BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

WELL CLOSURE REPORT
BUILDING 2 SOIL VAPOR EXTRACTION WELLS

To: **Mr. Brian Mossman**
Boeing Realty Corporation
3855 Lakewood Blvd.
Building 1A MC D001-0097
Long Beach, CA 90846

From: **Haley & Aldrich, Inc.**

Date: **June 23, 2003**

Re: **Well Closure Report, Building 2 Soil Vapor Extraction Wells**
Boeing Realty Corporation, Former C-6 Facility, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this soil vapor extraction (SVE) well closure report to summarize the closure of 30 SVE wells at Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (Site). The location of the Site is shown on Figure 1. The Building 2 SVE wells were located inside Building 2 (within Parcel C) at the Site as shown in Figure 2. The wells were closed due to the completion of SVE treatment.

INTRODUCTION

The Building 2 SVE wells were installed in multiple phases from July 2001 to September 2002 by Haley & Aldrich, Inc. (Haley & Aldrich) as part of the former Building 2 deep soil remediation program. The Building 2 SVE system was operated from November 27, 2001 to February 20, 2003 for the removal of volatile organic compounds (VOCs) from the unsaturated soil deeper than 12-feet below ground surface (bgs) at the Site. A *Soil Vapor Extraction Closure Report* (Haley & Aldrich, 2003) was submitted to the Regional Water Quality Control Board, Los Angeles (LARWQCB) on March 5, 2003. On April 2, 2003, the LARWQCB issued an approval of system decommissioning. This report summarizes the SVE well closure activities.

FIELD ACTIVITIES

The scope of work for closure of the Building 2 SVE wells consisted of pressure grouting the well casing and filterpack, removing the surface protection, overdrilling the top 12-feet of the borehole, and backfilling the borehole with a one-sack slurry of sand and Portland cement. The wells were abandoned in accordance with the California Department of Water Resources well destruction procedures. Table 1 summarizes Building 2 SVE well construction information. Since the wells were not installed into groundwater, no well permits were needed. These tasks are discussed below.

SVE Well Closure

West Hazmat Drilling, Inc. (WHD) was contracted by Haley & Aldrich, Inc. to close the Building 2 SVE wells. The well closure process consisted of pumping bentonite grout under pressure into the well casing and filter pack. The total volume of the well casing, well screen, and the pore space of the filter pack was calculated before grouting. Grout was prepared by mixing two 50-pound bags of Wyo-Ben bentonite well grout with approximately 40 gallons of water in a 55-gallon drum, using a hydraulic mixer. Bentonite grout was pumped into the well casing until it was filled to the top. A pressure grouting fitting was attached to the well casing and grout was subsequently pumped into each SVE well casing using a pump that generated approximately 20 pounds of pressure per square inch (psi). Once the casing was filled with grout, pressure was maintained for 5 minutes. The protective surface completion including a PVC sleeve and concrete skirt was removed from the well. The upper 12 feet of each well casing and borehole was over-drilled with a 10-inch diameter hollow stem auger drill bit. The borehole was subsequently backfilled from 12-feet bgs to present site grade with a one-sack slurry of sand and Portland cement delivered by a concrete truck. Well closure observations are summarized in Table 1.

A photoionization detector (PID) was used during the fieldwork to monitor the level of VOCs present in soil cuttings and in the breathing zone. The PID used for this investigation was a RAE Systems MiniRAE Plus with a 10.6 eV lamp. PID readings did not exceed 0.1 parts per million by volume (ppmv).

WASTE STORAGE, HAULING AND DISPOSAL

Decontamination water not produced during well closure activities. Cuttings from the over-drilling of the upper 12-feet of the SVE wells primarily consisted of hydrated bentonite chips and PVC. Final disposition of these residuals is currently pending Boeing facility selection.

Should you have any questions concerning the contents of this memorandum or require additional information, please contact either of the undersigned.

Sincerely yours,
Haley & Aldrich, Inc.

Scott P. Zachary
Project Manager

Joe Weidmann
R.G. No. 6947
Senior Geologist

HALEY & ALDRICH

REFERENCES

Haley & Aldrich 2003, *Soil Vapor Extraction Closure Report, Building 2 System, Boeing Realty Corporation, Former C-6 Facility, Los Angeles, California*, March 5, 2003.

ATTACHMENTS

Table 1 – Summary of Well Construction and Closure Data
Figure 1 – Site Location Plan
Figure 2 – Site Plan Showing SVE Wells
Appendix A - Well Logs

TABLES

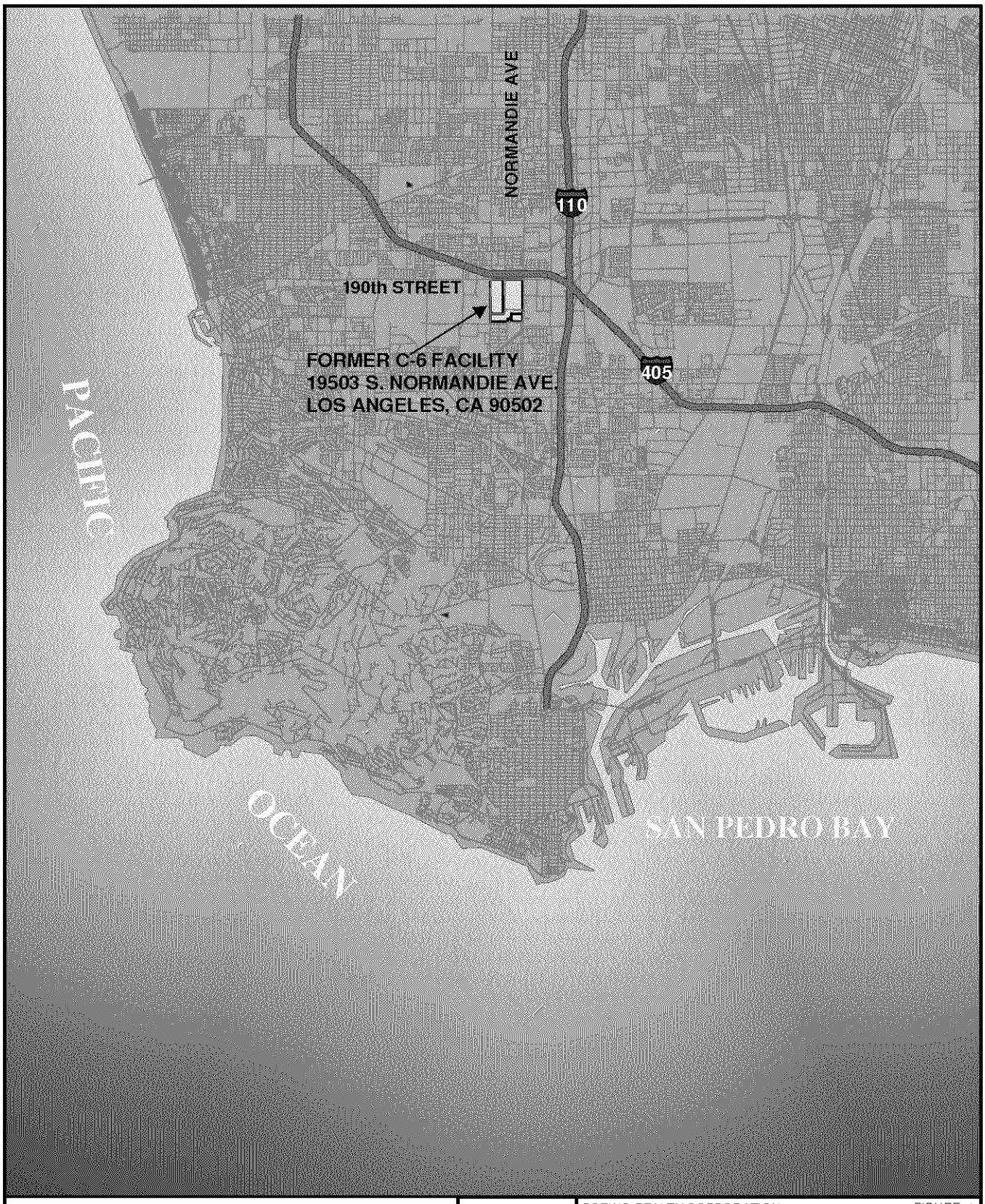
TABLE I

SUMMARY OF WELL CONSTRUCTION AND CLOSURE DATA
BOEING FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

WELL DESIGNATION	TOP OF SCREEN (feet bgs)	BOTTOM OF SCREEN (feet bgs)	CALCULATED VOLUME OF GROUT REQUIRED* (gallons)	ACTUAL VOLUME OF GROUT USED (gallons)
2_VEW_1A	15	30	17	20
2_VEW_1B	50	65	23	25
2_VEW_2	35	65	33	35
2_VEW_3A	20	30	14	20
2_VEW_3B	50	65	23	30
2_VEW_4	30	65	36	40
2_VEW_5	30	65	36	40
2_VEW_6	30	65	36	45
2_VEW_7A	20	30	14	20
2_VEW_7B	50	65	23	30
2_VEW_8A	20	30	14	20
2_VEW_8B	45	65	26	30
2_VEW_9	45	65	26	30
2_VEW_10A	15	35	21	30
2_VEW_10B	45	65	26	35
2_VEW_11A	15	35	21	30
2_VEW_11B	45	65	26	30
2_VEW_12	15	65	46	50
2_VEW_13A	15	35	21	30
2_VEW_13B	45	65	26	35
2_VEW_14A	15	35	21	40
2_VEW_14B	45	65	26	50
2_VEW_15A	15	35	21	30
2_VEW_15B	45	65	26	40
2_VEW_16A	9	29	20	30
2_VEW_17A	9	29	20	20
2_VEW_17B	39	64	29	30
2_VEW_18	40	65	30	40
2_VEW_19	40	65	30	35
2_VEW_20	40	65	30	35

NOTES:
* Calculated volume of grout required = volume to fill screen, casing, and pore space of sand/filterpack.

FIGURES



N

2 1 0 2 Miles

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UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

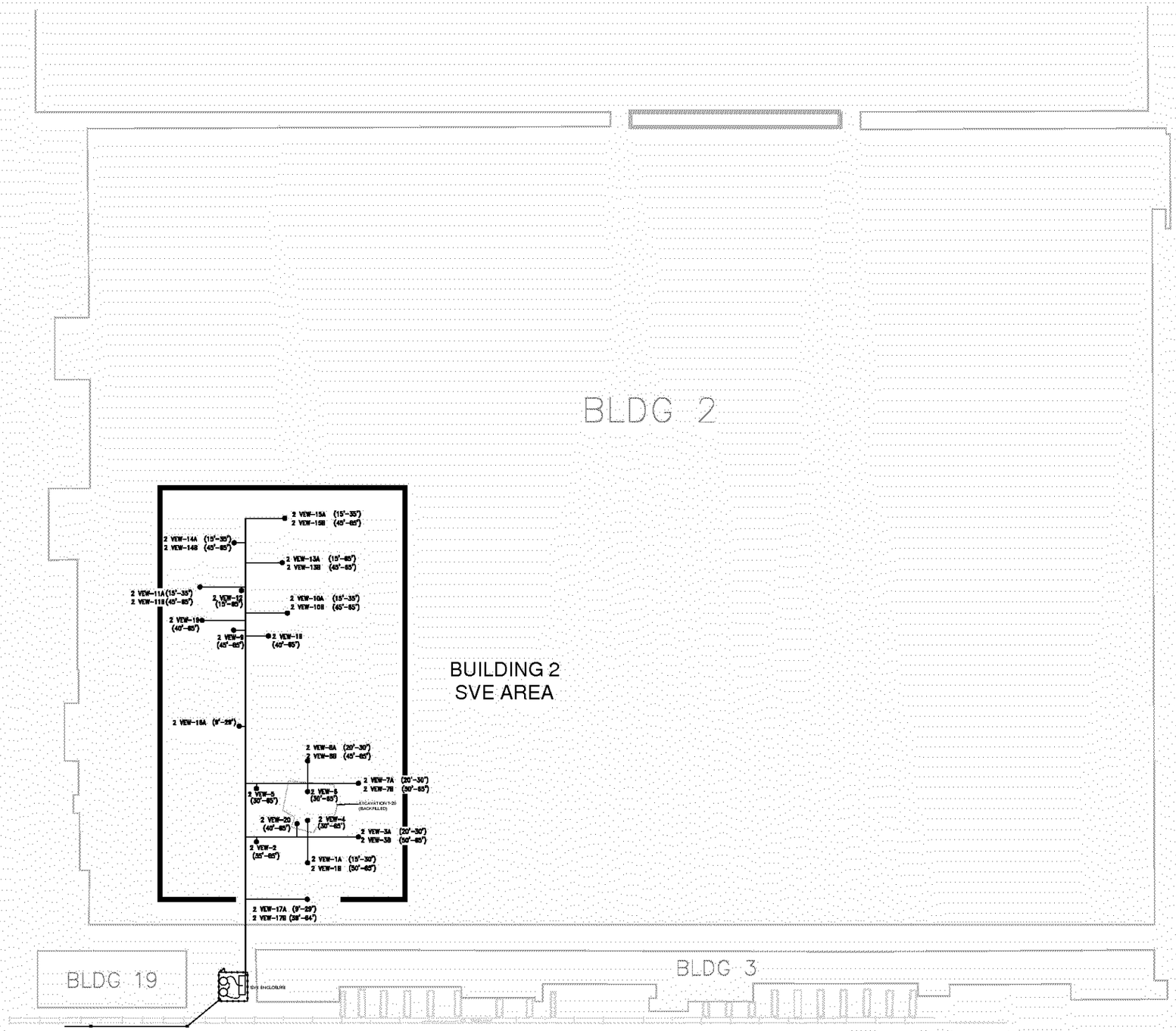
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE 1

SITE LOCATION PLAN

SCALE: AS SHOWN

JUNE 2003



LEGEND

- FORMER SOIL VAPOR EXTRACTION WELL
- ABOVE-GROUND PIPING
- (15'-30') SCREENED INTERVALS (FEET BELOW GROUND SURFACE)

N

0 30 60 120

FEET

ALL DIMENSION AND LOCATIONS APPROXIMATE

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BOEING REALTY CORPORATION
FORMER C-6 FACILTY
LOS ANGELES, CALIFORNIA

FIGURE 2

BUILDING 2
FORMER SVE WELL LOCATIONS

SCALE: AS SHOWN

JUNE 2003

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APPENDIX A

WELL LOGS

TEST BORING REPORT

Boring No. 2_VEW_1

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 11, 2001
Finish: September 11, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
					13.	ML	brown SILT (ML), moist PID 0.1-0.5 ppm (BZ), 60 (cutings) ppm					5	95			L	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_1

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_1
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25					25.0	ML	brown SILT (ML), moist PID 0.1-0.5 ppm (BZ), 200 (cuttings) ppm					5	95			L	
30																	
35					35.0	SM	brown-yellow fine sand w silt (SM), moist PID 0.5-1.0 (cuttings) ppm					85	15				
40																	
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_1

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TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_1
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
55												20	80				
												10	90				
60																	
					61.3	ML	fine sand grading to silt (ML) PID 0.1-0.5 ppm (BZ), 35 (cuttings) ppm										
												5	95				
65					65.0		PID 10 (cuttings) ppm Total Depth 65 ft Vapor well Installed 91101										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_1

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_2

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 12, 2001
Finish: September 12, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
						ML	brown SILT (ML)										
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_2

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. 2_VEW_2
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25					25.0	ML	dark brown SILT (ML), damp, moderate stiffness PID 0.1 ppm (BZ), 300 (sample questionable) ppm					5	95			L	
30																	
35																	
					37.5	ML	Loose, brown Silt w fine sand (ML), damp PID 3 (cuttings) ppm					15	85				
40																	
45																	
					46.3	SM	Loose, orange-brown fine sand w silt (SM), moist					85	15				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_2

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_2
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
					52.5	SM-ML	(SM-ML)grading back into silt PID 0.1-0.3 ppm (BZ), 300 (sample questionable) ppm										
55																	
60																	
					63.	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 0.7 (cuttings) ppm					5	95			L	
65					65.0		Total depth 65 ft Vapor Well Installed 91201										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_2

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TEST BORING REPORT

Boring No. 2_VEW_3

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 12, 2001
Finish: September 12, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
					11.3	ML	brown Silt w trace clay and fine sand (ML), moist PID 2-3 ppm (BZ, questionable reading), 40 (cuttings) ppm					5	95				
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_3

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_3
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
					21.3	ML	brown SILT (ML), moist PID 0.6-0. ppm (BZ), 40 (cuttings) ppm					5	95				
25																	
30																	
					31.3	SM	brown fine sand w silt (SM), moist PID 0.1 ppm (BZ), 56 (cuttings) ppm					80	20				
35																	
40																	
45																	
					46.3	SP	orange-brown fine sand (SP), damp PID 0.2 ppm (BZ), 30 (cuttings) ppm					95	5				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_3

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_3
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SP											
55																	
60					60.0	SM	brown (SM), moist, grading into silt 55-60 ft PID 0.2 ppm (BZ), 2.5 (cuttings) ppm					10	90				
					63.0	ML	green-brown (ML), slight fuel odor, moist, silt at bottom of 60-65 ft PID 70 (cuttings) ppm					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91201										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_3

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_4

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 11, 2001
Finish: September 11, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
					13.0	ML	SILT (ML)										
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_4

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035EL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_4
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25					25.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), (cuttings) ppm					5	95			L	
30																	
35					36.3	ML	brown SILT (ML), slight fuel odor from cuttings, moist PID 0.3 ppm (BZ), 12 (cuttings) ppm					5	95			L	
40																	
45																	
					4.	SM	fine sand w silt (SM) PID 5.5 (cuttings) ppm					85	15				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_4

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_4
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
55																	
60																	
					61.3	ML	brown SILT (ML), distinct fuel odor, moist PID: 2.4 ppm (BZ, intermittent), 200 (cuttings) ppm					5	95			L	
65					65.0		Total depth: 65 ft Vapor Well Installed 91101										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_4

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_5

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 12, 2001
Finish: September 12, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
					1.	ML	brown SILT (ML), moist					5	95			L	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_5

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A.PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_5
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25																	
					2.	ML	brown SILT (ML), moist, increase in clay (25-30 ft) PID 0.1 ppm (BZ), 0.5-1 (cuttings) ppm						100			L	
30																	
35																	
40																	
					41.3	SM	brown-orange fine sand w silt (SM), moist PID 3.6 (cuttings) ppm					85	15				
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_5

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_5
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
					51.3	SM	brown-orange fine sand w silt (SM), moist PID 0.1 ppm (BZ), 0.5 (cuttings) ppm					90	10				
55																	
60					60.0	ML	brown (ML), moist, grades back into silt					5	95			L	
						ML	SILT (ML) PID 0.1 ppm (BZ), 0.1 (cuttings) ppm					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91201										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_5

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_6

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 11, 2001
Finish: September 11, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
					12.5	ML	brown SILT (ML), moist					5	95			L	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_6

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035EL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_6
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25																	
					2.	ML	brown SILT (ML), moist PID 0.1-0.2 ppm (BZ), 140-160 (cuttings) ppm					5	95			L	
30																	
35																	
					3.	ML	gray-green SILT (ML), distinct fuel odor, moist PID 0.2-0.4 ppm (BZ), 140-220 (cuttings) ppm					5	95				
40																	
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_6

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997~1\~003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_6
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					50.0	SM	gray-green fine sand (SM), distinct fuel odor, moist PID 0.3-0.6 ppm (BZ), 350-400 (cuttings) ppm					90	10				
55																	
60																	
					63.	ML	gray-green SILT (ML), distinct fuel odor, moist PID 0.5-1.0 ppm (BZ), 150-200 (cuttings) ppm					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91101										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_6

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_7

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 12, 2001
Finish: September 12, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_7

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A.PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_7
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 1-2 (cuttings) ppm					5	95			L	
25																	
30																	
					32.5	SM	Loose, orange-brown fine sand w silt (SM), moist PID 10-15 (cuttings) ppm					85	15				
35																	
40																	
					42.5	SM	(SM)					85	15				
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_7

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_7
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
					53.	SM	Loose, orange-brown fine sand w silt (SM), moist PID 0.1 ppm (BZ), 0.1 (cuttings) ppm					85	15				
55																	
60																	
					63.	ML	brown (ML), moist, grade back into silt 55-60 ft					85	15			L	
65					65.0		Total depth 65 ft Vapor Well Installed 91201										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_7

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_8

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 11, 2001
Finish: September 11, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_8

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A.PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_8
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	brown SILT (ML), slight fuel odor, damp PID 0.1 ppm (BZ), 0.5 (cuttings) ppm					5	95			L	
25																	
					2.	ML	brown SILT (ML), damp PID 0.1 ppm (BZ), 0.5 (cuttings) ppm					5	95			L	
30																	
35																	
					3.	SM	brown-yellow fine sand w silt (SM), moist PID 0.1 (BZ & cuttings) ppm					85	15				
40																	
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_8

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997~1\~003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_8
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
55																	
60					60.0	SM	brown fine sand (SM), moist, grading into silt PID 0.1 ppm (BZ), 1.0 (cuttings) ppm					75	25				
65					65.0		Total depth 65 ft Vapor Well Installed 91101										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_8

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_9

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 13, 2001
Finish: September 14, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.): 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_9

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A.PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_9
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 1-3 (cuttings) ppm					5	95			L	
25																	
30					30.0	ML	brown SILT (ML), moist PID 1-2 (cuttings) ppm					5	95			L	
35																	
40					40.0	SP	brown-yellow fine sand w silt (SP), moist PID 1-2 (cuttings) ppm					85	15				
45					46.3	SP	brown-yellow fine sand (SP), moist PID 0.1 ppm (BZ), 4-5 (cuttings) ppm					90	10				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_9

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_9
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SP											
					51.3	ML	(ML)silt start to show at 50 ft					10	90				
55																	
60																	
					63.	ML	Loose, brown SILT (ML), moist PID 0.2-0.4 (BZ), 5-6 (cuttings) ppm					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91401										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_9

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_10

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 13, 2001
Finish: September 13, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15					15.0	ML	brown SILT (ML), moist PID 2 (cuttings) ppm					5	95			L	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_10

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_10
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25					25.0	ML	Loose, brown SILT (ML), dry PID 0.2 ppm (BZ), 2 (cuttings) ppm					5	95				
30																	
35					35.0	ML	Loose, brown SILT (ML), moist PID 0.5 ppm (BZ), 15-17 (cuttings) ppm					5	95				
40																	
					41.3	SM	Loose, brown-yellow fine sand w silt (SM), damp					85	15				
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_10

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_10
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
					51.3	SM	fine sand (SM) PID 0.3 ppm (BZ), 1-2 (cuttings) ppm					90	10				
55																	
					56.3	ML	brown SILT (ML), moist PID 1-2 ppm (cuttings), 6-12 (sample) ppm					10	90			L	
60																	
						ML	brown SILT (ML), moist, increase in clay					5	95			L	
65					65.0		Total depth 65 ft Vapor Well Installed 91301										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_10

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_11

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 14, 2001
Finish: September 14, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_11

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_11
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 20 (cuttings) ppm					5	95			L	
25																	
					2.	ML	brown SILT (ML), moist PID 20 (cuttings) ppm					5	95			L	
30																	
35																	
					36.3	SM	brown-yellow fine sand (SM), moist, shell fragments PID 0.2 ppm (BZ), 2-4 (cuttings) ppm					85	15				
40																	
45					45.0	SM	fine sand (SM)grading into silt 45-50 ft					90	10				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_11

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_11
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					50.0	ML	Loose, brown SILT (ML), moist PID 0.1 ppm (BZ), 2-4 (cuttings) ppm					10	90				
55					56.3	ML	(ML)					5	95				
60																	
65						ML	gray-brown to gray-green SILT (ML), moist					5	95			L	
					65.0		Total depth 65 ft Vapor Well Installed 91401										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_11

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_12

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 14, 2001
Finish: September 14, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_12

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_12
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 1 (cuttings) ppm					5	95			L	
25																	
					2.	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 3-4 (cuttings) ppm					5	95			L	
30																	
35					35.0	SM	brown-yellow fine sand (SM), moist, shell fragments PID 0.1 ppm (BZ), 1-2 (cuttings) ppm					85	15				
40																	
45												85	15				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_12

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_12
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50																	
					52.5	ML	Loose, brown SILT (ML), moist, grading into silt PID 4-5 (cuttings) ppm					5	95				
55																	
60																	
					61.3	ML	Loose, gray-brown SILT (ML), moist PID 0.1 ppm (BZ), 3-5 (cuttings) ppm					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91401										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_12

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\128997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_13

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 13, 2001
Finish: September 13, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15					15.0	ML	Loose, brown SILT with trace of fine sand (ML), damp PID 15-20 (cuttings) ppm					10	90				
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_13

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_13
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						ML											
25					25.0	ML	Loose, brown SILT with trace of fine sand (ML), moist PID 0.1 ppm (BZ), 10-15 (cuttings) ppm					10	90				
30																	
					33.	SM	Loose, brown-yellow fine sand below 30 ft (SM), moist, some silt present PID 1.0 (cuttings) ppm					85	15				
35																	
40																	
45					45.0	SP-SM	Loose, brown-yellow fine sand (SP- SM), moist, shell fragments					90	10				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_13

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_13
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SP-SM											
					51.3	ML	brown (ML), moist, begin seeing silt w sand around 50 ft PID 0.1 ppm (BZ), -12 (cuttings) ppm					10	90				
55																	
60																	
					63.	ML	brown SILT (ML), damp, some clay evident 55-60 ft PID 2 (cuttings) ppm					5	95			L	
65					65.0		Total depth 65 ft Vapor Well Installed 91301										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_13

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_14

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 13, 2001
Finish: September 14, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_14

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A.PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_14
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	Loose, brown SILT (ML), dry PID 0.1 ppm (BZ), 1-3 (cuttings) ppm					5	95				
25																	
30					30.0	ML	brown SILT (ML), moist PID 0.1 ppm (BZ), 2-3 (cuttings) ppm					5	95			L	
35																	
					37.5	SM	Loose, brown-yellow fine sand (SM), damp, fine sand starting below 35 ft PID 2-3 (cuttings) ppm					85	15				
40																	
						SM	(SM)					90	10				
45																	
					4.	SM	Loose, More brown (SM), moist, fine sand w silt and shell fragments PID 0.1 ppm (BZ), 1-3 (cuttings) ppm					85	15				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_14

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_14
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
55																	
60					60.0	ML	brown SILT (ML), moist, tr. clay PID 5-7 (cuttings) ppm					10	90			L	
						ML	(ML)					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91401										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_14

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_15

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: September 13, 2001
Finish: September 13, 2001
Driller: R. Lares
H&A Rep.: C. Brooks
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)		2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)		140	-	Casing:
Hammer Fall (in.)		30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Lithology based on visual observation of cutting returns at surface. No lithologic samples collected.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_15

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_15
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0	ML	Loose, brown SILT (ML), dry PID 0.1 ppm (BZ), 1-2 (cuttings) ppm					5	95				
25																	
30					30.0	ML	Stiff, brown SILT with clay (ML), moist PID 0.2 ppm (BZ), 6-10 (cuttings) ppm					5	95			L	
35						ML	(ML)					10	90				
40					39.5	SM	Loose, brown-yellow fine sand (SM), moist, fine sand showing in 35-40 ft PID 2-3 (cuttings) ppm					90	10				
45																	
					4.	SM	Loose, brown-yellow fine sand (SM), moist, shell fragments PID 0.2 ppm (BZ), 2-3 (cuttings) ppm					90	10				

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_15

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_15
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						SM											
					51.3	ML	(ML)grading into silt 50 ft					10	90				
55																	
60					60.0	ML	Stiff, brown SILT (ML), moist PID 3-6 (cuttings) ppm					5	95			L	
						ML	(ML)					5	95				
65					65.0		Total depth 65 ft Vapor Well Installed 91301										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_15

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_16

Project Boeing Former C-6 Facility, Parcel C, Building 2 SVE Los Angeles, CA
Client Boeing Realty Corporation
Contractor West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start May 1, 2002
Finish May 1, 2002
Driller O. Gonzales
H&A Rep. T. Hammond
Elevation
Datum NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)	4.25	2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Winch Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0																	
5																	
10																	
					12.0		Dense, Medium brown sandy CLA with gravel PID Fill PID ATHA 13 ppm										
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (lin. ft.) 65
- Rock Cored (lin. ft.)
- Samples

Boring No. 2_VEW_16

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_16
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0		Soft, light brown CLA w silt, no odor, moist PID ATHA 0.0 ppm										
25																	
30					30.0		Hard, light brown silty SAND, moist, hit hard drilling 33 ft cuttings PID ATHA, BG, BZ, 3 0.0 ppm										
35																	
40					40.0		Loose, light brown silty SAND, no odor, moist PID BG, BZ, 3 0.0, CAL. check 94.5 ppm										
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_16

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_16
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50																	
55																	
60					60.0		Soft, light olive-brown silty Sandy clay clayey sand, no odor PID ATHA 0.0, CAL. check 92.9 ppm										
65					65.0		Total depth 65 ft Vapor Well Installed 5102										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_16

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\128997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_17

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: May 1, 2002
Finish: May 1, 2002
Driller: O. Gonzales
H&A Rep.: T. Hammond
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)	4.25	2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Cal. check 93. ppm.										
5																	
10					10.0		Stiff, Medium brown sandy CLA, no odor, moist PID ATHA, BG, BZ, 3 0.0 ppm										
15																	
					16.5		CLA										
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples

Boring No. 2_VEW_17

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_17
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					20.0		Soft, olive brown CLA with silt and fine sand, no odor, moist PID ATHA 0.0 ppm										
25					25.0		Hard SANDsandstone fragments in cuttings, hit hard layer PID BG, BZ, 3 0.0 ppm										
30					30.0		light brown silty SAND with clay, no odor, moist, soft with occassional hard gravel sandstone fragments PID ATHA, BG, BZ, 3 0.0 ppm										
35																	
40																	
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_17

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_17
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					50.0		silty SAND PID ATHA, BG, BZ, 3 0.0 ppm										
55																	
60					60.0		silty SAND, no odorsome clayey chunks in cuttings PID ATHA, BG, BZ, 3 0.0 ppm										
65					65.0		Total depth 65 ft Vapor Well Installed 5102										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_17

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_18

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: August 1, 2002
Finish: August 1, 2002
Driller: S. Molera
H&A Rep.: T. Hammond
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)	4.25	2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Drilled to 25 ft, no sampling										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_18

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_18
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
25	17 2 33	A 1	25.0 26.5		25.0		Soft, light brown sandy SILT, no odor, low moisture, max. medium sand, bedding structure PID ATHA 32 ppm										
30																	
35																	
40	14 25 29	B 1	40.0 41.5		40.0		Soft, light brown silty SAND, no odor, low moisture, max. medium sand, horizontal structure PID ATHA 370 ppm										
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_18

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_18
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	15 19 23	C 1	50.0 51.5		50.0		Stiff, olive brown to light brown sandy SILT with clay, no odor, moist, horizontal structure PID ATHA 210 ppm										
55																	
60																	
65					65.0		Total depth 65 ft Vapor Well Installed 102										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_18

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_19

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: August 1, 2002
Finish: August 1, 2002
Driller: D. Worley
H&A Rep.: T. Hammond
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)	4.25	2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Drilled to 25 ft, no sampling.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_19

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035EL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_19
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
25	17 21 26	A 1	25.0 26.5		25.0		Stiff, brown sandy SILT with clay, no odor, low moisture, horizontal structure, max medium sand PID ATHA 125 ppm										
30																	
35																	
40	14 1 22	B 1	40.0 41.5		40.0		Soft, brown to red-brown SAND with silt, no odor, low moisture, bedding structure PID ATHA 25 ppm										
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_19

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2_VEW_19
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	13 16 19	C 1	50.0 51.5		50.0		Stiff, red-brown silty SAND, no odor, low moisture, bedding structure, rust stains on fractures PID ATHA 12 ppm										
55																	
60																	
65					65.0		Total depth 65 ft Vapor Well Installed 102										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_19

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_20

Project: Boeing Former C-6 Facility, Parcel C, Building 2 SVE, Los Angeles, CA
Client: Boeing Realty Corporation
Contractor: West Hazmat Drilling

File No. 2997-003
Sheet No. 1 of 3
Start: August 1, 2002
Finish: August 1, 2002
Driller: S. Molera
H&A Rep.: T. Hammond
Elevation
Datum: NGVD 1929
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck-mounted, CME 75
Inside Diameter (in.)	4.25	2		Bit Type: Cutting Head
				Drill Mud: None
Hammer Weight (lb.)	NA	140	-	Casing:
Hammer Fall (in.)	NA	30	-	Hoist/Hammer: Winch, Safety Hammer

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0							Drilled to 25 ft, no sampling.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
		Not Encountered			

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram	
	Riser Pipe
	Screen
	Filter Sand
	Cuttings
	Grout
	Concrete
	Bentonite Seal

Summary	
Overburden (lin. ft.)	65
Rock Cored (lin. ft.)	
Samples	

Boring No. 2_VEW_20

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0036L~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_20
File No. 2997-003
Sheet No. 2 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																	
25	14 19 23	A 1	25.0 26.5		25.0		Soft, light brown silty SAND, no odor, low moisture, horizontal structure, max medium sand PID ATHA 9 ppm										
30																	
35																	
40	17 27 29	B 1	40.0 41.5		40.0		Soft, light brown fine sand w silt, no odor, moist, bedding structure, max medium sand PID ATHA 0 ppm										
45																	

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_20

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-003BL~1\GINT\28997002B.GPJ Jul 19, 04

TEST BORING REPORT

Boring No. 2_VEW_20
File No. 2997-003
Sheet No. 3 of 3

Depth (ft.)	SPT[1]	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size[2], structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	24 30 32	C 1	50.0 51.5		50.0		olive to olive brown silty fine sand, no odor, low moisture, bedding structure, rust stains along fractures, some cementing PID ATHA 35 ppm										
55																	
60																	
65					65.0		Total depth 65 ft Vapor Well Installed 102										

[1]SPT = Sampler blows per 6 in. [2]Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. 2_VEW_20

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCS_TB5.GDT G:\PROJECTS\ENVIRO~1\28997_~1\-0035L~1\GINT\28997002B.GPJ Jul 19, 04