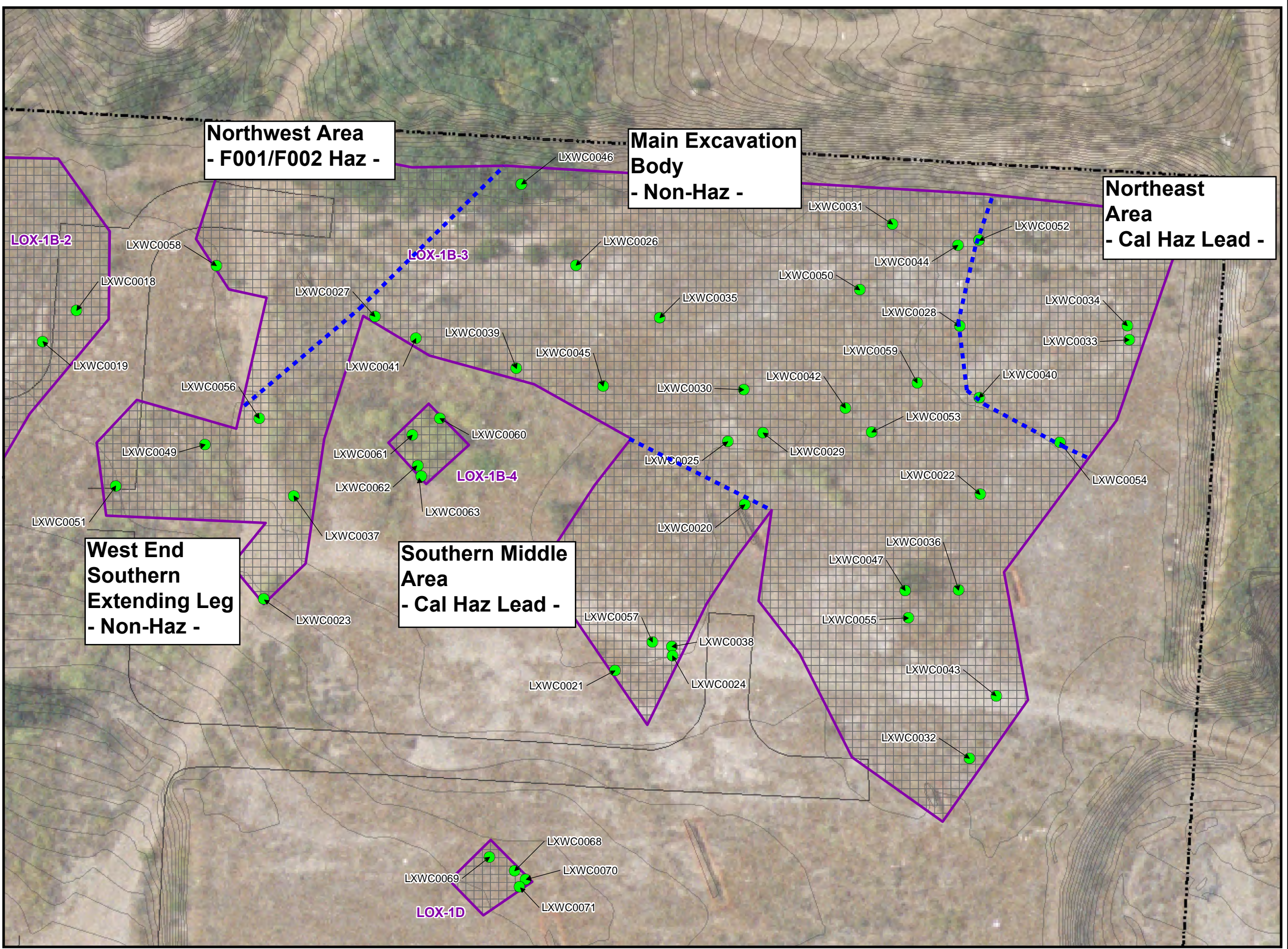
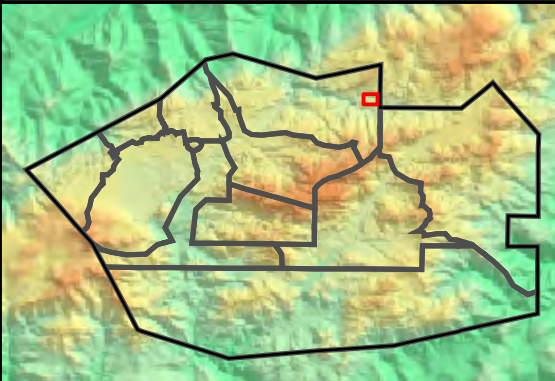
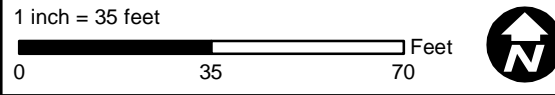
- Base Map Legend**
- Administrative Area Boundary
 - RFI Site Boundary
 - Report Group Boundary
 - NPDES Outfall
 - A/C Paving
 - Drainage
 - Non Jurisdictional Surface Water Pathway
 - Surface Water Divide

- Base Map Legend**
- ISRA Excavation Boundary
 - Waste Characterization Sample Location

Note:

1. Sample locations and depths were randomly selected. The 3ft x 3ft grid used in the sample location selection process is shown.
2. Aerial imagery from Google Earth, 2010.
3. Topographic contours from Lidar data, 2008.

Document: ISRA_Plots_Working_LOX-1-B3_SampleLocations_WC.mxd Date: Nov 05, 2010



SANTA SUSANA FIELD LABORATORY

FIGURE 1

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

				Object Name:			LXWC0020	LXWC0021	LXWC0022	LXWC0023	LXWC0024	LXWC0025	LXWC0026	LXWC0027
				Sample Name:			LXWC0020S001	LXWC0021S001	LXWC0022S001	LXWC0023S001	LXWC0024S001	LXWC0025S001	LXWC0026S001	LXWC0027S001
				Collection Date:			10/13/2010	10/8/2010	10/11/2010	10/8/2010	10/8/2010	10/13/2010	10/11/2010	10/11/2010
				Sample Depth (feet):			0.1 - 0.3	0.1 - 0.6	0 - 0.6	0.7 - 1.2	0.4 - 0.9	0.5 - 1	0.3 - 0.8	0.8 - 1.3
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
METALS														
Antimony	mg/kg	500	150	--	--	--	2.9 J	1.5 J	1.8 J	1.3 J	1.1 J	<0.86	<1.8	<1.8
Arsenic	mg/kg	500	50	100	--	--	4.6	5.3	4.1	5.7	4.9	5.1	3.3 J	5.2
Barium	mg/kg	10,000	1,000	2,000	--	--	170	81	82	95	84	59	47	100
Beryllium	mg/kg	75	7.5	--	--	--	1	0.51	0.42 J	0.63	0.46 J	0.57	<0.4	0.48 J
Cadmium	mg/kg	100	10	20	--	--	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.4	<0.4
Chromium	mg/kg	500	50	100	--	--	25	22	23	26	24	18	12	26
Chromium, WET	mg/L	--	--	--	560	--	--	--	--	--	--	--	--	--
Chromium, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--
Chromium (Hexavalent), WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	--	--
Cobalt	mg/kg	8,000	800	--	--	--	7.3	5.2	5.8	6.1	5.1	4.5	4	5.9
Copper	mg/kg	2,500	250	--	--	--	27	9.5	13	12	21	20	10	12
Lead	mg/kg	1,000	50	100	--	--	35	8.3	7.7	8.2	15	8.1	7	6.1
Lead, WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	--	--
Lead, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--
Mercury	mg/kg	20	2	4	--	--	0.012 J	<0.012	<0.012	<0.012	0.033	<0.012	<0.012	<0.012
Molybdenum	mg/kg	3,500	3,500	--	--	--	<0.2	0.94 J	1.7 J	1.5 J	1.7 J	0.2 J	1.1 J	0.68 J
Nickel	mg/kg	2,000	200	--	--	--	16 B	17	18	18	18	13 B	8.1	18
Selenium	mg/kg	100	10	20	--	--	<1	<0.99	<2	<0.98	<0.98	<0.98	3.7 JB	2.3 JB
Silver	mg/kg	500	50	100	--	--	<0.8	<0.79	<1.6	<0.78	<0.78	<0.78	<1.6	<1.6
Thallium	mg/kg	700	70	--	--	--	<0.8	1.3 J	1.7 J	1.2 J	<0.78	<0.78	2.2 J	2.3 J
Vanadium	mg/kg	2,400	240	--	--	--	38	34	35	39	32	29	20	42
Zinc	mg/kg	5,000	2,500	--	--	--	140 B	45	53 B	55	67	50 B	53 B	50 B
GENERAL CHEMISTRY														
pH	SU	--	--	--	--	--	8.54	8.19	8.23	8.38	7.95	8.31	9.49	7.9
TPH														
Gasoline Range Organics (C6-C12)	mg/kg	--	--	--	--	--	<0.39 {<0.15}	<0.4 {<0.15}	<0.4 {<0.15}	<0.39 {<0.15}	<0.38 {<0.14}	<0.38 {<0.14}	<0.38 {<0.14}	<0.38 {<0.14}
EFH (C10 - C24)	mg/kg	--	--	--	--	--	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	10	<5 {<3.5}	31	<5 {<3.5}
EFH (C25 - C40)	mg/kg	--	--	--	--	--	12 B	<5 {<3.5}	17	<5 {<3.5}	61	<5 {<3.5}	78	3.8 J
EFH (C10 - C40)	mg/kg	--	--	--	--	--	14 B	<5 {<3.5}	20	<5 {<3.5}	71	<5 {<3.5}	110	4.5 J
VOCs														
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.57}	<2 {<0.56}	<2 {<0.57}	<2 {<0.56}	<2 {<0.56}	<2 {<0.56}	<2 {<0.57}	<2 {<0.57}
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<0.98 {<0.69}	<0.98 {<0.69}	<0.99 {<0.69}	<1 {<0.7}	<1 {<0.7}
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.86}	<2 {<0.85}	<2 {<0.86}	<2 {<0.85}	<2 {<0.85}	<2 {<0.85}	<2 {<0.86}	<2 {<0.86}
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.87}	<0.98 {<0.86}	<1 {<0.87}	<0.98 {<0.86}	<0.98 {<0.86}	<0.99 {<0.86}	<1 {<0.87}	<1 {<0.87}
1,1-Dichloroethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}
1,1-Dichloroethene	ug/kg	--	--	14,000	--	--	<2 {<0.6}	<2 {<0.59}	<2 {<0.6}	<2 {<0.59}	<2 {<0.59}	<2 {<0.59}	<2 {<0.6}	<2 {<0.6}

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

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ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0020	LXWC0021	LXWC0022	LXWC0023	LXWC0024	LXWC0025	LXWC0026	LXWC0027
							Sample Name:	LXWC0020S001	LXWC0021S001	LXWC0022S001	LXWC0023S001	LXWC0024S001	LXWC0025S001	LXWC0026S001	LXWC0027S001
Collection Date:							10/13/2010	10/8/2010	10/11/2010	10/8/2010	10/8/2010	10/13/2010	10/11/2010	10/11/2010	10/11/2010
Sample Depth (feet):							0.1 - 0.3	0.1 - 0.6	0 - 0.6	0.7 - 1.2	0.4 - 0.9	0.5 - 1	0.3 - 0.8	0.8 - 1.3	
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
1,1-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.4}	<0.98 {<0.39}	<1 {<0.4}	<0.98 {<0.39}	<0.98 {<0.39}	<0.99 {<0.4}	<1 {<0.4}	<1 {<0.4}	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<0.98}	<2 {<0.98}	<2 {<0.99}	<2 {<1}	<2 {<1}	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<0.98}	<2 {<0.98}	<2 {<0.99}	<2 {<1}	<2 {<1}	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<0.98}	<2 {<0.98}	<2 {<0.99}	<2 {<1}	<2 {<1}	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.78}	<0.98 {<0.77}	<1 {<0.78}	<0.98 {<0.77}	<0.98 {<0.77}	<0.99 {<0.77}	<1 {<0.78}	<1 {<0.78}	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	<10 {<1.5}	<9.8 {<1.5}	<10 {<1.5}	<9.8 {<1.5}	<9.8 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	<10 {<1.5}	
1,2-Dibromoethane (EDB)	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<0.98 {<0.79}	<0.98 {<0.79}	<0.99 {<0.79}	<1 {<0.8}	<1 {<0.8}	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.95}	<0.98 {<0.94}	<1 {<0.95}	<0.98 {<0.94}	<0.98 {<0.94}	<0.99 {<0.94}	<1 {<0.95}	<1 {<0.95}	
1,2-Dichloroethane	ug/kg	--	--	10,000	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<0.98 {<0.79}	<0.98 {<0.79}	<0.99 {<0.79}	<1 {<0.8}	<1 {<0.8}	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<0.98 {<0.79}	<0.98 {<0.79}	<0.99 {<0.79}	<1 {<0.8}	<1 {<0.8}	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.98 {<0.62}	<1 {<0.63}	<0.98 {<0.62}	<0.98 {<0.62}	<0.99 {<0.62}	<1 {<0.63}	<1 {<0.63}	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.84}	<0.98 {<0.83}	<1 {<0.84}	<0.98 {<0.83}	<0.98 {<0.83}	<0.99 {<0.83}	<1 {<0.84}	<1 {<0.84}	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.98 {<0.62}	<1 {<0.63}	<0.98 {<0.62}	<0.98 {<0.62}	<0.99 {<0.62}	<1 {<0.63}	<1 {<0.63}	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.94}	<0.98 {<0.93}	<1 {<0.94}	<0.98 {<0.93}	<0.98 {<0.93}	<0.99 {<0.93}	<1 {<0.94}	<1 {<0.94}	
2-Butanone (MEK)	ug/kg	--	--	4,000,000	--	--	<10 {<6}	<9.8 {<5.9}	<10 {<6}	<9.8 {<5.9}	<9.8 {<5.9}	<9.9 {<5.9}	<10 {<6}	<10 {<6}	
2-Hexanone	ug/kg	--	--	--	--	--	<10 {<9.1}	<9.8 {<9}	<10 {<9.1}	<9.8 {<9}	<9.8 {<9}	<9.9 {<9}	<10 {<9.1}	<10 {<9.1}	
4-Methyl-2-pentanone (MIBK)	ug/kg	--	--	--	--	--	<5 {<4.5}	<4.9 {<4.4}	<5 {<4.5}	<4.9 {<4.4}	<4.9 {<4.4}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	
Acetone	ug/kg	--	--	--	--	--	<10 {<8}	<9.8 {<7.9}	<10 {<8}	<9.8 {<7.9}	<9.8 {<7.9}	<9.9 {<7.9}	<10 {<8}	<10 {<8}	
Benzene	ug/kg	--	--	10,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	
Bromobenzene	ug/kg	--	--	--	--	--	<2 {<0.84}	<2 {<0.83}	<2 {<0.84}	<2 {<0.83}	<2 {<0.83}	<2 {<0.83}	<2 {<0.84}	<2 {<0.84}	
Bromochloromethane	ug/kg	--	--	--	--	--	<2 {<0.9}	<2 {<0.89}	<2 {<0.9}	<2 {<0.89}	<2 {<0.89}	<2 {<0.89}	<2 {<0.9}	<2 {<0.9}	
Bromodichloromethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	
Bromoform	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}	
Bromomethane	ug/kg	--	--	--	--	--	<2 {<0.92}	<2 {<0.91}	<2 {<0.92}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.92}	<2 {<0.92}	
Carbon Disulfide	ug/kg	--	--	--	--	--	<5 {<0.97}	<4.9 {<0.95}	<5 {<0.97}	<4.9 {<0.95}	<4.9 {<0.95}	<5 {<0.96}	<5 {<0.97}	<5 {<0.97}	
Carbon tetrachloride	ug/kg	--	--	10,000	--	--	<2 {<0.5}	<2 {<0.49}	<2 {<0.5}	<2 {<0.49}	<2 {<0.49}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	
Chlorobenzene	ug/kg	--	--	2,000,000	--	--	<1 {<0.52}	<0.98 {<0.51}	<1 {<0.52}	<0.98 {<0.51}	<0.98 {<0.51}	<0.99 {<0.51}	<1 {<0.52}	<1 {<0.52}	
Chloroethane	ug/kg	--	--	--	--	--	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	
Chloroform	ug/kg	--	--	120,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	
Chloromethane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<0.98}	<2 {<0.98}	<2 {<0.99}	<2 {<1}	<2 {<1}	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.83}	<0.98 {<0.82}	<1 {<0.83}	<0.98 {<0.82}	<0.98 {<0.82}	<0.99 {<0.82}	<1 {<0.83}	<1 {<0.83}	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.44}	<0.98 {<0.43}	<1 {<0.44}	<0.98 {<0.43}	<0.98 {<0.43}	<0.99 {<0.44}	<1 {<0.44}	<1 {<0.44}	
Dibromochloromethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<0.98 {<0.69}	<0.98 {<0.69}	<0.99 {<0.69}	<1 {<0.7}	<1 {<0.7}	
Dibromomethane	ug/kg	--	--	--	--	--	<1 {<0.9}	<0.98 {<0.89}	<1 {<0.9}	<0.98 {<0.89}	<0.98 {<0.89}	<0.99 {<0.89}	<1 {<0.9}	<1 {<0.9}	
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	<5 {<1.5}	<4.9 {<1.5}	<5 {<1.5}	<4.9 {<1.5}	<4.9 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	
Ethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	
Hexachlorobutadiene	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
 THE BOEING COMPANY
 SANTA SUSANA FIELD LABORATORY

				Object Name:			LXWC0020	LXWC0021	LXWC0022	LXWC0023	LXWC0024	LXWC0025	LXWC0026	LXWC0027
				Sample Name:			LXWC0020S001	LXWC0021S001	LXWC0022S001	LXWC0023S001	LXWC0024S001	LXWC0025S001	LXWC0026S001	LXWC0027S001
				Collection Date:			10/13/2010	10/8/2010	10/11/2010	10/8/2010	10/8/2010	10/13/2010	10/11/2010	10/11/2010
				Sample Depth (feet):			0.1 - 0.3	0.1 - 0.6	0 - 0.6	0.7 - 1.2	0.4 - 0.9	0.5 - 1	0.3 - 0.8	0.8 - 1.3
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
Isopropylbenzene	ug/kg	--	--	--	--	--	<1 {<0.54}	<0.98 {<0.53}	<1 {<0.54}	<0.98 {<0.53}	<0.98 {<0.53}	<0.99 {<0.53}	<1 {<0.54}	<1 {<0.54}
m,p-Xylenes	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}
Methylene chloride	ug/kg	--	--	--	--	--	<10 {<6.5}	7.4 JB	<10 {<6.5}	6.5 JB	7.3 JB	<9.9 {<6.4}	<10 {<6.5}	<10 {<6.5}
Methyl-tert-butyl Ether (MTBE)	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<0.98}	<2 {<0.98}	<2 {<0.99}	<2 {<1}	<2 {<1}
n-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.72}	<2 {<0.71}	<2 {<0.72}	<2 {<0.71}	<2 {<0.71}	<2 {<0.71}	<2 {<0.72}	<2 {<0.72}
n-Propylbenzene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.98 {<0.6}	<1 {<0.61}	<0.98 {<0.6}	<0.98 {<0.6}	<0.99 {<0.6}	<1 {<0.61}	<1 {<0.61}
Naphthalene	ug/kg	--	--	--	--	--	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}
o-Xylene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}
p-Isopropyltoluene	ug/kg	--	--	--	--	--	<1 {<0.72}	<0.98 {<0.71}	<1 {<0.72}	<0.98 {<0.71}	<0.98 {<0.71}	<0.99 {<0.71}	<1 {<0.72}	<1 {<0.72}
sec-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.67}	<2 {<0.66}	<2 {<0.67}	<2 {<0.66}	<2 {<0.66}	<2 {<0.66}	<2 {<0.67}	<2 {<0.67}
Styrene	ug/kg	--	--	--	--	--	<1 {<0.58}	<0.98 {<0.57}	<1 {<0.58}	<0.98 {<0.57}	<0.98 {<0.57}	<0.99 {<0.57}	<1 {<0.58}	<1 {<0.58}
tert-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.62}	<2 {<0.61}	<2 {<0.62}	<2 {<0.61}	<2 {<0.61}	<2 {<0.61}	<2 {<0.62}	<2 {<0.62}
Tetrachloroethene	ug/kg	--	--	14,000	--	--	<1 {<0.49}	<0.98 {<0.48}	<1 {<0.49}	<0.98 {<0.48}	<0.98 {<0.48}	<0.99 {<0.49}	<1 {<0.49}	<1 {<0.49}
Toluene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<0.98 {<0.69}	<0.98 {<0.69}	<0.99 {<0.69}	<1 {<0.7}	<1 {<0.7}
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.98 {<0.6}	<1 {<0.61}	<0.98 {<0.6}	<0.98 {<0.6}	<0.99 {<0.6}	<1 {<0.61}	<1 {<0.61}
Trichloroethene	ug/kg	2,040,000	2,040,000	10,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<0.98 {<0.49}	<0.98 {<0.49}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}
Trichlorofluoromethane	ug/kg	--	--	--	--	--	<2 {<0.54}	<2 {<0.53}	<2 {<0.54}	<2 {<0.53}	<2 {<0.53}	<2 {<0.53}	<2 {<0.54}	<2 {<0.54}
Vinyl acetate	ug/kg	--	--	--	--	--	<5 {<2.5}	<4.9 {<2.5}	<5 {<2.5}	<4.9 {<2.5}	<4.9 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}
Vinyl chloride	ug/kg	--	--	4,000	--	--	<2 {<0.91}	<2 {<0.9}	<2 {<0.91}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.91}	<2 {<0.91}
RADIONUCLIDES	--	--	--	--	--	--	R	R	R	R	R	R	R	R

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0028	LXWC0029	LXWC0030	LXWC0031	LXWC0032	LXWC0033	LXWC0034	LXWC0035
							Sample Name:	LXWC0028S001	LXWC0029S001	LXWC0030S001	LXWC0031S001	LXWC0032S001	LXWC0033S001	LXWC0034S001	LXWC0035S001
							Collection Date:	10/12/2010	10/13/2010	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/11/2010	10/12/2010
							Sample Depth (feet):	0 - 0.3	1.4 - 1.9	0 - 0.3	0.9 - 1.1	0.9 - 1.3	0.5 - 1	0.2 - 0.8	0.6 - 1.1
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
METALS															
Antimony	mg/kg	500	150	--	--	--	0.97 J	1.2 J	1.3 J	21	<1.7	<1.8	<1.7	<0.87	
Arsenic	mg/kg	500	50	100	--	--	5.7	5.9	4.8	4.7	7.5	5.7	5.2	4.7	
Barium	mg/kg	10,000	1,000	2,000	--	--	68	70	81	87	94	60	60	75	
Beryllium	mg/kg	75	7.5	--	--	--	0.3 J	0.69	0.36 J	0.25 J	0.45 J	<0.4	0.41 J	0.47 J	
Cadmium	mg/kg	100	10	20	--	--	0.22 J	<0.2	0.21 J	1.1	<0.39	0.85 J	2	<0.2	
Chromium	mg/kg	500	50	100	--	--	32	22	17	410	30	18	18	18	
Chromium, WET	mg/L	--	--	--	560	--	--	--	--	22	--	--	--	--	
Chromium, TCLP	mg/L	--	--	--	--	5	--	--	--	0.17	--	--	--	--	
Chromium (Hexavalent), WET	mg/L	--	--	--	5	--	--	--	--	0.022	--	--	--	--	
Cobalt	mg/kg	8,000	800	--	--	--	5.1	6.7	4.5	5.7	6.8	5	4.5	5.2	
Copper	mg/kg	2,500	250	--	--	--	23	21	39	70	15	46	49	26	
Lead	mg/kg	1,000	50	100	--	--	30	8.9	23	60	9.2	130	51	12	
Lead, WET	mg/L	--	--	--	5	--	--	--	--	2.4	--	52	4.4	--	
Lead, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	3.5	--	--	
Mercury	mg/kg	20	2	4	--	--	<0.012	<0.012	0.064	0.013 J	<0.012	0.29	1	<0.012	
Molybdenum	mg/kg	3,500	3,500	--	--	--	3.3	0.31 J	3.9	36	1.5 J	1.6 J	3.3 J	2	
Nickel	mg/kg	2,000	200	--	--	--	12	19 B	11	13	27	12	14	12	
Selenium	mg/kg	100	10	20	--	--	<0.99	<0.98	<0.98	<1	5 B	2.9 JB	<2	<0.99	
Silver	mg/kg	500	50	100	--	--	<0.79	<0.78	<0.78	<0.8	<1.6	<1.6	<1.6	<0.79	
Thallium	mg/kg	700	70	--	--	--	1.6 J	<0.78	2.5 J	1.2 J	2.4 J	<1.6	2.7 J	<0.79	
Vanadium	mg/kg	2,400	240	--	--	--	30	35	28	29	40	28	24	31	
Zinc	mg/kg	5,000	2,500	--	--	--	75	63 B	79	600	58 B	86 B	99 B	160	
GENERAL CHEMISTRY															
pH	SU	--	--	--	--	--	8.04	8.02	7.93	8.04	8.55	7.95	7.84	8.51	
TPH															
Gasoline Range Organics (C6-C12)	mg/kg	--	--	--	--	--	<0.37 {<0.14}	<0.37 {<0.14}	<0.39 {<0.15}	<0.38 {<0.14}	<0.38 {<0.14}	<0.38 {<0.14}	<0.38 {<0.14}	<0.37 {<0.14}	
EFH (C10 - C24)	mg/kg	--	--	--	--	--	<5 {<3.5}	<5 {<3.5}	4.4 J	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	3.6 J	<5 {<3.5}	
EFH (C25 - C40)	mg/kg	--	--	--	--	--	7	<5 {<3.5}	34	16	7	4 J	16	<5 {<3.5}	
EFH (C10 - C40)	mg/kg	--	--	--	--	--	8.3	<5 {<3.5}	38	19	8	6.1	19	<5 {<3.5}	
VOCs															
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.86}	<2 {<0.85}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.87}	<0.99 {<0.86}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	
1,1-Dichloroethene	ug/kg	--	--	14,000	--	--	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
 THE BOEING COMPANY
 SANTA SUSANA FIELD LABORATORY

ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0028	LXWC0029	LXWC0030	LXWC0031	LXWC0032	LXWC0033	LXWC0034	LXWC0035
							Sample Name:	LXWC0028S001	LXWC0029S001	LXWC0030S001	LXWC0031S001	LXWC0032S001	LXWC0033S001	LXWC0034S001	LXWC0035S001
							Collection Date:	10/12/2010	10/13/2010	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/11/2010	10/12/2010
							Sample Depth (feet):	0 - 0.3	1.4 - 1.9	0 - 0.3	0.9 - 1.1	0.9 - 1.3	0.5 - 1	0.2 - 0.8	0.6 - 1.1
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
1,1-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.4}	<0.99 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.78}	<0.99 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	<10 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}
1,2-Dibromoethane (EDB)	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.95}	<0.99 {<0.94}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}
1,2-Dichloroethane	ug/kg	--	--	10,000	--	--	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}
1,2-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.99 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.84}	<0.99 {<0.83}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}
1,3-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.99 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.94}	<0.99 {<0.93}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}
2-Butanone (MEK)	ug/kg	--	--	4,000,000	--	--	<10 {<6}	<9.9 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}
2-Hexanone	ug/kg	--	--	--	--	--	<10 {<9.1}	<9.9 {<9}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}
4-Methyl-2-pentanone (MIBK)	ug/kg	--	--	--	--	--	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}
Acetone	ug/kg	--	--	--	--	--	<10 {<8}	<9.9 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}
Benzene	ug/kg	--	--	10,000	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
Bromobenzene	ug/kg	--	--	--	--	--	<2 {<0.84}	<2 {<0.83}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}
Bromochloromethane	ug/kg	--	--	--	--	--	<2 {<0.9}	<2 {<0.89}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}
Bromodichloromethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
Bromoform	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}
Bromomethane	ug/kg	--	--	--	--	--	<2 {<0.92}	<2 {<0.91}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}
Carbon Disulfide	ug/kg	--	--	--	--	--	<5 {<0.97}	<5 {<0.96}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}
Carbon tetrachloride	ug/kg	--	--	10,000	--	--	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}
Chlorobenzene	ug/kg	--	--	2,000,000	--	--	<1 {<0.52}	<0.99 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}
Chloroethane	ug/kg	--	--	--	--	--	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}
Chloroform	ug/kg	--	--	120,000	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
Chloromethane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.83}	<0.99 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.44}	<0.99 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}
Dibromochloromethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}
Dibromomethane	ug/kg	--	--	--	--	--	<1 {<0.9}	<0.99 {<0.89}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}
Ethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
Hexachlorobutadiene	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
 THE BOEING COMPANY
 SANTA SUSANA FIELD LABORATORY

				Object Name:			LXWC0028	LXWC0029	LXWC0030	LXWC0031	LXWC0032	LXWC0033	LXWC0034	LXWC0035
				Sample Name:			LXWC0028S001	LXWC0029S001	LXWC0030S001	LXWC0031S001	LXWC0032S001	LXWC0033S001	LXWC0034S001	LXWC0035S001
				Collection Date:			10/12/2010	10/13/2010	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/11/2010	10/12/2010
				Sample Depth (feet):			0 - 0.3	1.4 - 1.9	0 - 0.3	0.9 - 1.1	0.9 - 1.3	0.5 - 1	0.2 - 0.8	0.6 - 1.1
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
Isopropylbenzene	ug/kg	--	--	--	--	--	<1 {<0.54}	<0.99 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}
m,p-Xylenes	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}
Methylene chloride	ug/kg	--	--	--	--	--	<10 {<6.5}	<9.9 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}
Methyl-tert-butyl Ether (MTBE)	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}
n-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}
n-Propylbenzene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.99 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}
Naphthalene	ug/kg	--	--	--	--	--	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}
o-Xylene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
p-Isopropyltoluene	ug/kg	--	--	--	--	--	<1 {<0.72}	<0.99 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}
sec-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}
Styrene	ug/kg	--	--	--	--	--	<1 {<0.58}	<0.99 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}
tert-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}
Tetrachloroethene	ug/kg	--	--	14,000	--	--	<1 {<0.49}	<0.99 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}
Toluene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.99 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}
Trichloroethene	ug/kg	2,040,000	2,040,000	10,000	--	--	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}
Trichlorofluoromethane	ug/kg	--	--	--	--	--	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}
Vinyl acetate	ug/kg	--	--	--	--	--	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}
Vinyl chloride	ug/kg	--	--	4,000	--	--	<2 {<0.91}	<2 {<0.9}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}
RADIONUCLIDES	--	--	--	--	--	--	R	R	R	R	R	R	R	R

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

							Object Name:	LXWC0036	LXWC0037	LXWC0038	LXWC0039	LXWC0040	LXWC0041	LXWC0042	LXWC0043
							Sample Name:	LXWC0036S001	LXWC0037S001	LXWC0038S001	LXWC0039S001	LXWC0040S001	LXWC0041S001	LXWC0042S001	LXWC0043S001
							Collection Date:	10/11/2010	10/8/2010	10/8/2010	10/12/2010	10/12/2010	10/11/2010	10/12/2010	10/11/2010
							Sample Depth (feet):	0.3 - 0.7	0.3 - 0.8	0.2 - 0.7	0.9 - 1.4	0.5 - 1	1 - 1.5	0 - 0.3	0.3 - 0.7
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
METALS															
Antimony	mg/kg	500	150	--	--	--	<1.8	1.4 J	1.3 J	<0.87	<0.87	<1.8	1.5 J	<1.7	
Arsenic	mg/kg	500	50	100	--	--	3.5 J	5.7	4.4	5.4	6.1	6.5	6.1	4.8	
Barium	mg/kg	10,000	1,000	2,000	--	--	63	100	72	90	74	100	87	64	
Beryllium	mg/kg	75	7.5	--	--	--	0.45 J	0.62	0.38 J	0.54	0.49 J	0.57 J	0.36 J	<0.39	
Cadmium	mg/kg	100	10	20	--	--	<0.4	<0.2	<0.2	<0.2	<0.2	<0.4	0.55	<0.39	
Chromium	mg/kg	500	50	100	--	--	22	26	22	25	22	30	22	19	
Chromium, WET	mg/L	--	--	--	560	--	--	--	--	--	--	--	--	--	
Chromium, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--	
Chromium (Hexavalent), WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	--	--	
Cobalt	mg/kg	8,000	800	--	--	--	5.7	5.6	5.8	6.1	5.9	6.2	5	5.5	
Copper	mg/kg	2,500	250	--	--	--	10	28	14	30	8.9	56	70	11	
Lead	mg/kg	1,000	50	100	--	--	5.5	11	24	28	5.7	42	88	8.4	
Lead, WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	1.6	--	
Lead, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--	
Mercury	mg/kg	20	2	4	--	--	<0.012	0.016 J	0.014 J	0.05	<0.012	<0.012	0.027	<0.012	
Molybdenum	mg/kg	3,500	3,500	--	--	--	0.85 J	1.2 J	2 J	2.2	1.5 J	1.4 J	2.3	1.7 J	
Nickel	mg/kg	2,000	200	--	--	--	17	18	17	16	15	18	12	15	
Selenium	mg/kg	100	10	20	--	--	<2	<0.99	<1	<0.99	<0.99	3.4 JB	<0.99	4.4 B	
Silver	mg/kg	500	50	100	--	--	<1.6	<0.79	<0.8	<0.79	<0.79	<1.6	<0.79	<1.6	
Thallium	mg/kg	700	70	--	--	--	3 J	1.3 J	<0.8	3.2 J	<0.79	2.4 J	<0.79	2.2 J	
Vanadium	mg/kg	2,400	240	--	--	--	36	38	31	37	35	41	30	31	
Zinc	mg/kg	5,000	2,500	--	--	--	52 B	63	86	73	37	90 B	140	50 B	
GENERAL CHEMISTRY															
pH	SU	--	--	--	--	--	8.66	8.21	8.41	8.32	8.21	8.27	8.17	8.56	
TPH															
Gasoline Range Organics (C6-C12)	mg/kg	--	--	--	--	--	<0.39 {<0.14}	<0.39 {<0.15}	<0.38 {<0.14}	<0.39 {<0.15}	<0.38 {<0.14}	<0.39 {<0.15}	<0.37 {<0.14}	<0.39 {<0.15}	
EFH (C10 - C24)	mg/kg	--	--	--	--	--	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	5.6	7.5	<5 {<3.5}	
EFH (C25 - C40)	mg/kg	--	--	--	--	--	<5 {<3.5}	19	14	21	<5 {<3.5}	50	44	5.9	
EFH (C10 - C40)	mg/kg	--	--	--	--	--	<5 {<3.5}	22	16	24	<5 {<3.5}	56	51	6.6	
VOCs															
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.57}	<2 {<0.56}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.86}	<2 {<0.84}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	<2 {<0.86}	<2 {<0.85}	<2 {<0.86}	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.87}	<0.98 {<0.85}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	<1 {<0.87}	<0.99 {<0.86}	<1 {<0.87}	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	
1,1-Dichloroethene	ug/kg	--	--	14,000	--	--	<2 {<0.6}	<2 {<0.59}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0036	LXWC0037	LXWC0038	LXWC0039	LXWC0040	LXWC0041	LXWC0042	LXWC0043	
							Sample Name:	LXWC0036S001	LXWC0037S001	LXWC0038S001	LXWC0039S001	LXWC0040S001	LXWC0041S001	LXWC0042S001	LXWC0043S001	
Collection Date:							10/11/2010	10/8/2010	10/8/2010	10/12/2010	10/12/2010	10/11/2010	10/12/2010	10/11/2010	10/11/2010	
Sample Depth (feet):							0.3 - 0.7	0.3 - 0.8	0.2 - 0.7	0.9 - 1.4	0.5 - 1	1 - 1.5	0 - 0.3	0.3 - 0.7	0.3 - 0.7	0.3 - 0.7
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
1,1-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.4}	<0.98 {<0.39}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<0.99 {<0.4}	<1 {<0.4}	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<1}	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<1}	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<1}	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.78}	<0.98 {<0.77}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<1 {<0.78}	<0.99 {<0.78}	<1 {<0.78}	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	<10 {<1.5}	<9.8 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	
1,2-Dibromoethane (EDB)	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.95}	<0.98 {<0.93}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<1 {<0.95}	<0.99 {<0.94}	<1 {<0.95}	
1,2-Dichloroethane	ug/kg	--	--	10,000	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.8}	<0.98 {<0.79}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<1 {<0.8}	<0.99 {<0.8}	<1 {<0.8}	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.98 {<0.62}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<0.99 {<0.63}	<1 {<0.63}	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.84}	<0.98 {<0.83}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<1 {<0.84}	<0.99 {<0.83}	<1 {<0.84}	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.63}	<0.98 {<0.62}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<1 {<0.63}	<0.99 {<0.63}	<1 {<0.63}	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.94}	<0.98 {<0.92}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<1 {<0.94}	<0.99 {<0.93}	<1 {<0.94}	
2-Butanone (MEK)	ug/kg	--	--	4,000,000	--	--	<10 {<6}	<9.8 {<5.9}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6}	<9.9 {<6}	<10 {<6}	
2-Hexanone	ug/kg	--	--	--	--	--	<10 {<9.1}	<9.8 {<8.9}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<10 {<9.1}	<9.9 {<9}	<10 {<9.1}	
4-Methyl-2-pentanone (MIBK)	ug/kg	--	--	--	--	--	<5 {<4.5}	<4.9 {<4.4}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	
Acetone	ug/kg	--	--	--	--	--	<10 {<8}	<9.8 {<7.9}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<10 {<8}	<9.9 {<8}	<10 {<8}	
Benzene	ug/kg	--	--	10,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	
Bromobenzene	ug/kg	--	--	--	--	--	<2 {<0.84}	<2 {<0.83}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.84}	<2 {<0.83}	<2 {<0.84}	
Bromochloromethane	ug/kg	--	--	--	--	--	<2 {<0.9}	<2 {<0.88}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.9}	<2 {<0.89}	<2 {<0.9}	
Bromodichloromethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	
Bromoform	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	
Bromomethane	ug/kg	--	--	--	--	--	<2 {<0.92}	<2 {<0.9}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.92}	<2 {<0.91}	<2 {<0.92}	
Carbon Disulfide	ug/kg	--	--	--	--	--	<5 {<0.97}	<4.9 {<0.95}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.97}	<5 {<0.96}	<5 {<0.97}	
Carbon tetrachloride	ug/kg	--	--	10,000	--	--	<2 {<0.5}	<2 {<0.49}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	
Chlorobenzene	ug/kg	--	--	2,000,000	--	--	<1 {<0.52}	<0.98 {<0.51}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<0.99 {<0.52}	<1 {<0.52}	
Chloroethane	ug/kg	--	--	--	--	--	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	
Chloroform	ug/kg	--	--	120,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	
Chloromethane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<1}	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.83}	<0.98 {<0.82}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<1 {<0.83}	<0.99 {<0.83}	<1 {<0.83}	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.44}	<0.98 {<0.43}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<0.99 {<0.44}	<1 {<0.44}	
Dibromochloromethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}	
Dibromomethane	ug/kg	--	--	--	--	--	<1 {<0.9}	<0.98 {<0.88}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<1 {<0.9}	<0.99 {<0.89}	<1 {<0.9}	
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	<5 {<1.5}	<4.9 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	
Ethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}	
Hexachlorobutadiene	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
 THE BOEING COMPANY
 SANTA SUSANA FIELD LABORATORY

							Object Name:	LXWC0036	LXWC0037	LXWC0038	LXWC0039	LXWC0040	LXWC0041	LXWC0042	LXWC0043
							Sample Name:	LXWC0036S001	LXWC0037S001	LXWC0038S001	LXWC0039S001	LXWC0040S001	LXWC0041S001	LXWC0042S001	LXWC0043S001
							Collection Date:	10/11/2010	10/8/2010	10/8/2010	10/12/2010	10/12/2010	10/11/2010	10/12/2010	10/11/2010
							Sample Depth (feet):	0.3 - 0.7	0.3 - 0.8	0.2 - 0.7	0.9 - 1.4	0.5 - 1	1 - 1.5	0 - 0.3	0.3 - 0.7
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
Isopropylbenzene	ug/kg	--	--	--	--	--	<1 {<0.54}	<0.98 {<0.53}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<0.99 {<0.54}	<1 {<0.54}
m,p-Xylenes	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}	<2 {<0.8}
Methylene chloride	ug/kg	--	--	--	--	--	<10 {<6.5}	8.3 JB	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<10 {<6.5}	<9.9 {<6.5}	<10 {<6.5}
Methyl-tert-butyl Ether (MTBE)	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<0.98}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<1}
n-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.72}	<2 {<0.71}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}	<2 {<0.72}
n-Propylbenzene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.98 {<0.6}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<0.99 {<0.61}	<1 {<0.61}
Naphthalene	ug/kg	--	--	--	--	--	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}
o-Xylene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}
p-Isopropyltoluene	ug/kg	--	--	--	--	--	<1 {<0.72}	<0.98 {<0.71}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<1 {<0.72}	<0.99 {<0.72}	<1 {<0.72}
sec-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.67}	<2 {<0.66}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}	<2 {<0.67}
Styrene	ug/kg	--	--	--	--	--	<1 {<0.58}	<0.98 {<0.57}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<0.99 {<0.58}	<1 {<0.58}
tert-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.62}	<2 {<0.61}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}
Tetrachloroethene	ug/kg	--	--	14,000	--	--	<1 {<0.49}	<0.98 {<0.48}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<0.99 {<0.49}	<1 {<0.49}
Toluene	ug/kg	--	--	--	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.7}	<0.98 {<0.69}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<1 {<0.7}	<0.99 {<0.7}	<1 {<0.7}
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.61}	<0.98 {<0.6}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<0.99 {<0.61}	<1 {<0.61}
Trichloroethene	ug/kg	2,040,000	2,040,000	10,000	--	--	<1 {<0.5}	<0.98 {<0.49}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<0.99 {<0.5}	<1 {<0.5}
Trichlorofluoromethane	ug/kg	--	--	--	--	--	<2 {<0.54}	<2 {<0.53}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}
Vinyl acetate	ug/kg	--	--	--	--	--	<5 {<2.5}	<4.9 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}
Vinyl chloride	ug/kg	--	--	4,000	--	--	<2 {<0.91}	<2 {<0.89}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.91}	<2 {<0.9}	<2 {<0.91}
RADIONUCLIDES	--	--	--	--	--	--	R	R	R	R	R	R	R	R	R

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0044	LXWC0045	LXWC0046	LXWC0047	LXWC0048	LXWC0049	LXWC0050	LXWC0051
							Sample Name:	LXWC0044S001	LXWC0045S001	LXWC0046S001	LXWC0047S001	LXWC0048S001	LXWC0049S001	LXWC0050S001	LXWC0051S001
							Collection Date:	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/13/2010	10/8/2010	10/12/2010	10/11/2010
							Sample Depth (feet):	0 - 0.3	0 - 0.5	0.5 - 1	0.4 - 0.9	0.2 - 0.7	1.3 - 1.8	0 - 0.3	0.7 - 1.2
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
METALS															
Antimony	mg/kg	500	150	--	--	--	<0.87	1.2 J	<1.7	2.9 J	1.7 J	1.2 J	0.95 J	<1.7	
Arsenic	mg/kg	500	50	100	--	--	3.7	5.7	5.5	5.2	4.7	5.4	3.8	5	
Barium	mg/kg	10,000	1,000	2,000	--	--	64	100	95	100	110	100	87	89	
Beryllium	mg/kg	75	7.5	--	--	--	0.2 J	0.48 J	0.49 J	0.47 J	0.75	0.6	<0.2	0.49 J	
Cadmium	mg/kg	100	10	20	--	--	<0.2	0.54	<0.39	<0.39	<0.2	<0.2	0.5	<0.39	
Chromium	mg/kg	500	50	100	--	--	50	29	25	27	23	26	97	23	
Chromium, WET	mg/L	--	--	--	560	--	0.58	--	--	--	--	--	1	--	
Chromium, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--	
Chromium (Hexavalent), WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	--	--	
Cobalt	mg/kg	8,000	800	--	--	--	4.5	6.1	7.1	5.7	7	6.1	5.3	5.7	
Copper	mg/kg	2,500	250	--	--	--	21	89	41	41	20	66	70	9.7	
Lead	mg/kg	1,000	50	100	--	--	23	46	10	29	19	11	83	5.9	
Lead, WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	2.8	--	
Lead, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--	
Mercury	mg/kg	20	2	4	--	--	<0.012	0.018 J	<0.012	<0.012	0.034	<0.012	<0.012	<0.012	
Molybdenum	mg/kg	3,500	3,500	--	--	--	1.3 J	1.5 J	1 J	2.6 J	<0.2	0.89 J	2	1.3 J	
Nickel	mg/kg	2,000	200	--	--	--	9.2	16	18	19	17 B	18	9.7	17	
Selenium	mg/kg	100	10	20	--	--	<0.99	<1	5.8 B	<2	<1	<1	<0.99	5.2 B	
Silver	mg/kg	500	50	100	--	--	<0.79	<0.8	<1.6	<1.6	<0.8	<0.8	<0.79	<1.6	
Thallium	mg/kg	700	70	--	--	--	<0.79	2.8 J	1.7 J	<1.6	<0.8	0.99 J	1.3 J	2.7 J	
Vanadium	mg/kg	2,400	240	--	--	--	29	39	36	35	38	40	30	37	
Zinc	mg/kg	5,000	2,500	--	--	--	76	230	54 B	97 B	130 B	60	210	44 B	
GENERAL CHEMISTRY															
pH	SU	--	--	--	--	--	7.67	8.31	7.27	8.42	8.94	8.18	7.87	8.41	
TPH															
Gasoline Range Organics (C6-C12)	mg/kg	--	--	--	--	--	<0.39 {<0.14}	<0.38 {<0.14}	<0.38 {<0.14}	<0.39 {<0.15}	<0.37 {<0.14}	<0.39 {<0.15}	<0.37 {<0.14}	<0.38 {<0.14}	
EFH (C10 - C24)	mg/kg	--	--	--	--	--	71	12	6.7	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	49	<10 {<7}	
EFH (C25 - C40)	mg/kg	--	--	--	--	--	330	81	21	9.6	8.5 B	36	69	<10 {<7}	
EFH (C10 - C40)	mg/kg	--	--	--	--	--	400	93	28	11	10 B	39	120	<10 {<7}	
VOCs															
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.57}	<2 {<0.57}	<2 {<0.57}	<2 {<0.58}	<2 {<0.57}	<2 {<0.56}	<2 {<0.56}	<1.9 {<0.55}	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<1 {<0.7}	<1 {<0.71}	<1 {<0.71}	<1 {<0.7}	<0.99 {<0.69}	<0.98 {<0.69}	<0.97 {<0.68}	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.86}	<2 {<0.86}	<2 {<0.87}	<2 {<0.88}	<2 {<0.86}	<2 {<0.85}	<2 {<0.85}	<1.9 {<0.83}	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	<1 {<0.87}	<1 {<0.87}	<1 {<0.88}	<1 {<0.89}	<1 {<0.87}	<0.99 {<0.86}	<0.98 {<0.86}	<0.97 {<0.84}	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
1,1-Dichloroethene	ug/kg	--	--	14,000	--	--	<2 {<0.6}	<2 {<0.6}	<2 {<0.6}	<2 {<0.61}	<2 {<0.6}	<2 {<0.59}	<2 {<0.59}	<1.9 {<0.58}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0044	LXWC0045	LXWC0046	LXWC0047	LXWC0048	LXWC0049	LXWC0050	LXWC0051
							Sample Name:	LXWC0044S001	LXWC0045S001	LXWC0046S001	LXWC0047S001	LXWC0048S001	LXWC0049S001	LXWC0050S001	LXWC0051S001
							Collection Date:	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/13/2010	10/8/2010	10/12/2010	10/11/2010
							Sample Depth (feet):	0 - 0.3	0 - 0.5	0.5 - 1	0.4 - 0.9	0.2 - 0.7	1.3 - 1.8	0 - 0.3	0.7 - 1.2
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c
1,1-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.4}	<1 {<0.4}	<1 {<0.4}	<1 {<0.41}	<1 {<0.4}	<0.99 {<0.39}	<0.98 {<0.39}	<0.97 {<0.39}	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<0.98}	<1.9 {<0.97}	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<0.98}	<1.9 {<0.97}	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<0.98}	<1.9 {<0.97}	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.78}	<1 {<0.78}	<1 {<0.79}	<1 {<0.8}	<1 {<0.78}	<0.99 {<0.77}	<0.98 {<0.77}	<0.97 {<0.76}	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<10 {<1.5}	<9.9 {<1.5}	<9.8 {<1.5}	<9.7 {<1.5}	
1,2-Dibromoethane (EDB)	ug/kg	--	--	--	--	--	<1 {<0.8}	<1 {<0.8}	<1 {<0.81}	<1 {<0.82}	<1 {<0.8}	<0.99 {<0.79}	<0.98 {<0.79}	<0.97 {<0.78}	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.95}	<1 {<0.95}	<1 {<0.96}	<1 {<0.97}	<1 {<0.95}	<0.99 {<0.94}	<0.98 {<0.94}	<0.97 {<0.92}	
1,2-Dichloroethane	ug/kg	--	--	10,000	--	--	<1 {<0.8}	<1 {<0.8}	<1 {<0.81}	<1 {<0.82}	<1 {<0.8}	<0.99 {<0.79}	<0.98 {<0.79}	<0.97 {<0.78}	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.8}	<1 {<0.8}	<1 {<0.81}	<1 {<0.82}	<1 {<0.8}	<0.99 {<0.79}	<0.98 {<0.79}	<0.97 {<0.78}	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.63}	<1 {<0.63}	<1 {<0.64}	<1 {<0.64}	<1 {<0.63}	<0.99 {<0.62}	<0.98 {<0.62}	<0.97 {<0.61}	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.84}	<1 {<0.84}	<1 {<0.85}	<1 {<0.86}	<1 {<0.84}	<0.99 {<0.83}	<0.98 {<0.83}	<0.97 {<0.81}	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	<1 {<0.63}	<1 {<0.63}	<1 {<0.64}	<1 {<0.64}	<1 {<0.63}	<0.99 {<0.62}	<0.98 {<0.62}	<0.97 {<0.61}	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	<1 {<0.94}	<1 {<0.94}	<1 {<0.95}	<1 {<0.96}	<1 {<0.94}	<0.99 {<0.93}	<0.98 {<0.93}	<0.97 {<0.91}	
2-Butanone (MEK)	ug/kg	--	--	4,000,000	--	--	<10 {<6}	<10 {<6}	<10 {<6}	<10 {<6.1}	<10 {<6}	<9.9 {<5.9}	<9.8 {<5.9}	<9.7 {<5.8}	
2-Hexanone	ug/kg	--	--	--	--	--	<10 {<9.1}	<10 {<9.1}	<10 {<9.2}	<10 {<9.3}	<10 {<9.1}	<9.9 {<9}	<9.8 {<9}	<9.7 {<8.8}	
4-Methyl-2-pentanone (MIBK)	ug/kg	--	--	--	--	--	<5 {<4.5}	<5 {<4.5}	<5 {<4.5}	<5.1 {<4.6}	<5 {<4.5}	<4.9 {<4.4}	<4.9 {<4.4}	<4.8 {<4.4}	
Acetone	ug/kg	--	--	--	--	--	<10 {<8}	<10 {<8}	<10 {<8.1}	<10 {<8.2}	<10 {<8}	<9.9 {<7.9}	<9.8 {<7.9}	<9.7 {<7.8}	
Benzene	ug/kg	--	--	10,000	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
Bromobenzene	ug/kg	--	--	--	--	--	<2 {<0.84}	<2 {<0.84}	<2 {<0.85}	<2 {<0.86}	<2 {<0.84}	<2 {<0.83}	<2 {<0.83}	<1.9 {<0.81}	
Bromochloromethane	ug/kg	--	--	--	--	--	<2 {<0.9}	<2 {<0.9}	<2 {<0.91}	<2 {<0.92}	<2 {<0.9}	<2 {<0.89}	<2 {<0.89}	<1.9 {<0.87}	
Bromodichloromethane	ug/kg	--	--	--	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
Bromoform	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.81}	<2 {<0.82}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<1.9 {<0.78}	
Bromomethane	ug/kg	--	--	--	--	--	<2 {<0.92}	<2 {<0.92}	<2 {<0.93}	<2 {<0.94}	<2 {<0.92}	<2 {<0.91}	<2 {<0.91}	<1.9 {<0.89}	
Carbon Disulfide	ug/kg	--	--	--	--	--	<5 {<0.97}	<5 {<0.97}	<5 {<0.98}	<5.1 {<0.99}	<5 {<0.97}	<4.9 {<0.96}	<4.9 {<0.95}	<4.8 {<0.94}	
Carbon tetrachloride	ug/kg	--	--	10,000	--	--	<2 {<0.5}	<2 {<0.5}	<2 {<0.5}	<2 {<0.51}	<2 {<0.5}	<2 {<0.49}	<2 {<0.49}	<1.9 {<0.48}	
Chlorobenzene	ug/kg	--	--	2,000,000	--	--	<1 {<0.52}	<1 {<0.52}	<1 {<0.52}	<1 {<0.53}	<1 {<0.52}	<0.99 {<0.51}	<0.98 {<0.51}	<0.97 {<0.5}	
Chloroethane	ug/kg	--	--	--	--	--	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<1.9 {<1.5}	
Chloroform	ug/kg	--	--	120,000	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
Chloromethane	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<0.98}	<1.9 {<0.97}	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.83}	<1 {<0.83}	<1 {<0.84}	<1 {<0.85}	<1 {<0.83}	<0.99 {<0.82}	<0.98 {<0.82}	<0.97 {<0.8}	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.44}	<1 {<0.44}	<1 {<0.44}	<1 {<0.45}	<1 {<0.44}	<0.99 {<0.43}	<0.98 {<0.43}	<0.97 {<0.43}	
Dibromochloromethane	ug/kg	--	--	--	--	--	<1 {<0.7}	<1 {<0.7}	<1 {<0.71}	<1 {<0.71}	<1 {<0.7}	<0.99 {<0.69}	<0.98 {<0.69}	<0.97 {<0.68}	
Dibromomethane	ug/kg	--	--	--	--	--	<1 {<0.9}	<1 {<0.9}	<1 {<0.91}	<1 {<0.92}	<1 {<0.9}	<0.99 {<0.89}	<0.98 {<0.89}	<0.97 {<0.87}	
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	<5 {<1.5}	<5 {<1.5}	<5 {<1.5}	<5.1 {<1.5}	<5 {<1.5}	<4.9 {<1.5}	<4.9 {<1.5}	<4.8 {<1.5}	
Ethylbenzene	ug/kg	--	--	--	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
Hexachlorobutadiene	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.81}	<2 {<0.82}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<1.9 {<0.78}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY

							Object Name:	LXWC0044	LXWC0045	LXWC0046	LXWC0047	LXWC0048	LXWC0049	LXWC0050	LXWC0051
							Sample Name:	LXWC0044S001	LXWC0045S001	LXWC0046S001	LXWC0047S001	LXWC0048S001	LXWC0049S001	LXWC0050S001	LXWC0051S001
							Collection Date:	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/13/2010	10/8/2010	10/12/2010	10/11/2010
							Sample Depth (feet):	0 - 0.3	0 - 0.5	0.5 - 1	0.4 - 0.9	0.2 - 0.7	1.3 - 1.8	0 - 0.3	0.7 - 1.2
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	
Isopropylbenzene	ug/kg	--	--	--	--	--	<1 {<0.54}	<1 {<0.54}	<1 {<0.54}	<1 {<0.55}	<1 {<0.54}	<0.99 {<0.53}	<0.98 {<0.53}	<0.97 {<0.52}	
m,p-Xylenes	ug/kg	--	--	--	--	--	<2 {<0.8}	<2 {<0.8}	<2 {<0.81}	<2 {<0.82}	<2 {<0.8}	<2 {<0.79}	<2 {<0.79}	<1.9 {<0.78}	
Methylene chloride	ug/kg	--	--	--	--	--	<10 {<6.5}	<10 {<6.5}	6.6 J	7.3 J	<10 {<6.5}	9.1 JB	<9.8 {<6.4}	<10 {<6.5}	
Methyl-tert-butyl Ether (MTBE)	ug/kg	--	--	--	--	--	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<1}	<2 {<0.99}	<2 {<0.98}	<1.9 {<0.97}	
n-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.72}	<2 {<0.72}	<2 {<0.73}	<2 {<0.73}	<2 {<0.72}	<2 {<0.71}	<2 {<0.71}	<1.9 {<0.7}	
n-Propylbenzene	ug/kg	--	--	--	--	--	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.62}	<1 {<0.61}	<0.99 {<0.6}	<0.98 {<0.6}	<0.97 {<0.59}	
Naphthalene	ug/kg	--	--	--	--	--	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<1.9 {<1.1}	
o-Xylene	ug/kg	--	--	--	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
p-Isopropyltoluene	ug/kg	--	--	--	--	--	<1 {<0.72}	<1 {<0.72}	<1 {<0.73}	<1 {<0.73}	<1 {<0.72}	<0.99 {<0.71}	<0.98 {<0.71}	<0.97 {<0.7}	
sec-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.67}	<2 {<0.67}	<2 {<0.68}	<2 {<0.68}	<2 {<0.67}	<2 {<0.66}	<2 {<0.66}	<1.9 {<0.65}	
Styrene	ug/kg	--	--	--	--	--	<1 {<0.58}	<1 {<0.58}	<1 {<0.58}	<1 {<0.59}	<1 {<0.58}	<0.99 {<0.57}	<0.98 {<0.57}	<0.97 {<0.56}	
tert-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.62}	<2 {<0.62}	<2 {<0.62}	<2 {<0.63}	<2 {<0.62}	<2 {<0.61}	<2 {<0.61}	<1.9 {<0.6}	
Tetrachloroethene	ug/kg	--	--	14,000	--	--	<1 {<0.49}	<1 {<0.49}	<1 {<0.49}	<1 {<0.5}	<1 {<0.49}	<0.99 {<0.48}	<0.98 {<0.48}	<0.97 {<0.47}	
Toluene	ug/kg	--	--	--	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<1 {<0.7}	<1 {<0.7}	<1 {<0.71}	<1 {<0.71}	<1 {<0.7}	<0.99 {<0.69}	<0.98 {<0.69}	<0.97 {<0.68}	
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<1 {<0.61}	<1 {<0.61}	<1 {<0.61}	<1 {<0.62}	<1 {<0.61}	<0.99 {<0.6}	<0.98 {<0.6}	<0.97 {<0.59}	
Trichloroethene	ug/kg	2,040,000	2,040,000	10,000	--	--	<1 {<0.5}	<1 {<0.5}	<1 {<0.5}	<1 {<0.51}	<1 {<0.5}	<0.99 {<0.49}	<0.98 {<0.49}	<0.97 {<0.48}	
Trichlorofluoromethane	ug/kg	--	--	--	--	--	<2 {<0.54}	<2 {<0.54}	<2 {<0.54}	<2 {<0.55}	<2 {<0.54}	<2 {<0.53}	<2 {<0.53}	<1.9 {<0.52}	
Vinyl acetate	ug/kg	--	--	--	--	--	<5 {<2.5}	<5 {<2.5}	<5 {<2.5}	<5.1 {<2.6}	<5 {<2.5}	<4.9 {<2.5}	<4.9 {<2.5}	<4.8 {<2.4}	
Vinyl chloride	ug/kg	--	--	4,000	--	--	<2 {<0.91}	<2 {<0.91}	<2 {<0.92}	<2 {<0.93}	<2 {<0.91}	<2 {<0.9}	<2 {<0.9}	<1.9 {<0.88}	
RADIONUCLIDES	--	--	--	--	--	--	R	R	R	R	R	R	R	R	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

							Object Name:	LXWC0052	LXWC0053	LXWC0054	LXWC0055	LXWC0056	LXWC0057	LXWC0058	LXWC0059
							Sample Name:	LXWC0052S001	LXWC0053S001	LXWC0054S001	LXWC0055S001	LXWC0056S001	LXWC0057S001	LXWC0058S001	LXWC0059S001
							Collection Date:	10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/11/2010	10/8/2010	10/11/2010	10/12/2010
							Sample Depth (feet):	0 - 0.4	0.8 - 1.2	1 - 1.5	0.4 - 0.8	0.3 - 0.8	0.1 - 0.3	0.1 - 0.6	0.2 - 0.7
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	
METALS															
Antimony	mg/kg	500	150	--	--	--	<0.87	1.5 J	<1.7	2.6 J	2.1 J	1.6 J	<1.7	<0.88	
Arsenic	mg/kg	500	50	100	--	--	1.9 J	4.3	5.6	7.3	5.7	4.9	5.4	5.9	
Barium	mg/kg	10,000	1,000	2,000	--	--	68	94	59	100	98	100	110	91	
Beryllium	mg/kg	75	7.5	--	--	--	<0.2	0.37 J	0.48 J	0.57 J	0.51 J	0.52	0.66 J	0.54	
Cadmium	mg/kg	100	10	20	--	--	<0.2	0.35 J	<0.4	<0.39	<0.4	0.25 J	<0.39	<0.2	
Chromium	mg/kg	500	50	100	--	--	17	22	16	30	28	23	30	26	
Chromium, WET	mg/L	--	--	--	560	--	--	--	--	--	--	--	--	--	
Chromium, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	--	--	--	
Chromium (Hexavalent), WET	mg/L	--	--	--	5	--	--	--	--	--	--	--	--	--	
Cobalt	mg/kg	8,000	800	--	--	--	4.9	6.3	4.8	6.9	6	5.9	7.4	5.5	
Copper	mg/kg	2,500	250	--	--	--	13	46	7.3	36	110	20	12	12	
Lead	mg/kg	1,000	50	100	--	--	5.9	29	4.8	20	11	350	6.5	7.6	
Lead, WET	mg/L	--	--	--	5	--	--	--	--	--	--	22	--	--	
Lead, TCLP	mg/L	--	--	--	--	5	--	--	--	--	--	0.058 J	--	--	
Mercury	mg/kg	20	2	4	--	--	0.014 J	0.17	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	
Molybdenum	mg/kg	3,500	3,500	--	--	--	0.76 J	3.8	1.1 J	2.5 J	1.1 J	1.9 J	0.7 J	0.43 J	
Nickel	mg/kg	2,000	200	--	--	--	6.3	20	11	21	18	19	22	17	
Selenium	mg/kg	100	10	20	--	--	<0.99	<1	4.4 B	2.1 JB	4.1 B	<1	7.1 B	<1	
Silver	mg/kg	500	50	100	--	--	<0.79	3.4	<1.6	<1.6	<1.6	<0.8	<1.6	<0.8	
Thallium	mg/kg	700	70	--	--	--	<0.79	<0.8	2.7 J	3.1 J	<1.6	<0.8	2.4 J	1.5 J	
Vanadium	mg/kg	2,400	240	--	--	--	30	31	27	42	40	32	42	40	
Zinc	mg/kg	5,000	2,500	--	--	--	34	170	48 B	100 B	63 B	73	55 B	48	
GENERAL CHEMISTRY															
pH	SU	--	--	--	--	--	6.98	8.25	8.07	8.9	8.14	8.01	7.52	8.26	
TPH															
Gasoline Range Organics (C6-C12)	mg/kg	--	--	--	--	--	<0.37 {<0.14}	<0.37 {<0.14}	<0.38 {<0.14}	<0.39 {<0.14}	<0.4 {<0.15}	<0.38 {<0.14}	<0.39 {<0.15}	<0.38 {<0.14}	
EFH (C10 - C24)	mg/kg	--	--	--	--	--	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	<5 {<3.5}	4.2 J	4.5 J	<5 {<3.5}	<5 {<3.5}	
EFH (C25 - C40)	mg/kg	--	--	--	--	--	<5 {<3.5}	6.3 B	<5 {<3.5}	13	46	24	6.4	<5 {<3.5}	
EFH (C10 - C40)	mg/kg	--	--	--	--	--	<5 {<3.5}	7.8 B	<5 {<3.5}	16	50	29	8	<5 {<3.5}	
VOCs															
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.57}	<2 {<0.56}	<2.1 {<0.59}	<2 {<0.56}	<2 {<0.57}	<2 {<0.56}	<2 {<0.57}	<2 {<0.56}	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	<0.99 {<0.69}	<0.99 {<0.69}	<1 {<0.72}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	<2 {<0.85}	<2 {<0.85}	<2.1 {<0.89}	<2 {<0.85}	<2 {<0.86}	<2 {<0.85}	<2 {<0.86}	<2 {<0.85}	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	<0.99 {<0.86}	<0.99 {<0.86}	<1 {<0.9}	<0.99 {<0.86}	<1 {<0.87}	<0.99 {<0.86}	<1 {<0.87}	<0.99 {<0.86}	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	
1,1-Dichloroethene	ug/kg	--	--	14,000	--	--	<2 {<0.6}	<2 {<0.59}	<2.1 {<0.62}	<2 {<0.59}	<2 {<0.6}	<2 {<0.59}	<2 {<0.6}	<2 {<0.59}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

ANALYTE	UNITS	TTLC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	Object Name:	LXWC0052	LXWC0053	LXWC0054	LXWC0055	LXWC0056	LXWC0057	LXWC0058	LXWC0059
							Sample Name:	LXWC0052S001	LXWC0053S001	LXWC0054S001	LXWC0055S001	LXWC0056S001	LXWC0057S001	LXWC0058S001	LXWC0059S001
Collection Date:							10/12/2010	10/12/2010	10/11/2010	10/11/2010	10/11/2010	10/8/2010	10/11/2010	10/12/2010	
Sample Depth (feet):							0 - 0.4	0.8 - 1.2	1 - 1.5	0.4 - 0.8	0.3 - 0.8	0.1 - 0.3	0.1 - 0.6	0.2 - 0.7	
							RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	
1,1-Dichloropropene	ug/kg	--	--	--	--	--	<0.99 {<0.4}	<0.99 {<0.4}	<1 {<0.41}	<0.99 {<0.4}	<1 {<0.4}	<0.99 {<0.4}	<1 {<0.4}	<0.99 {<0.4}	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<0.99}	<2 {<0.99}	<2.1 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	<2 {<0.99}	<2 {<0.99}	<2.1 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	<2 {<0.99}	<2 {<0.99}	<2.1 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	<0.99 {<0.77}	<0.99 {<0.77}	<1 {<0.81}	<0.99 {<0.77}	<1 {<0.78}	<0.99 {<0.77}	<1 {<0.78}	<0.99 {<0.77}	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	<9.9 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	<9.9 {<1.5}	<10 {<1.5}	<9.9 {<1.5}	
1,2-Dibromoethane (EDB)	ug/kg	--	--	--	--	--	<0.99 {<0.79}	<0.99 {<0.79}	<1 {<0.83}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	<0.99 {<0.94}	<0.99 {<0.94}	<1 {<0.98}	<0.99 {<0.94}	<1 {<0.95}	<0.99 {<0.94}	<1 {<0.95}	<0.99 {<0.94}	
1,2-Dichloroethane	ug/kg	--	--	10,000	--	--	<0.99 {<0.79}	<0.99 {<0.79}	<1 {<0.83}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	<0.99 {<0.79}	<0.99 {<0.79}	<1 {<0.83}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	<1 {<0.8}	<0.99 {<0.79}	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	<0.99 {<0.62}	<0.99 {<0.62}	<1 {<0.65}	<0.99 {<0.62}	<1 {<0.63}	<0.99 {<0.62}	<1 {<0.63}	<0.99 {<0.62}	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	<0.99 {<0.83}	<0.99 {<0.83}	<1 {<0.87}	<0.99 {<0.83}	<1 {<0.84}	<0.99 {<0.83}	<1 {<0.84}	<0.99 {<0.83}	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	<0.99 {<0.62}	<0.99 {<0.62}	<1 {<0.65}	<0.99 {<0.62}	<1 {<0.63}	<0.99 {<0.62}	<1 {<0.63}	<0.99 {<0.62}	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	<0.99 {<0.93}	<0.99 {<0.93}	<1 {<0.97}	<0.99 {<0.93}	<1 {<0.94}	<0.99 {<0.93}	<1 {<0.94}	<0.99 {<0.93}	
2-Butanone (MEK)	ug/kg	--	--	4,000,000	--	--	<9.9 {<6}	<9.9 {<5.9}	<10 {<6.2}	<9.9 {<5.9}	<10 {<6}	<9.9 {<5.9}	<10 {<6}	<9.9 {<5.9}	
2-Hexanone	ug/kg	--	--	--	--	--	<9.9 {<9}	<9.9 {<9}	<10 {<9.4}	<9.9 {<9}	<10 {<9.1}	<9.9 {<9}	<10 {<9.1}	<9.9 {<9}	
4-Methyl-2-pentanone (MIBK)	ug/kg	--	--	--	--	--	<5 {<4.5}	<5 {<4.5}	<5.2 {<4.6}	<4.9 {<4.4}	<5 {<4.5}	<4.9 {<4.4}	<5 {<4.5}	<4.9 {<4.4}	
Acetone	ug/kg	--	--	--	--	--	<9.9 {<7.9}	<9.9 {<7.9}	<10 {<8.3}	<9.9 {<7.9}	<10 {<8}	<9.9 {<7.9}	<10 {<8}	<9.9 {<7.9}	
Benzene	ug/kg	--	--	10,000	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	
Bromobenzene	ug/kg	--	--	--	--	--	<2 {<0.83}	<2 {<0.83}	<2.1 {<0.87}	<2 {<0.83}	<2 {<0.84}	<2 {<0.83}	<2 {<0.84}	<2 {<0.83}	
Bromochloromethane	ug/kg	--	--	--	--	--	<2 {<0.89}	<2 {<0.89}	<2.1 {<0.93}	<2 {<0.89}	<2 {<0.9}	<2 {<0.89}	<2 {<0.9}	<2 {<0.89}	
Bromodichloromethane	ug/kg	--	--	--	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	
Bromoform	ug/kg	--	--	--	--	--	<2 {<0.79}	<2 {<0.79}	<2.1 {<0.83}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	
Bromomethane	ug/kg	--	--	--	--	--	<2 {<0.91}	<2 {<0.91}	<2.1 {<0.95}	<2 {<0.91}	<2 {<0.92}	<2 {<0.91}	<2 {<0.92}	<2 {<0.91}	
Carbon Disulfide	ug/kg	--	--	--	--	--	<5 {<0.96}	<5 {<0.96}	<5.2 {<1}	<4.9 {<0.96}	<5 {<0.97}	<4.9 {<0.96}	<5 {<0.97}	<4.9 {<0.96}	
Carbon tetrachloride	ug/kg	--	--	10,000	--	--	<2 {<0.5}	<2 {<0.5}	<2.1 {<0.52}	<2 {<0.49}	<2 {<0.5}	<2 {<0.49}	<2 {<0.5}	<2 {<0.49}	
Chlorobenzene	ug/kg	--	--	2,000,000	--	--	<0.99 {<0.52}	<0.99 {<0.51}	<1 {<0.54}	<0.99 {<0.51}	<1 {<0.52}	<0.99 {<0.51}	<1 {<0.52}	<0.99 {<0.51}	
Chloroethane	ug/kg	--	--	--	--	--	<2 {<1.5}	<2 {<1.5}	<2.1 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	<2 {<1.5}	
Chloroform	ug/kg	--	--	120,000	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	
Chloromethane	ug/kg	--	--	--	--	--	<2 {<0.99}	<2 {<0.99}	<2.1 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<0.99 {<0.82}	<0.99 {<0.82}	<1 {<0.86}	<0.99 {<0.82}	<1 {<0.83}	<0.99 {<0.82}	<1 {<0.83}	<0.99 {<0.82}	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<0.99 {<0.44}	<0.99 {<0.44}	<1 {<0.45}	<0.99 {<0.43}	<1 {<0.44}	<0.99 {<0.43}	<1 {<0.44}	<0.99 {<0.43}	
Dibromochloromethane	ug/kg	--	--	--	--	--	<0.99 {<0.69}	<0.99 {<0.69}	<1 {<0.72}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}	
Dibromomethane	ug/kg	--	--	--	--	--	<0.99 {<0.89}	<0.99 {<0.89}	<1 {<0.93}	<0.99 {<0.89}	<1 {<0.9}	<0.99 {<0.89}	<1 {<0.9}	<0.99 {<0.89}	
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	<5 {<1.5}	<5 {<1.5}	<5.2 {<1.5}	<4.9 {<1.5}	<5 {<1.5}	<4.9 {<1.5}	<5 {<1.5}	<4.9 {<1.5}	
Ethylbenzene	ug/kg	--	--	--	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	
Hexachlorobutadiene	ug/kg	--	--	--	--	--	<2 {<0.79}	<2 {<0.79}	<2.1 {<0.83}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

WASTE CHARACTERIZATION SAMPLE RESULTS – LOX-1B-3
 THE BOEING COMPANY
 SANTA SUSANA FIELD LABORATORY

				Object Name: Sample Name: Collection Date: Sample Depth (feet):			LXWC0052 LXWC0052S001 10/12/2010 0 - 0.4	LXWC0053 LXWC0053S001 10/12/2010 0.8 - 1.2	LXWC0054 LXWC0054S001 10/11/2010 1 - 1.5	LXWC0055 LXWC0055S001 10/11/2010 0.4 - 0.8	LXWC0056 LXWC0056S001 10/11/2010 0.3 - 0.8	LXWC0057 LXWC0057S001 10/8/2010 0.1 - 0.3	LXWC0058 LXWC0058S001 10/11/2010 0.1 - 0.6	LXWC0059 LXWC0059S001 10/12/2010 0.2 - 0.7
ANALYTE	UNITS	TTLIC	WET Leachate Testing Trigger ^a	TCLP Leachate Testing Trigger ^b	STLC	TCLP	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	RESULT ^c	
Isopropylbenzene	ug/kg	--	--	--	--	--	<0.99 {<0.54}	<0.99 {<0.53}	<1 {<0.56}	<0.99 {<0.53}	<1 {<0.54}	<0.99 {<0.53}	<1 {<0.54}	<0.99 {<0.53}
m,p-Xylenes	ug/kg	--	--	--	--	--	<2 {<0.79}	<2 {<0.79}	<2.1 {<0.83}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}	<2 {<0.8}	<2 {<0.79}
Methylene chloride	ug/kg	--	--	--	--	--	<9.9 {<6.4}	<9.9 {<6.4}	7.4 J	7.2 J	8.7 J	<9.9 {<6.4}	9.4 J	<9.9 {<6.4}
Methyl-tert-butyl Ether (MTBE)	ug/kg	--	--	--	--	--	<2 {<0.99}	<2 {<0.99}	<2.1 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}	<2 {<1}	<2 {<0.99}
n-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.71}	<2 {<0.71}	<2.1 {<0.74}	<2 {<0.71}	<2 {<0.72}	<2 {<0.71}	<2 {<0.72}	<2 {<0.71}
n-Propylbenzene	ug/kg	--	--	--	--	--	<0.99 {<0.61}	<0.99 {<0.6}	<1 {<0.63}	<0.99 {<0.6}	<1 {<0.61}	<0.99 {<0.6}	<1 {<0.61}	<0.99 {<0.6}
Naphthalene	ug/kg	--	--	--	--	--	<2 {<1.1}	<2 {<1.1}	<2.1 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}	<2 {<1.1}
o-Xylene	ug/kg	--	--	--	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}
p-Isopropyltoluene	ug/kg	--	--	--	--	--	<0.99 {<0.71}	<0.99 {<0.71}	<1 {<0.74}	<0.99 {<0.71}	<1 {<0.72}	<0.99 {<0.71}	<1 {<0.72}	<0.99 {<0.71}
sec-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.66}	<2 {<0.66}	<2.1 {<0.69}	<2 {<0.66}	<2 {<0.67}	<2 {<0.66}	<2 {<0.67}	<2 {<0.66}
Styrene	ug/kg	--	--	--	--	--	<0.99 {<0.58}	<0.99 {<0.57}	<1 {<0.6}	<0.99 {<0.57}	<1 {<0.58}	<0.99 {<0.57}	<1 {<0.58}	<0.99 {<0.57}
tert-Butylbenzene	ug/kg	--	--	--	--	--	<2 {<0.62}	<2 {<0.61}	<2.1 {<0.64}	<2 {<0.61}	<2 {<0.62}	<2 {<0.61}	<2 {<0.62}	<2 {<0.61}
Tetrachloroethene	ug/kg	--	--	14,000	--	--	<0.99 {<0.49}	<0.99 {<0.49}	<1 {<0.51}	<0.99 {<0.48}	<1 {<0.49}	<0.99 {<0.48}	<1 {<0.49}	<0.99 {<0.48}
Toluene	ug/kg	--	--	--	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	<0.99 {<0.69}	<0.99 {<0.69}	<1 {<0.72}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}	<1 {<0.7}	<0.99 {<0.69}
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	<0.99 {<0.61}	<0.99 {<0.6}	<1 {<0.63}	<0.99 {<0.6}	<1 {<0.61}	<0.99 {<0.6}	<1 {<0.61}	<0.99 {<0.6}
Trichloroethene	ug/kg	2,040,000	2,040,000	10,000	--	--	<0.99 {<0.5}	<0.99 {<0.5}	<1 {<0.52}	<0.99 {<0.49}	<1 {<0.5}	<0.99 {<0.49}	4.5	<0.99 {<0.49}
Trichlorofluoromethane	ug/kg	--	--	--	--	--	<2 {<0.54}	<2 {<0.53}	<2.1 {<0.56}	<2 {<0.53}	<2 {<0.54}	<2 {<0.53}	<2 {<0.54}	<2 {<0.53}
Vinyl acetate	ug/kg	--	--	--	--	--	<5 {<2.5}	<5 {<2.5}	<5.2 {<2.6}	<4.9 {<2.5}	<5 {<2.5}	<4.9 {<2.5}	<5 {<2.5}	<4.9 {<2.5}
Vinyl chloride	ug/kg	--	--	4,000	--	--	<2 {<0.9}	<2 {<0.9}	<2.1 {<0.94}	<2 {<0.9}	<2 {<0.91}	<2 {<0.9}	<2 {<0.91}	<2 {<0.9}
RADIONUCLIDES	--	--	--	--	--	--	R	R	R	R	R	R	R	R

INTERIM SOURCE REMOVAL ACTION (ISRA) - OUTFALL 009

**WASTE CHARACTERIZATION SAMPLE RESULTS – LOX
THE BOEING COMPANY
SANTA SUSANA FIELD LABORATORY**

Notes:

--" - not analyzed / not applicable

<5 - Analyte not detected at or above the stated method detection limit (metals) or analyte not detected at or above the stated reporting limit (organics)

{<1} - Analyte not detected at or above the stated method detection limit (organics)

^a - WET Leachate Testing Trigger = STLC limit * 10

^b - TCLP Leachate Testing Trigger = TCLP limit * 20

^c Waste characterization sample results not validated

B - Analyte was detected in the associated method blank

J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

µg/kg - micrograms per kilogram

mg/kg - milligrams per kilogram

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 will be preparing a document that provides the radiological results and statistical analysis of these waste characterization samples.

SU - standard units