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HALEY & ALDRICH

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

TECHNICAL MEMORANDUM
Summary Report of Extended Soil Vapor Extraction Pilot Test Results

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

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

Date: **September 26, 2002**

Re: **Summary Report of Extended Soil Vapor Extraction Pilot Test Results, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Building 2, Los Angeles, California**

Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this report to summarize extended soil vapor extraction (SVE) pilot test activities conducted at the former Boeing C-6 Facility (subject property), in Los Angeles, California. The location of the Site is shown on Figure 1. Beginning on November 27, 2001, extended pilot testing has been conducted in the former Building 2 Area. The extended pilot test system is currently operating and activities are expected to be completed by the end of the year. This summary report has been prepared in accordance with the Regional Water Quality Control Board, Los Angeles Region (LARWQCB) October 9, 2001 approval letter. This report summarizes system operations, field measurements, vapor sampling and analysis, extraction well optimization, mass removal, and regression analysis for extended pilot test data collected to-date.

BACKGROUND

Laboratory results for soil samples collected in the former Building 2 area at the subject property indicated the presence of volatile organic compounds (VOCs) at depth requiring remediation to prevent possible impact to groundwater. Based on the results of the investigation, shallow occurrences of impacted soil (less than 12 feet below ground surface) were excavated and disposed of at an approved facility. SVE was recommended for the remediation of deep impacted soil. Haley & Aldrich was contracted by BRC to install and operate an extended SVE pilot test to obtain data for the evaluation of using SVE as a full-scale remedy. A workplan for the pilot test activities in the Building 2 area dated September 14, 2001 was submitted and approved by the LARWQCB on September 19, 2001.

EXTENDED PILOT TEST DESCRIPTION

The Building 2 extended pilot test system consists of twenty 2-inch diameter, PVC, single and dual-completion SVE wells, a trailer-mounted, 800-actual cubic feet per minute blower system, two 3,000-lb granular activated carbon (GAC) vapor control vessels (primary and secondary), and associated piping. VOC-laden vapors are drawn from subsurface soils by a vacuum produced by the blower. Vapors are transferred from the wells to the SVE system by above ground piping. The extracted airstream passes through a liquid separator and the two GAC beds under vacuum, where VOCs adsorb onto the GAC, through the blower, and is discharged to the atmosphere through a vertical stack. The blower automatically shuts off if a high liquid level is present in the separator or if low airflow is detected in the influent line. GAC is replaced when field or laboratory vapor measurements exceed regulatory criteria or indicate that one of the beds has experienced breakthrough. Haley & Aldrich performs routine system maintenance and data collection on a weekly basis.

Haley & Aldrich installed fifteen initial pilot test wells in September 2001 and began system operation on November 27, 2001. Two additional dual-completion extraction wells (2-VEW-16A/B and 2-VEW-17A/B) were installed on May 1, 2002 and three single completion wells (2-VEW-18, 19 and 20) were installed on August 1, 2002 to enhance VOC recovery rates. Extraction wells are screened in intervals where soil impacts have been identified by previous subsurface investigations.

The South Coast Air Quality Management District (SCAQMD) issued a various locations Permit to Construct/Operate, A/N 389510, on October 12, 2001. The permit has subsequently been revised and the system now operates under various locations permit A/N 401433, issued on June 7, 2002.

The location of the Building 2 pilot test system is shown on Figure 2. The well field layout, including well screen depths is shown on Figure 3. Boring logs and well construction diagrams for the vapor extraction wells and confirmation borings are included in Appendix A.

EXTENDED PILOT TEST SVE OPERATION SUMMARY

Hours of Operations (through August 2002)	6,057
Available Hours of Operation	6,660
Operational Time (%)	91
Cumulative Mass Removed (lbs.)	2,810

OPERATION INFORMATION

Operational data and VOC mass removal for the extended SVE pilot test system are tabulated and shown graphically in Graphs 1 through 5. The system operation timeline for the period is as follows:

- November 27, 2001 — System was started
- December 28, 2001 — System shut down, one GAC vessel was changed out (3,000 lbs.), system restarted
- January 10, 2002 — System shut down due to carbon breakthrough
- January 17, 2002 — One GAC vessel changed out (3,000 lbs.), system restarted
- January 27, 2002 — System shut down due to high knockout water level
- January 29, 2002 — Water removed from knockout and system restarted
- January 30, 2002 — Blower drive belt broke, system shut down
- January 31, 2002 — One GAC vessel was changed out (3,000 lbs.), blower drive belt replaced, system restarted
- February 8, 2002 — One GAC vessel changed out (3,000 lbs.), system restarted

• February 21, 2002	One GAC vessel changed out (3,000 lbs.), system restarted
• March 6, 2002	One GAC vessel changed out (3,000 lbs.), system restarted
• March 20, 2002	One GAC vessel was changed out (3,000 lbs.), system restarted
• March 29, 2002	Began 14-day monitoring program under permit A/N 398264
• April 4, 2002	System shutdown, two GAC vessels were changed out (6,000 lbs), system restarted
• April 14, 2002	System shutdown unattended due to low flow switch
• April 17, 2002	System restarted
• May 1, 2002	System shutdown due to carbon breakthrough, Wells 2-VEW-16 and 2-VEW-17A and B were added to the system to enhance VOC recovery
• May 2, 2002	One GAC vessel was changed out (3,000 lbs), system restarted
• May 16, 2002	System shutdown, one GAC vessel was changed out (3,000 lbs), system restarted
• June 7, 2002	SCAQMD issued a new permit A/N 401433
• June 13, 2002	System shutdown, one GAC vessel was changed out (3,000 lbs), system restarted
• July 16, 2002	System shutdown, upon receipt of laboratory data
• July 17, 2002	System shutdown, one GAC vessel was changed out (3,000 lbs), system restarted
• July 23, 2002	System shutdown, hoses switched and readings taken for clarification on primary vessel, system restarted
• July 26, 2002	System shutdown, blower oil change, system restarted
• July 30, 2002	System shutdown, hoses switched back to original position, System restarted
• August 1, 2002	Wells 2-VEW-18, -19, and -20 added to system to enhance VOC recovery
• August 27, 2002	System shutdown
• August 28, 2002	One GAC vessel was changed out (3,000 lbs), system restarted

The process flowrates ranged from approximately 535 to 740 standard cubic feet per minute (scfm) and inlet vacuums ranged from approximately 20 to 68 inches of water column. To-date, the system has operated with an up-time efficiency of 91% (Graph 1) and has removed a total of approximately 2,810 lbs. of VOCs (Graph 2) over 6,057 hours of operation. A total of fourteen GAC changeouts, 3,000 lbs. each, were conducted during this period. The various locations SCAQMD permit was modified in March 2001 (A/N 398264) to allow an increase in total flow rate to 890 scfm. A second SCAQMD revision to the permit (A/N 401433) was issued in June 2002 to revise allowable exhaust concentrations of VOCs.

Approximately 1,000 gallons of water were collected from the pipes and separator during pilot testing. Multiple 55-gallon drums were used to store knockout water during the period. A double-contained polyethylene tank was installed at the site to temporarily store knockout water in August 2002. Knockout water is removed from the site by Boeing in accordance with state and federal regulations.

VOC vapors were drawn from individual wells with valves open to optimize flow rates and concentrations at each of the wellheads. Individual optimal SVE well flow rates ranged from approximately 5 to 200 scfm based on operating conditions. Well optimization is discussed further below.

VAPOR SAMPLING AND ANALYSIS

Since November 2001, thirty-four vapor samples were collected in Tedlar bags from the process air stream (inlet to primary GAC vessel and exhaust from the secondary GAC vessel) and delivered to a state-certified laboratory for analysis. These samples were collected for SCAQMD permit compliance as well as system performance evaluation. The vapor samples were collected using a Tedlar bag in a vacuum case. Laboratory analyses were conducted on vapor grab samples using EPA Method 8260B/TO-14A. The full results of the vapor sampling are summarized in Table 1.

Based on the results of the laboratory analysis of vapor grab samples, maximum inlet VOC concentrations as parts-per-billion by volume (ppbv) during the pilot test are as follows:

- Trichloroethene (TCE) 31,000 ppbv
- 1,1-Dichloroethene (1,1-DCE) 2,800 ppbv
- 2-Butanone (MEK) 960 ppbv
- 1,1,1-Trichloroethane (1,1,1-TCA) 800 ppbv
- Chloroform 780 ppbv
- Toluene 520 ppbv
- 1,1-Dichloroethane (1,1-DCA) 220 ppbv
- cis-1,2-Dichloroethene (cis-1,2-DCE) 210 ppbv
- Tetrachloroethene (PCE) 190 ppbv
- Acetone 150 ppbv
- Methylene Chloride 110 ppbv
- Carbon tetrachloride 29 ppbv
- Trichlorofluoromethane 64 ppbv
- Xylene 18 ppbv

Reported influent concentrations varied during the period due to system optimization efforts and a general reduction in measured concentrations.

FIELD MEASUREMENTS

VOC concentrations were measured with a photoionization detector (PID) and/or flame ionization detector, calibrated to 100 parts-per-million by volume (ppmv) hexane, as per the SCAQMD permit requirements, at the undiluted inlet, diluted inlet, between the GAC vessels, and at the exhaust stack as shown in Table 2. Flowrates were measured with a hand-held TSI Veloci-calc Plus hot-wire anemometer or by measuring the pressure differential across an orifice plate. Additional measurements were collected during operations including vacuum readings at each extraction well, pressures at the GAC vessels, and blower exhaust temperature. The field influent VOC measurements are plotted in Graph 3.

RADIUS OF INFLUENCE

Radius of influence is an effective means of predicting the extent of soil influenced by soil vapor extraction. To calculate a radius of influence, vacuum readings were collected from the fifteen original vapor extraction wells during the first two weeks of operation in 2001. Soil vapor extraction wells 2-VEW-3B, 7B, 11B and 14B were opened and vacuum readings were collected from each of the closed vapor extraction wells. Each vacuum reading collected from closed wells was normalized to the vacuum reading from the nearest open extraction well. The results were plotted on a lognormal graph and fit with an exponential trendline.

The results of the best-fit exponential trendline indicate that 10% of the normalized vacuum from 2-VEW-11B

and 14B could be measured at a distance of 95 feet from an extraction well. This distance was extended to approximately 200 feet at 1% of the normalized vacuum from these same wells. The results from wells 2-VEW-3B and 7B predicted a 75-foot radius of influence at a 10% normalized vacuum and a 185-foot radius of influence at a 1% normalized vacuum as shown in Figure 4. Tabulated radius of influence calculations are presented in Appendix B.

EXTRACTION WELL OPTIMIZATION

Data collection and adjustment of extraction well flow rates began in November 2001. Well optimization continued during 2002. Weekly rounds of VOC concentrations were measured at each extraction well by a PID at various flowrates during the pilot test as shown in Table 3. These data were used to establish the flow regime under which maximum VOC concentrations can be extracted from the wells. Wells exhibiting lower concentrations, which do not significantly contribute to mass removal, were closed so that the available SVE system flow capacity could be used for the higher concentration wells. Figure 5 illustrates the remediation progress since November 2001

ESTIMATED SVE OPERATION DURATION

To predict the asymptotic VOC concentrations and identify the time at which continued operation becomes impractical, a regression analysis of available data was performed and refined. Tabulated calculations for the regression analysis are presented in Appendix C.

Undiluted influent vapor concentration data was used in the regression analysis to estimate the remaining period of operation for the Building 2 SVE system, based on concentration targets. The analysis was conducted according to the following regression equation:

An average rate constant for the group was calculated as follows:

$$C_t = C_o e^{(-kt)}$$

Where:

C_t = concentration (ppmV) at time t (days)
C_o = initial regressed concentration (ppmV)

Based on data collected through the end of August 2002, a 90% reduction in the initial regressed well concentrations occurred in April 2002 (Graph 4). Measured concentrations have decreased at least 90% in most of the wells based on third quarter 2002 monitoring. A 99% reduction in the initial regressed well concentrations was recorded in July and August 2002.

EXTENDED PILOT TEST SOIL SAMPLING

In August 2002, Haley & Aldrich collected soil samples in the vicinity of selected previous Building 2 soil characterization sampling locations within the SVE wellfield to evaluate in-situ soil concentration reductions. Samples were collected from borings advanced with hollow-stem auger drilling equipment and submitted to a State-certified analytical laboratory for analysis by EPA Method 8260B. Concentrations of TCE detected in confirmation samples were compared with pre-remediation concentrations to determine the effectiveness of the extended pilot test SVE system as illustrated in Figure 6. Table 4 summarizes analytical results for TCE in pre-pilot test Building 2 soil borings and recent soil sampling locations.

Based on the results of the laboratory analyses of soil samples collected from pilot test confirmation borings near

the above locations, TCE concentrations ranged from non-detectable to 380 ug/kg. The observed concentration reduction was approximately 98% or greater in most cases demonstrating the effectiveness of SVE operation.

Three of the five borings advanced were converted to vapor extraction wells (2-VEW-18 through 2-VEW-20) to increase subsurface air flow around SVE wells with elevated VOC concentrations.

PLANNED FUTURE ACTIVITIES

The extended SVE pilot test will continue operation on SVE wells selected to maximize mass removal. GAC changeouts will be conducted as necessary. Since the SVE system has proceeded beyond the 99% concentration reduction point and in-situ soil concentrations have been reduced up to 98% system shut-down, rebound evaluation, and final closure sampling may be initiated in Fall, 2002.

We appreciate the opportunity to provide environmental consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Richard M. Farson, PE
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
RICHARD M. FARSON
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EXPIRES 12/31/03
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STATE OF CALIFORNIA

for Scott P. Zachary
Vice President

Enclosures:

Figure 1 – Site Location Map
Figure 2 – SVE System Locations Building 1/36 and Building 2
Figure 3 – Building 2 SVE Pilot Test System Diagram
Figure 4 – Building 2 Normalized Vacuum Radius of Influence for Wells 11 B and 14B
Figure 5 – Building 2 SVE Contours, November 2001-September 2002
Figure 6 – Pre-SVE and August 2002 Soil Sampling Locations and Results

Table 1 – Building 2 SVE System Influent Laboratory Data
Table 2 – Building 2 SVE System Field Data
Table 3 – Building 2 SVE System Well Field Data
Table 4 – Building 2 SVE System Extended Pilot Test Soil Sampling Results

Graph 1 – Building 2 SVE Monthly Percent Operation
Graph 2 – Cumulative Volatile Organic Compound Mass Removed
Graph 3 – Building 2 SVE System Total VOC Influent Concentrations
Graph 4 – Building 2 SVE System Regression Analysis, Concentration Reduction

Appendix A – Soil Vapor Extraction Boring Logs
Appendix B – Tabulated Radius of Influence Calculations
Appendix C - Tabulated Regression Analyses Calculations
Appendix D – CD-ROM with Analytical Laboratory Results

cc: John Scott, Boeing
Stephanie Sibbett, Boeing
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Tables

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TABLE 1 - BUILDING 2 SVE SYSTEM INFLUENT LABORATORY DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

SAMPLE DATE	LAB ID	SAMPLE LOCATION	COMPOUND																		
			PCE (ppbv)	TCE (ppbv)	1,1,1 TCA (ppbv)	1,1,2 TCA (ppbv)	1,1 DCE (ppbv)	cis-1,2 DCE (ppbv)	1,1 DCA (ppbv)	1,2 DCA (ppbv)	2-Butanone (ppbv)	Chloroform (ppbv)	Acetone (ppbv)	Methylene chloride (ppbv)	Trichlorofluoro-methane (ppbv)	1,2,4 Trimethyl-benzene (ppbv)	Carbon Tetrachloride (ppbv)	4-Ethyltoluene (ppbv)	Toluene (ppbv)	Xylene (ppbv)	TNMOC (ppbv)
11/27/01	EXHAUST 11/27/01	Exhaust	2	200	3	ND	4	ND	ND	ND	4	ND	10	1	ND	1	ND	ND	14	1	ND
11/28/01	DILUTED INLET (11B, 14B)	Influent	59	4,600	13	ND	220	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND
11/28/01	EXHAUST 11/28/01	Exhaust	ND	ND	1	ND	ND	ND	ND	ND	3	ND	6	ND	ND	1	ND	ND	5	1	ND
11/29/01	EXHAUST 11/29/01	Exhaust	ND	2	ND	ND	ND	ND	ND	ND	2	ND	6	1	ND	ND	ND	ND	2	1	250
11/30/01	EXHAUST 11/30/01	Exhaust	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND	ND	2	ND	ND
12/03/01	DILUTED INLET (11B, 14B)	Influent	3	220	1	ND	19	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	450
12/03/01	EXHAUST 12/3/01	Exhaust	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	1	ND	ND
12/04/01	DILUTED INLET (11B, 14B)	Influent	100	10,000	35	ND	730	ND	ND	ND	ND	ND	ND	ND	31	ND	ND	ND	ND	ND	22,000
12/04/01	EXHAUST 12/4/01	Exhaust	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	1	ND	ND
12/05/01	DILUTED INLET (11B, 14B)	Influent	180	18,000	73	ND	1,500	ND	ND	ND	ND	ND	ND	ND	64	ND	ND	ND	ND	ND	35,000
12/05/01	EXHAUST 12/5/01	Exhaust	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	1	ND	ND
12/06/01	DILUTED INLET (11B, 14B)	Influent	260	21,000	92	ND	1,600	ND	ND	ND	ND	ND	ND	ND	59	ND	ND	ND	ND	ND	43,000
12/06/01	EXHAUST 12/6/01	Exhaust	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	1	ND	ND
01/03/02	DILUTED INLET 01/03/02	Influent	84	7,500	280	ND	660	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	20,000
01/03/02	EXHAUST 1/3/02	Exhaust	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	4	1	ND	ND	ND	ND	1	ND	ND
02/06/02	DILUTED INLET 2/6/02	Influent	210	31,000	800	ND	2,800	210	220	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	ND	69,000
02/06/02	EXHAUST 2/6/02	Exhaust	1	20	2	ND	1	ND	ND	ND	11	ND	45	2	ND	ND	ND	1	10	3	440
03/06/02	DILUTED INLET 3/6/02	Influent	100	26,000	370	ND	1,500	120	86	ND	ND	ND	150	110	ND	ND	ND	ND	ND	ND	<500,000
03/06/02	EXHAUST 3/6/02	Exhaust	ND	3	16	ND	13	ND	ND	ND	ND	ND	ND	62	22	ND	ND	ND	12	ND	290
04/04/02	GAC0002D_AV040402_001	Influent	180	19,000	310	32	1,700	120	96	ND	ND	260	150	49	45	ND	ND	ND	ND	ND	47,000
04/04/02	GAC0002E_AV040402_001	Exhaust	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	3	1	ND	ND	ND	ND	1	1	ND
04/10/02	GAC0002E_AV041002_001	Exhaust	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	1	ND	ND	4	1	ND
04/17/02	GAC0002E_AV041702_001	Exhaust	17	1,100	5	ND	32	ND	ND	ND	ND	15	ND	5	ND	ND	ND	ND	6	6	3,100
04/17/02	GAC0002C_AV041702_001	Midpoint	16	840	25	ND	2,700	9	80	ND	ND	130	ND	49	120	ND	ND	ND	7	ND	5,600
04/23/02	GAC0002E_AV042302_001	Exhaust	ND	ND	ND	ND	78	ND	7	ND	ND	ND	ND	63	160	ND	ND	ND	4	4	1,400
05/03/02	GAC0002E_AV050302_001	Exhaust	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	2	1	ND
05/03/02	GAC0002U_AV050302_001	Influent	190	13,000	150	ND	1,600	63	57	ND	ND	360	ND	ND	44	ND	ND	ND	ND	ND	36,000
06/04/02	GAC0002E_AV060402_001	Exhaust	ND	12	35	ND	4,100	ND	110	ND	53	180	ND	34	88	ND	ND	ND	64	ND	4,800
06/04/02	GAC0002D_AV060402_001	Influent	110	6,100	560	ND	1,300	38	38	ND	960	540	ND	18	23	ND	23	ND	520	18	19,000
07/03/02	GAC0002E_AV070302_001	Exhaust	ND	ND	ND	ND	2,700	ND	67	ND	ND	260	ND	21	68	ND	ND	ND	ND	ND	3,000
07/03/02	GAC0002D_AV070302_001	Influent	80	3,800	82	ND	1,100	29	28	ND	ND	640	ND	12	30	ND	25	ND	11	ND	11
08/15/02	GAC0002E_AV081502_001	Exhaust	ND	ND	ND	ND	2,600	ND	95	ND	ND	860	ND	16	39	ND	ND	ND	ND	ND	3,500
08/15/02	GAC0002D_AV08152_001	Influent	150	4,400	81	6	930	24	27	ND	ND	780	ND	11	23	ND	29	ND	4	ND	<5,000

Notes:
ppbv = parts per billion by volume
ND = not detected
TNMOC = Total Non Methane Organic Carbons

BOE-C6-0129611

TABLE 2 - BUILDING 2 SVE SYSTEM FIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

DATE	HOUR METER	TIME	UNDILUTED FLOW RATE (1) (scfm)	DILUTED INLET FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	DILUTED INFLUENT PID (2) (ppmv)	MID POINT CARBON PID (2) (ppmv)	EFFLUENT CARBON PID (2) (ppmv)	COMMENTS
11/28/01	24	13:15	75	725	28	58	0.0	0.0	
11/30/01	75	14:20	80	750	NA	60	3.6	2.0	
12/03/01	76	17:10	85	750	NA	18	0.4	0.0	
12/04/01	93	10:15	67	750	NA	98	3.0	0.0	
12/05/01	123	16:30	68	790	NA	167	1.8	0.0	
12/06/01	138	8:30	65	795	29	265	7.1	5.0	
12/07/01	161	7:30	66	795	30	245	0.5	0.2	
12/08/01	196	16:00	70	770	29	250	5.9	5.1	
12/09/01	217	13:00	190	770	30	230	4.5	0.9	
12/10/01	244	16:00	65	760	29	95	5.5	0.0	
12/11/01	263	11:00	55	760	31	310	0.2	0.0	
12/12/01	295	19:15	75	780	30	350	0.5	0.0	
12/13/01	311	11:15	69	775	30	380	0.3	0.0	
12/20/01	479	15:10	95	775	39	350	33.0	0.0	
12/28/01	647	11:00	400	770	29	480	* 8.0	0.0	GAC Changeout
1/3/2002	785	15:00	575	795	29	32	0.0	0.0	
01/10/02	953	15:00	# 150	765	25	195	51.0	0.0	GAC Changeout
01/18/02	983	18:00	350	720	53	342	0.3	0.1	
01/24/02	1124	15:10	360	735	52	380	40.2	0.0	
01/31/02	1220	15:48	400	765	38	960	NR	0.0	Data after GAC Changeout
02/01/02	1238	10:00	400	760	27	450	0.0	0.0	
02/06/02	1360	13:00	390	760	20	365	87.0	0.2	GAC Changeout
02/08/02	1385	9:20	# 190	740	45	105	43.0	0.0	
02/15/02	1553	11:00	400	730	27	270	10.7	0.0	
02/21/02	1693	8:07	400	705	41	437	71.0	0.0	GAC Changeout
02/27/02	1838	10:30	380	590	68	465	37.0	0.0	
03/06/02	2004	9:00	378	600	68	310	53.2	0.2	GAC Changeout
03/13/02	2173	14:35	375	590	67	259	28.0	0.0	
03/20/02	2334	10:45	400	655	67	220	10.3	0.2	GAC Changeout
03/29/02	2549	10:00	385	605	61	168	16.0	0.1	
04/01/02	2627	16:50	640	630	59	261	47.4	7.5	
04/02/02	2646	11:40	660	680	61	256	59.0	12.7	GAC Changeout
04/04/02	2650	17:00	675	710	54	264	0.0	0.3	
04/05/02	2668	11:25	670	685	61	256	0.8	0.0	
04/06/02	2692	11:57	630	625	57	233	0.2	0.1	
04/07/02	2714	10:56	685	670	61	212	0.3	0.1	
04/08/02	2740	12:47	660	660	61	232	0.6	0.0	
04/09/02	2759	8:45	650	635	65	252	0.3	0.1	
04/10/02	2789	14:30	650	645	57	224	3.9	0.2	
04/11/02	2817	19:35	715	740	41	129	39.0	0.2	
04/12/02	2839	18:37	710	710	57	337	6.1	0.4	
04/17/02	2904	15:20	695	690	57	153	* 4.8	* 3.8	

BOE-C6-0129612

TABLE 2 - BUILDING 2 SVE SYSTEM FIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

DATE	HOUR METER	TIME	UNDILUTED FLOW RATE (1) (scfm)	DILUTED INLET FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	DILUTED INFLUENT PID (2) (ppmv)	MID POINT CARBON PID (2) (ppmv)	EFFLUENT CARBON PID (2) (ppmv)	COMMENTS
04/23/02	3049	15:51	665	665	61	184	* 9.4	* 2.8	
05/03/02	3240	12:48	630	665	54	164	* 2.6	* 1.3	GAC Changeout
05/09/02	3391	19:10	645	640	54	158	#* 23.0	* 0.8	
05/16/02	3549	8:43	675	660	61	145	* 20.0	* 2.8	GAC Changeout
05/23/02	3722	16:20	650	620	57	15.4	* 14.0	* 9.9	
05/30/02	3887	14:00	645	610	57	19.1	* 14.0	* 13.0	
06/04/02	4005	12:00	630	620	57	* 14.0	* 19.0	* 7.0	
06/13/02	4215	8:35	655	645	58	* 18.2	* 8.4	* 2.0	GAC Changeout
06/20/02	4384	10:17	650	640	57	* 10.0	* 7.0	* 1.0	
06/27/02	4554	12:34	635	625	57	* 12.8	* 9.2	* 6.5	
07/03/02	4697	11:00	630	625	55	42.8	# 15.1	# 14.2	
07/09/02	4837	14:17	640	620	57	* 5.9	* 0.9	* 0.9	
07/15/02	4985	11:48	585	575	65	* 9.1	* 7.6	* 2.0	GAC Changeout
07/23/02	5158	9:12	625	610	54	* 13.8	* 9.7	* 0.0	
07/30/02	5328	17:25	565	535	67	* 10.0	* 4.8	* 3.4	
08/07/02	5518	15:15	555	550	54	* 13.8	* 10.0	* 2.2	
08/15/02	5710	15:30	605	590	54	* 7.0	* 5.0	* 4.0	
08/20/02	5826	11:28	590	585	59	* 7.2	* 3.2	* 5.0	
08/27/02	5992	9:40	585	585	58	* 5.6	* 3.1	* 2.5	GAC Changeout
09/05/02	6164	10:45	565	565	64	* 2.5	* 0.8	* 0.4	

Notes:

(1) Direct flow readings taken by hand-held TSI Veloci-calc Plus

(2) Measurements taken with a MiniRae 2000 PID calibrated to 100 ppmv Hexane, results as Hexane unless otherwise noted

Readings reading not considered representative of actual concentrations due to mositure or vacuum interference

* Measurements taken with Foxboro OVA-128 calibrated to Hexane. Results as Hexane.

BOE-C6-0129613

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-1A	11/27/2001	13:00	39	20	1,200	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	22	140	Well Opened
	1/10/2002	15:00	NA	1.3	NA	"
	1/18/2002	18:00	39	48	340	"
	1/24/2002	15:10		1.7	NA	"
	1/31/2002	15:48	30	31	200	"
	2/1/2002	10:00	22	23	96	"
	2/6/2002	13:00	16	16	180	"
	2/15/2002	11:00	20	19	98	Well Closed
	3/20/2002	14:00	NA	45	12	"
	3/29/2002	14:20	3.2	9.5	NA	"
	3/30/2002	10:58	1	11	NA	"
	3/31/2002	10:31	0.5	11	NA	"
	4/1/2002	16:50	NA	11	NA	"
	4/2/2002	11:40	NA	11	NA	"
	4/4/2002	17:00	NA	8.4	NA	"
	4/5/2002	11:30	NA	10.5	NA	"
	4/6/2002	12:00	NA	10	NA	"
	4/7/2002	11:00	NA	11	NA	"
	4/8/2002	12:45	NA	10	NA	"
	4/9/2002	8:45	NA	13	NA	"
	4/10/2002	14:30	NA	12	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	8	NA	"
	4/17/2002	15:20	NA	4.5	NA	"
	4/23/2002	15:51	NA	10	NA	"
	5/3/2002	12:48	NA	5	NA	"
	5/9/2002	19:10	NA	11	NA	"
	5/23/2002	16:20	NA	10.5	NA	"
	6/13/2002	8:35	NA	11	NA	"
	6/20/2002	10:17	NA	11	NA	"
	6/27/2002	12:34	NA	10	NA	"
	7/3/2002	11:00	NA	10	NA	"
	7/9/2002	14:17	NA	11	NA	"
	7/15/2002	11:48	NA	12	NA	"
	7/23/2002	9:12	NA	11	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	9	NA	"
	8/20/2002	11:28	NA	8	NA	"
	8/27/2002	9:40	NA	8	NA	"
	9/5/2002	10:45	NA	8	NA	"
2-VEW-1B	11/27/2001	13:00	11	17	9,999	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	29	2,800	Well Opened
	1/10/2002	15:00	NA	1.6	NA	"
	1/18/2002	18:00	NA	2.9	NA	Well Closed
	1/24/2002	15:10	17	48	9,999	"
	1/31/2002	15:48	8	31	9,999	"
	2/1/2002	10:00	10	23	6,500	"
	2/6/2002	13:00	5.3	16	6,800	"
	2/15/2002	11:00	5.5	19	3,980	"
	2/27/2002	10:30	14.2	52	4,230	"
	3/6/2002	9:00	8.5	48	2,790	"
	3/13/2002	14:35	9	50	4,240	"
	3/20/2002	10:45	12	50	1,300	"
	3/29/2002	10:00	10.1	54	1,800	Well Opened
	3/29/2002	14:20	18.1	46	1,350	"
	3/30/2002	10:58	9	48	1,478	"
	3/31/2002	10:31	8.4	48	1,744	"
	4/1/2002	16:50	7.4	49	1,475	"
	4/2/2002	11:40	6.8	51	1,535	"
	4/4/2002	17:00	6.8	47	1,565	"
	4/5/2002	11:30	9.4	49	1,720	"
	4/6/2002	12:00	10.8	49	1,429	"
	4/7/2002	11:00	17	50	1,474	"
	4/8/2002	12:45	9.2	50	1,434	"
	4/9/2002	8:45	6.5	51	1,684	"
	4/10/2002	14:30	6.2	49	1,635	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	9.4	49	NA	"
	4/17/2002	15:20	9	43	1,439	"
	4/23/2002	15:51	9.15	50	NA	"
	5/3/2002	12:48	11	41.5	642	"
	5/9/2002	19:10	8	43	795	"
	5/23/2002	16:20	17.1	48.5	* 25	"
	6/13/2002	8:35	9.6	48	* 48	"
	6/20/2002	10:17	48	7.8	* 50	"
	6/27/2002	12:34	9.2	48	* 49	"
	7/3/2002	11:00	7	47	489	"
	7/9/2002	14:17	10.3	49	410	"
	7/15/2002	11:48	11	54	520	"
	7/23/2002	9:12	10.8	54	444	"
	7/30/2002	13:35	12.3	62	435	"
	8/7/2002	15:15	9.7	59	436	"
	8/15/2002	15:30	9	50	462	"
	8/20/2002	11:28	10.6	60	189	"
	8/27/2002	9:40	11	59	234	"
	9/5/2002	10:45	11.2	64	260	"

BOE-C6-0129614

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-2	11/27/2001	13:00	60	25	1,300	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	70	20	740	Well Opened
	1/10/2002	15:00	NA	1.5	NA	Well Closed
	1/18/2002	18:00	NA	3.2	NA	"
	1/24/2002	15:10	NA	2	NA	"
	1/31/2002	15:48	60	31	9,999	Well Opened
	2/1/2002	10:00	29	22	335	"
	2/6/2002	13:00	18	15	260	"
	2/15/2002	11:00	23	19	94	Well Closed
	3/20/2002	14:00	NA	47	18	"
	3/29/2002	14:20	24	19	8	"
	3/30/2002	10:58	24	21	8	Well Opened
	3/31/2002	10:31	24	20	3	"
	4/1/2002	16:50	25	21	4	"
	4/2/2002	11:40	NA	13	NA	Well Closed
	4/4/2002	17:00	NA	9	NA	"
	4/5/2002	11:30	NA	12.5	NA	"
	4/6/2002	12:00	NA	12	NA	"
	4/7/2002	11:00	NA	13	NA	"
	4/8/2002	12:45	NA	12	NA	"
	4/9/2002	8:45	NA	14	NA	"
	4/10/2002	14:30	NA	12	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	8.5	NA	"
	4/17/2002	15:20	NA	4	NA	"
	4/23/2002	15:51	NA	11	NA	"
	5/3/2002	12:48	NA	6	NA	"
	5/9/2002	19:10	NA	11	NA	"
	5/23/2002	16:20	NA	11	NA	"
	6/13/2002	8:35	NA	12	NA	"
	6/20/2002	10:17	NA	12	NA	"
	6/27/2002	12:34	NA	11	NA	"
	7/3/2002	11:00	NA	12	NA	"
	7/9/2002	14:17	NA	12	NA	"
	7/15/2002	11:48	NA	12	NA	"
	7/23/2002	9:12	NA	12	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	10	NA	"
	8/20/2002	11:28	NA	10	NA	"
	8/27/2002	9:40	NA	9	NA	"
	9/5/2002	10:45	NA	9	NA	"
2-VEW-3A	11/27/2001	13:00	20	20	710	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	12	22	160	Well Opened
	1/10/2002	15:00	NA	1.3	NA	"
	1/18/2002	18:00	23	50	560	"
	1/24/2002	15:10	11	49	470	"
	1/31/2002	15:48	17	32	360	"
	2/1/2002	10:00	7	23	250	"
	2/6/2002	13:00	7	17	210	"
	2/15/2002	11:00	6.5	19	85	Well Closed
	3/20/2002	14:00	NA	50	NA	"
	3/29/2002	10:00	94	54	31	Well Opened
	3/29/2002	14:20	1	9	NA	Well Closed
	3/30/2002	10:58	0.6	11	NA	"
	3/31/2002	10:31	0.5	10	NA	"
	4/1/2002	16:50	NA	10	NA	"
	4/2/2002	11:40	NA	12	NA	"
	4/4/2002	17:00	NA	8	NA	"
	4/5/2002	11:30	NA	11.5	NA	"
	4/6/2002	12:00	NA	10.5	NA	"
	4/7/2002	11:00	NA	11	NA	"
	4/8/2002	12:45	NA	12	NA	"
	4/9/2002	8:45	NA	13	NA	"
	4/10/2002	14:30	NA	10	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	8	NA	"
	4/17/2002	15:20	NA	4	NA	"
	4/23/2002	15:51	NA	10	NA	"
	5/3/2002	12:48	NA	5.5	NA	"
	5/9/2002	19:10	NA	10	NA	"
	5/23/2002	16:20	NA	10	NA	"
	6/13/2002	8:35	NA	12	NA	"
	6/20/2002	10:17	NA	12	NA	"
	6/27/2002	12:34	NA	11	NA	"
	7/3/2002	11:00	NA	10	NA	"
	7/9/2002	14:17	NA	11	NA	"
	7/15/2002	11:48	NA	12	NA	"
	7/23/2002	9:12	NA	12	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	8	NA	"
	8/20/2002	11:28	NA	8	NA	"
	8/27/2002	9:40	NA	8	NA	"
	9/5/2002	10:45	NA	8	NA	"

BOE-C6-0129615

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-3B	11/27/2001	13:00	11	25.0	2,250	Initial Startup
	11/28/2001	13:15	NA	0.1	NA	Well Closed
	11/30/2001	14:20	NA	0.7	NA	"
	12/3/2001	17:10	NA	0.2	NA	"
	12/4/2001	10:15	NA	0.9	NA	"
	12/5/2001	16:30	NA	0.6	NA	"
	12/6/2001	8:30	NA	0.8	NA	"
	12/7/2001	7:30	NA	1.2	NA	"
	12/8/2001	16:00	NA	0.1	NA	"
	12/9/2001	13:00	NA	0.0	NA	"
	12/10/2001	16:00	NA	0.4	NA	"
	12/11/2001	11:00	NA	1.4	NA	"
	12/12/2001	19:15	8	29.5	1,900	Well Opened
	12/13/2001	11:15	8	29.0	1,675	"
	12/20/2001	15:10	17	39.0	1,345	"
	12/28/2001	11:00	15	23.0	220	"
	1/10/2002	15:00	NA	1.5	NA	Well Closed
	1/18/2002	18:00	NA	3.3	NA	"
	1/24/2002	15:10	NA	3.0	NA	"
	1/31/2002	15:48	7	32.0	390	Well Opened
	2/1/2002	10:00	10	23.0	220	"
	2/6/2002	13:00	7	17.0	230	"
	2/15/2002	11:00	5.7	19	320	"
	3/20/2002	14:00	NA	47	203	"
	3/29/2002	14:20	18	46	296	"
	3/30/2002	10:58	8.4	48	226	"
	3/31/2002	10:31	9	48	231	"
	4/1/2002	16:50	9.3	48	197	"
	4/2/2002	11:40	11.3	52	172	"
	4/4/2002	17:00	10.1	47	262	"
	4/5/2002	11:30	13.8	50	142	"
	4/6/2002	12:00	49	14.1	116	"
	4/7/2002	11:00	15.1	56	105	"
	4/8/2002	12:45	17.1	51	87	"
	4/9/2002	8:45	16.9	52	106	"
	4/10/2002	14:30	19.2	49	88	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	19	49	NA	"
	4/17/2002	15:20	23	43	156	"
	4/23/2002	15:51	26.3	50	NA	"
	5/3/2002	12:48	28	42	51	"
	5/9/2002	19:10	24	42	42	"
	5/23/2002	16:20	48	28.6	* 4.8	"
	6/13/2002	8:35	31.5	48	* 7.0	"
	6/20/2002	10:17	28.4	48	* 7.0	"
	6/27/2002	12:34	31.3	48	* 5.2	"
	7/3/2002	11:00	28	47	67	"
	7/9/2002	14:17	31	48	19	"
	7/15/2002	11:48	35	54	80	"
	7/23/2002	9:12	36.8	54	20	"
	7/30/2002	13:35	NA	NA	NA	Well Closed
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	10	NA	"
	8/20/2002	11:28	NA	9	NA	"
	8/27/2002	9:40	NA	8	NA	"
	9/5/2002	10:45	NA	9	NA	"
2-VEW-4	11/27/2001	13:00	30	25	1,250	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	15	450	Well Opened
	1/10/2002	15:00	NA	1.8	NA	"
	1/18/2002	18:00	NA	3.8	NA	"
	1/24/2002	15:10	NA	2.3	NA	"
	1/31/2002	15:48	33	31	940	"
	2/1/2002	10:00	23	23.5	565	"
	2/6/2002	13:00	21	17	680	"
	2/15/2002	11:00	20.5	19	400	Well Closed
	3/20/2002	14:00	NA	41	17	"
	3/29/2002	14:20	59	45	60	Well Opened
	3/30/2002	10:58	51.5	48	167	"
	3/31/2002	10:31	55.5	47	235	"
	4/1/2002	16:50	51.5	48	270	"
	4/2/2002	11:40	56	50	257	"
	4/4/2002	17:00	55	46	276	"
	4/5/2002	11:30	58	48.5	264	"
	4/6/2002	12:00	56	48	232	"
	4/7/2002	11:00	54.5	49.5	223	"
	4/8/2002	12:45	59.5	47	232	"
	4/9/2002	8:45	58	50	272	"
	4/10/2002	14:30	55.5	47	234	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	48	61	NA	"
	4/17/2002	15:20	58.5	41	252	"
	4/23/2002	15:51	61.5	49	NA	"
	5/3/2002	12:48	57	41	209	"
	5/9/2002	19:10	48	43	179	"
	5/23/2002	16:20	56	47	* 17.2	"
	6/13/2002	8:35	58	46	* 13.8	"
	6/20/2002	10:17	54.5	48	* 15.0	"
	6/27/2002	12:34	61.5	47	* 12.2	"
	7/3/2002	11:00	54	46	79	"
	7/9/2002	14:17	59.5	48	64	"
	7/15/2002	11:48	63	52	72	"
	7/23/2002	9:12	70	53	39	"
	7/30/2002	13:35	NA	NA	NA	Well Closed
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	65	50	NA	"
	8/20/2002	11:28	78.5	58	119	"
	8/27/2002	9:40	82	57	37	"
	9/5/2002	10:45	82	57	37	"
2-VEW-5	11/27/2001	13:00	90	25	1,075	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	17	800	Well Opened
	1/10/2002	15:00	NA	2.8	NA	"
	1/18/2002	18:00	NA	3.4	NA	"

BOE-C6-0129616

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
	1/24/2002	15:10	NA	2.5	NA	"
	1/31/2002	15:48	65	30	1,150	"
	2/1/2002	10:00	47	20	700	"
	2/6/2002	13:00	32	16	910	"
	2/15/2002	11:00	36	19	570	Well Closed
	3/20/2002	14:00	NA	43	75	"
	3/29/2002	14:20	81	39	76	"
	3/30/2002	10:58	80.5	41	99	Well Opened
	3/31/2002	10:31	80.5	41	102	"
	4/1/2002	16:50	80	41	107	"
	4/2/2002	11:40	86	43	91	"
	4/4/2002	17:00	83.5	38	104	"
	4/5/2002	11:30	86	42	80	"
	4/6/2002	12:00	85	41	69	"
	4/7/2002	11:00	94.5	41.5	63	"
	4/8/2002	12:45	87	40	61	"
	4/9/2002	8:45	87	42	78	"
	4/10/2002	14:30	85.5	40	69	"
	4/11/2002	19:35	NA	NA	NA	Well Closed
	4/12/2002	18:37	NA	11	NA	"
	4/17/2002	15:20	NA	6	NA	"
	4/23/2002	15:51	NA	13.5	NA	"
	5/3/2002	12:48	NA	7	NA	"
	5/9/2002	19:10	NA	14	NA	"
	5/23/2002	16:20	NA	15	NA	"
	6/13/2002	8:35	NA	15	NA	"
	6/20/2002	10:17	NA	15.5	NA	"
	6/27/2002	12:34	NA	14.5	NA	"
	7/3/2002	11:00	NA	15	NA	"
	7/9/2002	14:17	NA	15	NA	"
	7/15/2002	11:48	NA	16	NA	"
	7/23/2002	9:12	NA	12	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	12	NA	"
	8/20/2002	11:28	NA	11	NA	"
	8/27/2002	9:40	NA	12	NA	"
	9/5/2002	10:45	NA	vent	NA	"
2-VEW-6	11/27/2001	13:00	52	25	9,999	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	NA	15	625	Well Opened
	1/10/2002	15:00	NA	2.3	NA	Well Closed
	1/18/2002	18:00	NA	3.6	NA	"
	1/24/2002	15:10	NA	2.5	NA	"
	1/31/2002	15:48	40	30	3,130	Well Opened
	2/1/2002	10:00	27	20	1,500	"
	2/6/2002	13:00	21	16	1,530	"
	2/15/2002	11:00	25	19	945	Well Closed
	2/27/2002	10:30	68	35	520	"
	3/6/2002	9:00	81	33	433	"
	3/13/2002	14:35	81	34	335	"
	3/20/2002	10:45	62	30	280	"
	3/29/2002	10:00	56	28	241	Well Opened
	3/29/2002	14:20	85	46	246	"
	3/30/2002	10:58	78.5	44	263	"
	3/31/2002	10:31	87	42	262	"
	4/1/2002	16:50	81	43	245	"
	4/2/2002	11:40	86	45	208	"
	4/4/2002	17:00	87	40	222	"
	4/5/2002	11:30	98	43	209	"
	4/6/2002	12:00	94.5	42.5	172	"
	4/7/2002	11:00	93.5	43.5	168	"
	4/8/2002	12:45	96.5	43	165	"
	4/9/2002	8:45	95.5	44	208	"
	4/10/2002	14:30	87	42	165	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	104	44	NA	"
	4/17/2002	15:20	107	37	158	"
	4/23/2002	15:51	108	44	NA	"
	5/3/2002	12:48	98	37	110	"
	5/9/2002	19:10	83	39	105	"
	5/23/2002	16:20	88.5	44	8	"
	6/13/2002	8:35	89	45	10	"
	6/20/2002	10:17	84.5	44	8	"
	6/27/2002	12:34	86.5	43	7	"
	7/3/2002	11:00	81	43	40	"
	7/9/2002	14:17	92.5	44	25	"
	7/15/2002	11:48	95	48	55	"
	7/23/2002	9:12	106.5	48	18	"
	7/30/2002	13:35	NA	NA	NA	Well Closed
	8/7/2002	15:15	NA	vent	NA	"
	8/15/2002	15:30	NA	vent	NA	"
	8/20/2002	11:28	NA	vent	NA	"
	8/27/2002	9:40	NA	vent	NA	"
	9/5/2002	10:45	NA	vent	NA	"

BOE-C6-0129617

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-7A	11/27/2001	13:00	13	25	360	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	20	100	Well Opened
	1/10/2002	15:00	NA	1.4	NA	"
	1/18/2002	18:00	17	50	600	"
	1/24/2002	15:10	15	48	940	"
	1/31/2002	15:48	8	30	1,100	"
	2/1/2002	10:00	6	21	730	"
	2/6/2002	13:00	16	4.5	775	"
	2/15/2002	11:00	6	18	333	Well Closed
	3/20/2002	14:00	NA	53	17	"
	3/29/2002	14:20	11.6	41	25	Well Opened
	3/30/2002	10:58	12	44	39	"
	3/31/2002	10:31	13.6	43.5	54	"
	4/1/2002	16:50	14.1	43	73	"
	4/2/2002	11:40	13	46	73	"
	4/4/2002	17:00	11.8	41.5	81	"
	4/5/2002	11:30	15.4	45	59	"
	4/6/2002	12:00	14.4	44	51	"
	4/7/2002	11:00	14.4	45	51	"
	4/8/2002	12:45	14.4	45	47	"
	4/9/2002	8:45	13.7	45	55	"
	4/10/2002	14:30	13.3	44	53	"
	4/11/2002	19:35	NA	NA	NA	Well Closed
	4/12/2002	18:37	104	9	NA	"
	4/17/2002	15:20	107	5	NA	"
	4/23/2002	15:51	108	12	NA	"
	5/3/2002	12:48	98	6	NA	"
	5/9/2002	19:10	83	11	NA	"
	5/23/2002	16:20	NA	12	NA	"
	6/13/2002	8:35	NA	13	NA	"
	6/20/2002	10:17	NA	12	NA	"
	6/27/2002	12:34	NA	12	NA	"
	7/3/2002	11:00	NA	12	NA	"
	7/9/2002	14:17	NA	13	NA	"
	7/15/2002	11:48	NA	13	NA	"
	7/23/2002	9:12	NA	11.5	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	9	NA	"
	8/20/2002	11:28	NA	8	NA	"
	8/27/2002	9:40	NA	8	NA	"
	9/5/2002	10:45	NA	8	NA	"
2-VEW-7B	11/27/2001	13:00	60	25.0	600	Initial Startup
	11/28/2001	13:15	NA	0.3	NA	Well Closed
	11/30/2001	14:20	NA	0.9	NA	"
	12/3/2001	17:10	NA	0.2	NA	"
	12/4/2001	10:15	NA	1.2	NA	"
	12/5/2001	16:30	NA	0.8	NA	"
	12/6/2001	8:30	NA	1.0	NA	"
	12/7/2001	7:30	NA	1.4	NA	"
	12/8/2001	16:00	NA	0.1	NA	"
	12/9/2001	13:00	NA	0.0	NA	"
	12/10/2001	16:00	NA	0.5	NA	"
	12/11/2001	11:00	NA	1.6	NA	"
	12/12/2001	19:15	75	27.0	5,450	Well Opened
	12/13/2001	11:15	85	29.0	4,380	"
	12/20/2001	15:10	95	34.0	9,999	"
	12/28/2001	11:00	75	20.0	100	"
	1/3/2002	15:00	75	20.0	100	"
	1/10/2002	15:00	NA	1.9	NA	Well Closed
	1/18/2002	18:00	NA	3.5	NA	"
	1/24/2002	15:10	NA	2.4	NA	"
	1/31/2002	15:48	57	29.0	1,060	Well Opened
	2/1/2002	10:00	40	21.0	920	"
	2/6/2002	13:00	34	17.0	850	"
	2/15/2002	11:00	34	18	850	"
	2/27/2002	10:30	70	36	800	"
	3/6/2002	9:00	65	34	677	"
	3/13/2002	14:35	78	35	495	"
	3/20/2002	10:45	91	35	420	"
	3/29/2002	10:00	64	44	422	"
	3/29/2002	14:20	77.5	40	385	"
	3/30/2002	10:58	58.5	42	406	"
	3/31/2002	10:31	59	41.5	431	"
	4/1/2002	16:50	78	42	375	"
	4/2/2002	11:40	81	44	351	"
	4/4/2002	17:00	85	39.5	421	"
	4/5/2002	11:30	107	42.5	390	"
	4/6/2002	12:00	104	42	323	"
	4/7/2002	11:00	102	43	310	"
	4/8/2002	12:45	101	44	310	"
	4/9/2002	8:45	106	44	352	"
	4/10/2002	14:30	80	42	319	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	114	43	NA	"
	4/17/2002	15:20	114.5	36	305	"
	4/23/2002	15:51	109	44	NA	"
	5/3/2002	12:48	58	36.5	178	"
	5/9/2002	19:10	73	39	164	"
	5/23/2002	16:20	87.5	43	* 11	"
	6/13/2002	8:35	86.5	44	* 9.5	"
	6/20/2002	10:17	39.5	44	* 9.0	"
	6/27/2002	12:34	86.5	43	* 6.5	"
	7/3/2002	11:00	78	42	44	"
	7/9/2002	14:17	107	44	32	"
	7/15/2002	11:48	96	48	47	"
	7/23/2002	9:12	121	48	19	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	128	52	44	"
	8/15/2002	15:30	96	46	NA	"
	8/20/2002	11:28	NA	10	NA	Well Closed
	8/27/2002	9:40	NA	10	NA	"
	9/5/2002	10:45	NA	10	NA	"

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TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-8A	11/27/2001	13:00	14	25	1,675	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	10	20	240	Well Opened
	1/10/2002	15:00	NA	2.5	NA	"
	1/18/2002	18:00	24	50	855	"
	1/24/2002	15:10	14	48	1,030	"
	1/31/2002	15:48	6	30	980	"
	2/1/2002	10:00	7	21	1,010	"
	2/6/2002	13:00	6	16	1,400	"
	2/15/2002	11:00	6.5	18	480	Well Closed
	3/20/2002	14:00	NA	55	24	"
	3/29/2002	14:20	7	43	59	Well Opened
	3/30/2002	10:58	7	43	76	"
	3/31/2002	10:31	9.8	43	81	"
	4/1/2002	16:50	9.4	45	79	"
	4/2/2002	11:40	9.5	46	117	"
	4/4/2002	17:00	8.8	42	130	"
	4/5/2002	11:30	11.4	45	78	"
	4/6/2002	12:00	10.8	44.5	63	"
	4/7/2002	11:00	10.4	44	59	"
	4/8/2002	12:45	11	45	58	"
	4/9/2002	8:45	10.1	47	69	"
	4/10/2002	14:30	9.7	44	69	"
	4/11/2002	19:35	NA	NA	NA	Well Closed
	4/12/2002	18:37	NA	11	NA	"
	4/17/2002	15:20	NA	6	NA	"
	4/23/2002	15:51	NA	13	NA	"
	5/3/2002	12:48	NA	1	NA	"
	5/9/2002	19:10	NA	2	NA	"
	5/23/2002	16:20	NA	14	NA	"
	6/13/2002	8:35	NA	15	NA	"
	6/20/2002	10:17	NA	15	NA	"
	6/27/2002	12:34	NA	14	NA	"
	7/3/2002	11:00	NA	15	NA	"
	7/9/2002	14:17	NA	14.5	NA	"
	7/15/2002	11:48	NA	15	NA	"
	7/23/2002	9:12	NA	15	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	12	NA	"
	8/20/2002	11:28	NA	11	NA	"
	8/27/2002	9:40	NA	11	NA	"
	9/5/2002	10:45	NA	11	NA	"
2-VEW-8B	11/27/2001	13:00	56	30	3,750	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	50	20	990	Well Opened
	1/10/2002	15:00	64	21	2,750	"
	1/18/2002	18:00	NA	3.7	NA	Well Closed
	1/24/2002	15:10	NA	2.8	NA	"
	1/31/2002	15:48	46	29	1,300	Well Opened
	2/1/2002	10:00	30	21	1,370	"
	2/6/2002	13:00	22	16	790	"
	2/15/2002	11:00	22	19	1,830	"
	2/27/2002	10:30	76	44	1,185	"
	3/6/2002	9:00	54	42	930	"
	3/13/2002	14:35	90	42	715	"
	3/20/2002	10:45	103	41	510	"
	3/29/2002	10:00	62	44	472	"
	3/29/2002	14:20	60	42	500	"
	3/30/2002	10:58	62.5	44	712	"
	3/31/2002	10:31	60.5	44.5	724	"
	4/1/2002	16:50	60	43	740	"
	4/2/2002	11:40	64	46	664	"
	4/4/2002	17:00	68	41	660	"
	4/5/2002	11:30	64	43.5	704	"
	4/6/2002	12:00	61.5	43.5	668	"
	4/7/2002	11:00	63.5	45.5	681	"
	4/8/2002	12:45	66	44	669	"
	4/9/2002	8:45	65.5	45	787	"
	4/10/2002	14:30	65	43	719	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	41.8	26	NA	"
	4/17/2002	15:20	51.5	19.5	276	"
	4/23/2002	15:51	50.5	28.5	NA	"
	5/3/2002	12:48	31.1	22	281	"
	5/9/2002	19:10	23	21	362	"
	5/23/2002	16:20	38.4	29	* 39	"
	6/13/2002	8:35	25.2	30	* 20	"
	6/20/2002	10:17	40.9	30	* 25	"
	6/27/2002	12:34	28.6	29	* 17	"
	7/3/2002	11:00	18	28	121	"
	7/9/2002	14:17	65	29	83	"
	7/15/2002	11:48	40	30	133	"
	7/23/2002	9:12	51.5	31	117	"
	7/30/2002	13:35	151	55	86	"
	8/7/2002	15:15	121	51	69	"
	8/15/2002	15:30	93	46	NA	"
	8/20/2002	11:28	95	54	53	"
	8/27/2002	9:40	132	53	29	"
	9/5/2002	10:45	157	57	17	"

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-9	11/27/2001	13:00	38	30	2,550	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	19	390	Well Opened
	1/10/2002	15:00	NA	3.2	NA	Well Closed
	1/18/2002	18:00	NA	4.8	NA	"
	1/24/2002	15:10	NA	4.2	NA	"
	1/31/2002	15:48	24	29	1,970	Well Opened
	2/1/2002	10:00	17	21	1,100	"
	2/6/2002	13:00	14	17	750	"
	2/15/2002	11:00	14	20	795	"
	2/27/2002	10:30	98	60	355	"
	3/6/2002	9:00	94	56	350	"
	3/13/2002	14:35	91	56	305	"
	3/20/2002	10:45	93	58	243	"
	3/29/2002	10:00	77	50	241	"
	3/29/2002	14:20	52.5	44	334	"
	3/30/2002	10:58	51	45	532	"
	3/31/2002	10:31	53	45	1,325	"
	4/1/2002	16:50	52	45	610	"
	4/2/2002	11:40	56	48	542	"
	4/4/2002	17:00	60	44	568	"
	4/5/2002	11:30	57.5	45.5	479	"
	4/6/2002	12:00	57	46	546	"
	4/7/2002	11:00	56	47	506	"
	4/8/2002	12:45	56.5	47	497	"
	4/9/2002	8:45	55	47	472	"
	4/10/2002	14:30	57	46	530	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	49.3	44	NA	"
	4/17/2002	15:20	52.5	38	283	"
	4/23/2002	15:51	47.1	44.5	NA	"
	5/3/2002	12:48	54	34	239	"
	5/9/2002	19:10	43	40	300	"
	5/23/2002	16:20	47.3	44	* 25	"
	6/13/2002	8:35	47.8	46	* 23	"
	6/20/2002	10:17	45.4	47	* 20	"
	6/27/2002	12:34	49.7	45	* 19	"
	7/3/2002	11:00	48	45	112	"
	7/9/2002	14:17	48.6	46	82	"
	7/15/2002	11:48	60	52	116	"
	7/23/2002	9:12	63	91	65	"
	7/30/2002	13:35	83.5	60	36	"
	8/7/2002	15:15	69.5	55	28	"
	8/15/2002	15:30	60	48	NA	"
	8/20/2002	11:28	NA	20	NA	Well Closed
	8/27/2002	9:40	NA	20	NA	"
	9/5/2002	10:45	NA	19	NA	"
2-VEW-10A	11/27/2001	13:00	20	30	1,400	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	22	45	Well Opened
	1/10/2002	15:00	NA	2.3	NA	
	1/18/2002	18:00	33	48	2,750	"
	1/24/2002	15:10	45	45	1,890	"
	1/31/2002	15:48	18	28	1,450	"
	2/1/2002	10:00	13	20	1,350	"
	2/6/2002	13:00	11	17	1,250	Well Closed
	2/15/2002	11:00	12.5	19	1,085	Well Opened
	3/20/2002	14:00	NA	57	38	"
	3/29/2002	14:20	13	22	15	"
	3/30/2002	10:58	13	24	23	"
	3/31/2002	10:31	13	24	30	"
	4/1/2002	16:50	13.6	24	49	"
	4/2/2002	11:40	10	23	60	"
	4/4/2002	17:00	9.8	18	82	"
	4/5/2002	11:30	11.9	21	50	"
	4/6/2002	12:00	10.5	21.5	56	"
	4/7/2002	11:00	10.9	22	57	"
	4/8/2002	12:45	10.9	22	147	"
	4/9/2002	8:45	10.5	21	74	"
	4/10/2002	14:30	12.4	22	65	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	11.8	21	NA	"
	4/17/2002	15:20	11.9	16	68	"
	4/23/2002	15:51	10.5	23.5	NA	"
	5/3/2002	12:48	11.4	16	49	"
	5/9/2002	19:10	NA	12	NA	"
	5/23/2002	16:20	24.8	35	* 6.4	"
	6/13/2002	8:35	26.4	36	* 10	"
	6/20/2002	10:17	24.4	36	* 11	"
	6/27/2002	12:34	27.3	35	* 8.0	"
	7/3/2002	11:00	25	32	59	"
	7/9/2002	14:17	27	36	35	"
	7/15/2002	11:48	32	37	64	"
	7/23/2002	9:12	33	37	23	"
	7/30/2002	13:35	NA	NA	NA	Well Closed
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	12	NA	"
	8/20/2002	11:28	NA	12	NA	"
	8/27/2002	9:40	NA	12	NA	"
	9/5/2002	10:45	NA	12	NA	"

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TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (acfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-10B	11/27/2001	13:00	45	30	1,620	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	32	18	700	Well Opened
	1/10/2002	15:00	NA	4.2	NA	Well Closed
	1/18/2002	18:00	NA	4.4	NA	"
	1/24/2002	15:10	NA	4	NA	"
	1/31/2002	15:48	26	28	6,000	Well Opened
	2/1/2002	10:00	15	21	3,710	"
	2/6/2002	13:00	11	17	3,000	"
	2/15/2002	11:00	14	19	2,580	"
	2/27/2002	10:30	43	37	1,400	"
	3/6/2002	9:00	39	35	1,080	"
	3/13/2002	14:35	39	32	788	"
	3/20/2002	10:45	49	29	690	"
	3/29/2002	10:00	36	29	488	"
	3/29/2002	14:20	15	25	350	"
	3/30/2002	10:58	15	27	533	"
	3/31/2002	10:31	16	28	670	"
	4/1/2002	16:50	15	28	690	"
	4/2/2002	11:40	11	27	287	"
	4/4/2002	17:00	10.9	21.5	297	"
	4/5/2002	11:30	12.1	26.5	364	"
	4/6/2002	12:00	10.6	26	362	"
	4/7/2002	11:00	12.1	27	324	"
	4/8/2002	12:45	11	28	327	"
	4/9/2002	8:45	11.1	26	383	"
	4/10/2002	14:30	12.6	26	370	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	52.5	26.5	NA	"
	4/17/2002	15:20	65.5	39	780	"
	4/23/2002	15:51	67.5	47	NA	"
	5/3/2002	12:48	74	37	447	"
	5/9/2002	19:10	63	40	345	"
	5/23/2002	16:20	69	44	* 36	"
	6/13/2002	8:35	69.5	45	* 42	"
	6/20/2002	10:17	65	46	* 35	"
	6/27/2002	12:34	70.5	44	* 27	"
	7/3/2002	11:00	65	44	148	"
	7/9/2002	14:17	71	45	133	"
	7/15/2002	11:48	82	50	130	"
	7/23/2002	9:12	84.5	50	85	"
	7/30/2002	13:35	116.5	58	76	"
	8/7/2002	15:15	105	54	76	"
	8/15/2002	15:30	81	48	NA	"
	8/20/2002	11:28	100	57	158	"
	8/27/2002	9:40	102	55	52	"
	9/5/2002	10:45	111	60	46	"
2-VEW-11A	11/27/2001	13:00	27	25	1,700	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	21	110	Well Opened
	1/10/2002	15:00	NA	22	725	"
	1/18/2002	18:00	52	47	620	"
	1/24/2002	15:10	79	43	350	"
	1/31/2002	15:48	39	29	280	"
	2/1/2002	10:00	28	20	175	"
	2/6/2002	13:00	24	16	100	"
	2/15/2002	11:00	27	19	90	Well Closed
	3/20/2002	14:00	NA	46	20	"
	3/29/2002	14:20	24	8	NA	"
	3/30/2002	10:58	1	9	NA	"
	3/31/2002	10:31	0.4	10	NA	"
	4/1/2002	16:50	NA	9	NA	"
	4/2/2002	11:40	NA	10	NA	"
	4/4/2002	17:00	NA	7	NA	"
	4/5/2002	11:30	NA	9	NA	"
	4/6/2002	12:00	NA	9	NA	"
	4/7/2002	11:00	NA	9.5	NA	"
	4/8/2002	12:45	NA	10	NA	"
	4/9/2002	8:45	NA	10	NA	"
	4/10/2002	14:30	NA	10	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	8	NA	"
	4/17/2002	15:20	NA	5	NA	"
	4/23/2002	15:51	NA	9.5	NA	"
	5/3/2002	12:48	NA	4	NA	"
	5/9/2002	19:10	NA	8	NA	"
	5/23/2002	16:20	NA	10	NA	"
	6/13/2002	8:35	NA	10	NA	"
	6/20/2002	10:17	NA	10	NA	"
	6/27/2002	12:34	NA	9	NA	"
	7/3/2002	11:00	NA	10	NA	"
	7/9/2002	14:17	NA	8.5	NA	"
	7/15/2002	11:48	NA	8	NA	"
	7/23/2002	9:12	NA	7	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	8	NA	"
	8/20/2002	11:28	NA	5	NA	"
	8/27/2002	9:40	NA	7	NA	"
	9/5/2002	10:45	NA	8	NA	"

BOE-C6-0129621

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-11B	11/27/2001	13:00	19	30.0	1,040	Initial Startup
	11/28/2001	13:15	NA	27.5	3,100	Well Opened
	11/30/2001	14:20	NA	27.0	NA	"
	12/3/2001	17:10	NA	26.5	NA	"
	12/4/2001	10:15	NA	27.5	1,510	"
	12/5/2001	16:30	NA	29.0	3,200	"
	12/6/2001	8:30	NA	28.8	3,015	"
	12/7/2001	7:30	NA	29.0	3,600	"
	12/8/2001	16:00	NA	29.0	3,100	"
	12/9/2001	13:00	NA	27.0	NA	"
	12/10/2001	16:00	NA	28.5	4,700	"
	12/11/2001	11:00	NA	30.0	4,100	Well Closed
	12/12/2001	19:15	NA	2.1	NA	"
	12/13/2001	11:15	NA	0.9	NA	"
	12/20/2001	15:10	NA	1.7	NA	"
	12/28/2001	11:00	15	22.0	520	Well Opened
	1/3/2002	15:00	15	22.0	520	"
	1/10/2002	15:00	NA	4.0	NA	"
	1/18/2002	18:00	NA	4.8	NA	"
	1/24/2002	15:10	NA	4.5	NA	"
	1/31/2002	15:48	12	29.0	850	"
	2/1/2002	10:00	6	21.0	590	"
	2/6/2002	13:00	5	16.0	340	"
	2/15/2002	11:00	5.5	19	415	Well Closed
	3/20/2002	14:00	NA	53	303	"
	3/29/2002	14:20	18	39	586	Well Opened
	3/30/2002	10:58	16	41	531	"
	3/31/2002	10:31	17.5	42	1,651	"
	4/1/2002	16:50	17	41	565	"
	4/2/2002	11:40	17	44	515	"
	4/4/2002	17:00	19.6	38.5	536	"
	4/5/2002	11:30	18.4	42	484	"
	4/6/2002	12:00	18.6	42.5	464	"
	4/7/2002	11:00	16.5	43.5	461	"
	4/8/2002	12:45	18.4	44	474	"
	4/9/2002	8:45	17	43	471	"
	4/10/2002	14:30	17	42	463	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	23.7	47	NA	"
	4/17/2002	15:20	28.4	41	465	"
	4/23/2002	15:51	19.7	47	NA	"
	5/3/2002	12:48	25.3	36.5	NA	"
	5/9/2002	19:10	15	41	383	"
	5/23/2002	16:20	16.6	45	* 41	"
	6/13/2002	8:35	15.7	46	* 35	"
	6/20/2002	10:17	15.3	47	* 29	"
	6/27/2002	12:34	16.7	45	* 28	"
	7/3/2002	11:00	16	45	178	"
	7/9/2002	14:17	16.1	46	129	"
	7/15/2002	11:48	21	52	202	"
	7/23/2002	9:12	23.5	52	97	"
	7/30/2002	13:35	29.5	60	92	"
	8/7/2002	15:15	30	57	87	"
	8/15/2002	15:30	20	49	NA	"
	8/20/2002	11:28	25	60	132	"
	8/27/2002	9:40	27	58	51	"
	9/5/2002	10:45	28	63	59	"
2-VEW-12	11/27/2001	13:00	82	30	2,500	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	75	19	390	Well Opened
	1/10/2002	15:00	NA	3.4	NA	Well Closed
	1/18/2002	18:00	NA	5.5	NA	"
	1/24/2002	15:10	NA	4.8	NA	"
	1/31/2002	15:48	75	28	815	Well Opened
	2/1/2002	10:00	49	20	540	"
	2/6/2002	13:00	39	17	325	"
	2/15/2002	11:00	44	19	350	Well Closed
	3/20/2002	14:00	NA	40	61	"
	3/29/2002	14:20	117	41	67	Well Opened
	3/30/2002	10:58	120	42	92	"
	3/31/2002	10:31	121	43	539	"
	4/1/2002	16:50	121	43	154	"
	4/2/2002	11:40	125	45	145	"
	4/4/2002	17:00	124	41	180	"
	4/5/2002	11:30	124	42.5	108	"
	4/6/2002	12:00	121	43.5	110	"
	4/7/2002	11:00	125	44.5	101	"
	4/8/2002	12:45	120	44	100	"
	4/9/2002	8:45	122	44	88	"
	4/10/2002	14:30	125	43	132	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	122	43	NA	"
	4/17/2002	15:20	117	38	55	"
	4/23/2002	15:51	117	44	NA	"
	5/3/2002	12:48	119	34	36	"
	5/9/2002	19:10	107	37	35	"
	5/23/2002	16:20	113	41.5	* 2.0	"
	6/13/2002	8:35	121	43	* 7.0	"
	6/20/2002	10:17	115	44	* 7.0	"
	6/27/2002	12:34	120	42	* 6.8	"
	7/3/2002	11:00	116	42	35	"
	7/9/2002	14:17	117	46	11	"
	7/15/2002	11:48	NA	15	NA	"
	7/23/2002	9:12	NA	16	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	16	NA	"
	8/20/2002	11:28	NA	15	NA	"
	8/27/2002	9:40	NA	17	NA	"
	9/5/2002	10:45	NA	14	NA	"

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TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-13A	11/27/2001	13:00	17	25	1,700	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	10	23	95	Well Opened
	1/10/2002	15:00	12	32	380	"
	1/18/2002	18:00	22	48	375	"
	1/24/2002	15:10	45	44	420	"
	1/31/2002	15:48	23	29	500	"
	2/1/2002	10:00	18	20	390	"
	2/6/2002	13:00	16	17	375	"
	2/15/2002	11:00	15	19	189	"
	3/20/2002	14:00	NA	47	161	"
	3/29/2002	14:20	1	6.5	NA	Well Closed
	3/30/2002	10:58	0.3	7.5	NA	"
	3/31/2002	10:31	0.7	8	NA	"
	4/1/2002	16:50	NA	9	NA	"
	4/2/2002	11:40	NA	10	NA	"
	4/4/2002	17:00	NA	6	NA	"
	4/5/2002	11:30	NA	8	NA	"
	4/6/2002	12:00	NA	8	NA	"
	4/7/2002	11:00	NA	9	NA	"
	4/8/2002	12:45	NA	10	NA	"
	4/9/2002	8:45	NA	10	NA	"
	4/10/2002	14:30	NA	9	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	7	NA	"
	4/17/2002	15:20	NA	4.5	NA	"
	4/23/2002	15:51	NA	10	NA	"
	5/3/2002	12:48	NA	5	NA	"
	5/9/2002	19:10	NA	9	NA	"
	5/23/2002	16:20	NA	11	NA	"
	6/13/2002	8:35	NA	11	NA	"
	6/20/2002	10:17	NA	11	NA	"
	6/27/2002	12:34	NA	9	NA	"
	7/3/2002	11:00	NA	8	NA	"
	7/9/2002	14:17	NA	8	NA	"
	7/15/2002	11:48	NA	7	NA	"
	7/23/2002	9:12	NA	6	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	6	NA	"
	8/20/2002	11:28	NA	6	NA	"
	8/27/2002	9:40	NA	6	NA	"
	9/5/2002	10:45	NA	4	NA	"
2-VEW-13B	11/27/2001	13:00	40	25	1,850	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	35	21	990	Well Opened
	1/10/2002	15:00	NA	5	NA	"
	1/18/2002	18:00	NA	4.7	NA	"
	1/24/2002	15:10	NA	5.1	NA	"
	1/31/2002	15:48	22	29	3,550	"
	2/1/2002	10:00	12	20	2,500	"
	2/6/2002	13:00	12	17	1,900	"
	2/15/2002	11:00	9.6	19	1,590	Well Closed
	3/20/2002	14:00	NA	53	303	"
	3/29/2002	14:20	6	24.5	170	Well Opened
	3/30/2002	10:58	8	26	289	"
	3/31/2002	10:31	5.6	26	327	"
	4/1/2002	16:50	5.8	27	291	"
	4/2/2002	11:40	7.6	30	621	"
	4/4/2002	17:00	10	23	632	"
	4/5/2002	11:30	8.6	28	605	"
	4/6/2002	12:00	8.5	28	626	"
	4/7/2002	11:00	8	28.5	582	"
	4/8/2002	12:45	7.5	29	794	"
	4/9/2002	8:45	8	29	697	"
	4/10/2002	14:30	8.3	26	623	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	31.1	47	NA	"
	4/17/2002	15:20	38.2	40.5	567	"
	4/23/2002	15:51	27.5	47	NA	"
	5/3/2002	12:48	33.5	37.5	388	"
	5/9/2002	19:10	27	41	340	"
	5/23/2002	16:20	32.4	45	* 25	"
	6/13/2002	8:35	38	45.5	* 42	"
	6/20/2002	10:17	38	46.5	* 25	"
	6/27/2002	12:34	44.4	45.5	* 14	"
	7/3/2002	11:00	44	44	85	"
	7/9/2002	14:17	46.6	46	78	"
	7/15/2002	11:48	59	51	76	"
	7/23/2002	9:12	63.5	51	47	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	77.5	56	73	"
	8/15/2002	15:30	61	48	NA	"
	8/20/2002	11:28	72	58	75	"
	8/27/2002	9:40	74	56	28	"
	9/5/2002	10:45	NA	16	NA	Well Closed

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TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-14A	11/27/2001	13:00	18	25	1,300	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	19	23	390	Well Opened
	1/10/2002	15:00	NA	22	700	"
	1/18/2002	18:00	40	48	520	"
	1/24/2002	15:10	75	42	415	"
	1/31/2002	15:48	52	28	140	"
	2/1/2002	10:00	43	20	140	"
	2/6/2002	13:00	44	17	102	"
	2/15/2002	11:00	46	18	50	"
	3/20/2002	14:00	NA	42	58	"
	3/29/2002	14:20	18	44	NA	Well Closed
	3/30/2002	10:58	0.3	6	NA	"
	3/31/2002	10:31	0.1	7	NA	"
	4/1/2002	16:50	NA	7	NA	"
	4/2/2002	11:40	NA	8	NA	"
	4/4/2002	17:00	NA	6.5	NA	"
	4/5/2002	11:30	NA	9	NA	"
	4/6/2002	12:00	NA	9	NA	"
	4/7/2002	11:00	NA	9.5	NA	"
	4/8/2002	12:45	NA	10.5	NA	"
	4/9/2002	8:45	NA	10	NA	"
	4/10/2002	14:30	NA	10	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	20	20	NA	"
	4/17/2002	15:20	33	16	27	"
	4/23/2002	15:51	24	22	NA	"
	5/3/2002	12:48	26.6	14	23	"
	5/9/2002	19:10	NA	8	NA	"
	5/23/2002	16:20	NA	9	NA	"
	6/13/2002	8:35	NA	9	NA	"
	6/20/2002	10:17	NA	9	NA	"
	6/27/2002	12:34	NA	8.5	NA	"
	7/3/2002	11:00	NA	9	NA	"
	7/9/2002	14:17	NA	8.5	NA	"
	7/15/2002	11:48	NA	8	NA	"
	7/23/2002	9:12	NA	7	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	6	NA	"
	8/20/2002	11:28	NA	7	NA	"
	8/27/2002	9:40	NA	6	NA	"
	9/5/2002	10:45	NA	6	NA	"
2-VEW-14B	11/27/2001	13:00	33	25.0	1,750	Initial Startup
	11/28/2001	13:15	NA	27.5	3,000	Well Opened
	11/30/2001	14:20	NA	27.0	NA	"
	12/3/2001	17:10	NA	26.0	NA	"
	12/4/2001	10:15	NA	28.0	960	"
	12/5/2001	16:30	NA	28.0	2,400	"
	12/6/2001	8:30	NA	28.2	2,930	"
	12/7/2001	7:30	NA	29.5	3,875	"
	12/8/2001	16:00	NA	29.0	2,650	"
	12/9/2001	13:00	NA	24.0	NA	"
	12/10/2001	16:00	NA	28.0	4,075	"
	12/11/2001	11:00	NA	30.0	3,850	Well Closed
	12/12/2001	19:15	NA	1.9	NA	"
	12/13/2001	11:15	NA	0.8	NA	"
	12/20/2001	15:10	NA	1.6	NA	"
	12/28/2001	11:00	40	21.0	830	Well Opened
	1/3/2002	15:00	40	21.0	830	"
	1/10/2002	15:00	NA	4.2	NA	"
	1/18/2002	18:00	NA	5.9	NA	"
	1/24/2002	15:10	NA	5.2	NA	"
	1/31/2002	15:48	21	28.0	1,015	"
	2/1/2002	10:00	16	20.0	765	"
	2/6/2002	13:00	NA	17.0	600	"
	2/15/2002	11:00	13	18	520	Well Closed
	3/20/2002	14:00	NA	47	79	"
	3/29/2002	14:20	24.5	27	163	Well Opened
	3/30/2002	10:58	16.7	28.5	94	"
	3/31/2002	10:31	17	29	191	"
	4/1/2002	16:50	16	29	208	"
	4/2/2002	11:40	16	30	190	"
	4/4/2002	17:00	16.4	29.5	240	"
	4/5/2002	11:30	17.3	28.5	206	"
	4/6/2002	12:00	16.9	29	200	"
	4/7/2002	11:00	17.6	29.5	191	"
	4/8/2002	12:45	17.8	30.5	189	"
	4/9/2002	8:45	16.7	29	207	"
	4/10/2002	14:30	17.6	28	210	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	11	26	NA	"
	4/17/2002	15:20	11.3	20	210	"
	4/23/2002	15:51	10.5	28	NA	"
	5/3/2002	12:48	10.9	16	129	"
	5/9/2002	19:10	11	23	58	"
	5/23/2002	16:20	10.8	9	NA	"
	6/13/2002	8:35	11	26	* 5.2	"
	6/20/2002	10:17	10.4	27	*7.0	"
	6/27/2002	12:34	12.2	25.5	* 4.0	"
	7/3/2002	11:00	11	25	32	"
	7/9/2002	14:17	11.5	26	11	"
	7/15/2002	11:48	NA	16	NA	Well Closed
	7/23/2002	9:12	NA	16	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	15	NA	"
	8/20/2002	11:28	NA	16	NA	"
	8/27/2002	9:40	NA	16	NA	"
	9/5/2002	10:45	NA	14	NA	"

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TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (Inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-15A	11/27/2001	13:00	41	30	1,170	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	23	18	67	Well Opened
	1/10/2002	15:00	NA	1.9	NA	"
	1/18/2002	18:00	61	47	810	"
	1/24/2002	15:10	83	43	585	"
	1/31/2002	15:48	37	28	500	"
	2/1/2002	10:00	27	20	300	"
	2/6/2002	13:00	23	16	290	"
	2/15/2002	11:00	29	18	150	"
	3/29/2002	14:20	1	5	NA	Well Closed
	3/30/2002	10:58	0.5	6	NA	"
	3/31/2002	10:31	4	6	NA	"
	4/1/2002	16:50	NA	7	NA	"
	4/2/2002	11:40	NA	8	NA	"
	4/4/2002	17:00	NA	4	NA	"
	4/5/2002	11:30	NA	6	NA	"
	4/6/2002	12:00	NA	6.5	NA	"
	4/7/2002	11:00	NA	7	NA	"
	4/8/2002	12:45	NA	8	NA	"
	4/9/2002	8:45	NA	8	NA	"
	4/10/2002	14:30	NA	7	NA	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	NA	6	NA	"
	4/17/2002	15:20	NA	3.5	NA	"
	4/23/2002	15:51	NA	7	NA	"
	5/3/2002	12:48	NA	3	NA	"
	5/9/2002	19:10	NA	6	NA	"
	5/23/2002	16:20	NA	7	NA	"
	6/13/2002	8:35	NA	7	NA	"
	6/20/2002	10:17	NA	7	NA	"
	6/27/2002	12:34	NA	7	NA	"
	7/3/2002	11:00	NA	7	NA	"
	7/9/2002	14:17	NA	7	NA	"
	7/15/2002	11:48	NA	7	NA	"
	7/23/2002	9:12	NA	6	NA	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	6	NA	"
	8/20/2002	11:28	NA	7	NA	"
	8/27/2002	9:40	NA	6	NA	"
	9/5/2002	10:45	NA	6	NA	"
2-VEW-15B	11/27/2001	13:00	22	25	1,120	Well Closed 11/28/01-1/2/02
	1/3/2002	15:00	20	21	575	Well Opened
	1/10/2002	15:00	23	22	2,100	"
	1/18/2002	18:00	61	47	810	"
	1/24/2002	15:10	NA	5.1	NA	"
	1/31/2002	15:48	10	28	1,400	"
	2/1/2002	10:00	7	21	925	"
	2/6/2002	13:00	6	16	765	"
	2/15/2002	11:00	6	18	665	Well Closed
	3/20/2002	14:00	NA	51	113	"
	3/29/2002	14:20	19	39	300	Well Opened
	3/30/2002	10:58	18	41	414	"
	3/31/2002	10:31	18	41	412	"
	4/1/2002	16:50	16	29	208	"
	4/2/2002	11:40	18	44	360	"
	4/4/2002	17:00	18.8	39	385	"
	4/5/2002	11:30	20.5	40.5	315	"
	4/6/2002	12:00	18.5	42	311	"
	4/7/2002	11:00	17.6	43	276	"
	4/8/2002	12:45	20	44	289	"
	4/9/2002	8:45	18.7	44	284	"
	4/10/2002	14:30	18.2	42	277	"
	4/11/2002	19:35	NA	NA	NA	"
	4/12/2002	18:37	18.4	48	NA	"
	4/17/2002	15:20	24.5	41	254	"
	4/23/2002	15:51	18	48	NA	"
	5/3/2002	12:48	20.3	37	148	"
	5/9/2002	19:10	18	40	169	"
	5/23/2002	16:20	18.6	45	* 13	"
	6/13/2002	8:35	21.7	47	* 14	"
	6/20/2002	10:17	19	46	* 18	"
	6/27/2002	12:34	21.2	45	* 11	"
	7/3/2002	11:00	29	45	72	"
	7/9/2002	14:17	26	47	55	"
	7/15/2002	11:48	30	51	81	"
	7/23/2002	9:12	33	51	49	"
	7/30/2002	13:35	NA	NA	NA	"
	8/7/2002	15:15	37.5	56	80	"
	8/15/2002	15:30	30	48	NA	"
	8/20/2002	11:28	36	59	97	"
	8/27/2002	9:40	45	57	34	"
	9/5/2002	10:45	45	61	29	"
2-VEW-16A	5/9/2002	19:10	10	41	13	Well Opened
	5/23/2002	16:20	NA	12.5	NA	Well Closed
	6/13/2002	8:35	NA	16	NA	"
	6/20/2002	10:17	NA	16	NA	"
	6/27/2002	12:34	NA	12	NA	"
	7/3/2002	11:00	NA	12	NA	"
	7/9/2002	14:17	NA	16	NA	"
	7/15/2002	11:48	NA	13	NA	"
	7/23/2002	9:12	NA	12	NA	"
	7/30/2002	13:35	NA	NA	NA	Piping disconnected
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	NA	NA	"
	8/20/2002	11:28	NA	NA	NA	"
	8/27/2002	9:40	NA	NA	NA	"
	9/5/2002	10:45	NA	9	NA	Well Closed

BOE-C6-0129625

TABLE 3 - BUILDING 2 SVE SYSTEM WELLFIELD DATA

Site Name: BRC Former C-6 Facility
Location: Torrance, California
System: Building 2 SVE system

WELL ID	DATE	TIME	FLOW RATE (1) (scfm)	VACUUM (Inches of H2O)	WELLHEAD PID (2) (ppmv)	COMMENTS
2-VEW-16B	5/9/2002	19:10	45	30	46	Well Opened
	5/23/2002	16:20	51.5	33	* 4.7	"
	6/13/2002	8:35	54	36	* 8.0	"
	6/20/2002	10:17	50	38	* 7.0	"
	6/27/2002	12:34	50	32.5	* 8.2	"
	7/3/2002	11:00	52	32	37	"
	7/9/2002	14:17	47	37	15	"
	7/15/2002	11:48	60	28	49	"
	7/23/2002	9:12	60.5	34	29	"
	7/30/2002	13:35	NA	NA	NA	Piping disconnected
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	NA	NA	"
	8/20/2002	11:28	NA	NA	NA	"
	8/27/2002	9:40	NA	NA	NA	"
	9/5/2002	10:45	NA	12	NA	Well Closed
2-VEW-17A	5/9/2002	19:10	15	23	2	Well Opened
	5/23/2002	16:20	NA	6	NA	Well Closed
	6/13/2002	8:35	NA	6.5	NA	"
	6/20/2002	10:17	NA	6.5	NA	"
	6/27/2002	12:34	NA	6	NA	"
	7/3/2002	11:00	NA	6	NA	"
	7/9/2002	14:17	NA	6	NA	"
	7/15/2002	11:48	NA	7	NA	"
	7/23/2002	9:12	NA	7	NA	"
	7/30/2002	13:35	NA	NA	NA	Piping disconnected
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	NA	NA	"
	8/20/2002	11:28	NA	NA	NA	"
	8/27/2002	9:40	NA	NA	NA	"
	9/5/2002	10:45	NA	4	NA	Well Closed
2-VEW-17B	5/9/2002	19:10	77	42	9	Well Opened
	5/23/2002	16:20	NA	8	NA	Well Closed
	6/13/2002	8:35	NA	8.5	NA	"
	6/20/2002	10:17	NA	9	NA	"
	6/27/2002	12:34	NA	8	NA	"
	7/3/2002	11:00	NA	8	NA	"
	7/9/2002	14:17	NA	8	NA	"
	7/15/2002	11:48	NA	9	NA	"
	7/23/2002	9:12	NA	10	NA	"
	7/30/2002	13:35	NA	NA	NA	Piping disconnected
	8/7/2002	15:15	NA	NA	NA	"
	8/15/2002	15:30	NA	NA	NA	"
	8/20/2002	11:28	NA	NA	NA	"
	8/27/2002	9:40	NA	NA	NA	"
	9/5/2002	10:45	NA	vent	NA	"
2-VEW-18	8/15/2002	15:30	42	49	NA	Well Opened
	8/20/2002	11:28	21	59	97	"
	8/27/2002	9:40	50.5	58	31	"
	9/5/2002	10:45	58	61	26	"
2-VEW-19	8/15/2002	15:30	42	49	NA	Well Opened
	8/20/2002	11:28	71	59	82	"
	8/27/2002	9:40	77	58	24	"
	9/5/2002	10:45	85	62	32	"
2-VEW-20	8/15/2002	15:30	65	50	NA	Well Opened
	8/20/2002	11:28	74	60	33	"
	8/27/2002	9:40	75	58	11	"
	9/5/2002	10:45	81	61	9	"

Notes:
ppmv: parts per million by volume
scfm: standard cubic foot per minute (acfm corrected for vacuum and temperature)
NA: data was not recorded or available
(1) Direct flow readings taken by hand-held TSI Velocicalc Plus
(2) Measurements taken with a MiniRae 2000 PID calibrated to 100 ppmv Hexane, results as Hexane.
* Measurements taken with Foxboro OVA-128 calibrated to Hexane. Results as Hexane.

BOE-C6-0129626

TABLE 4 - BUILDING 2 SVE SYSTEM EXTENDED PILOT TEST SOIL SAMPLING RESULTS

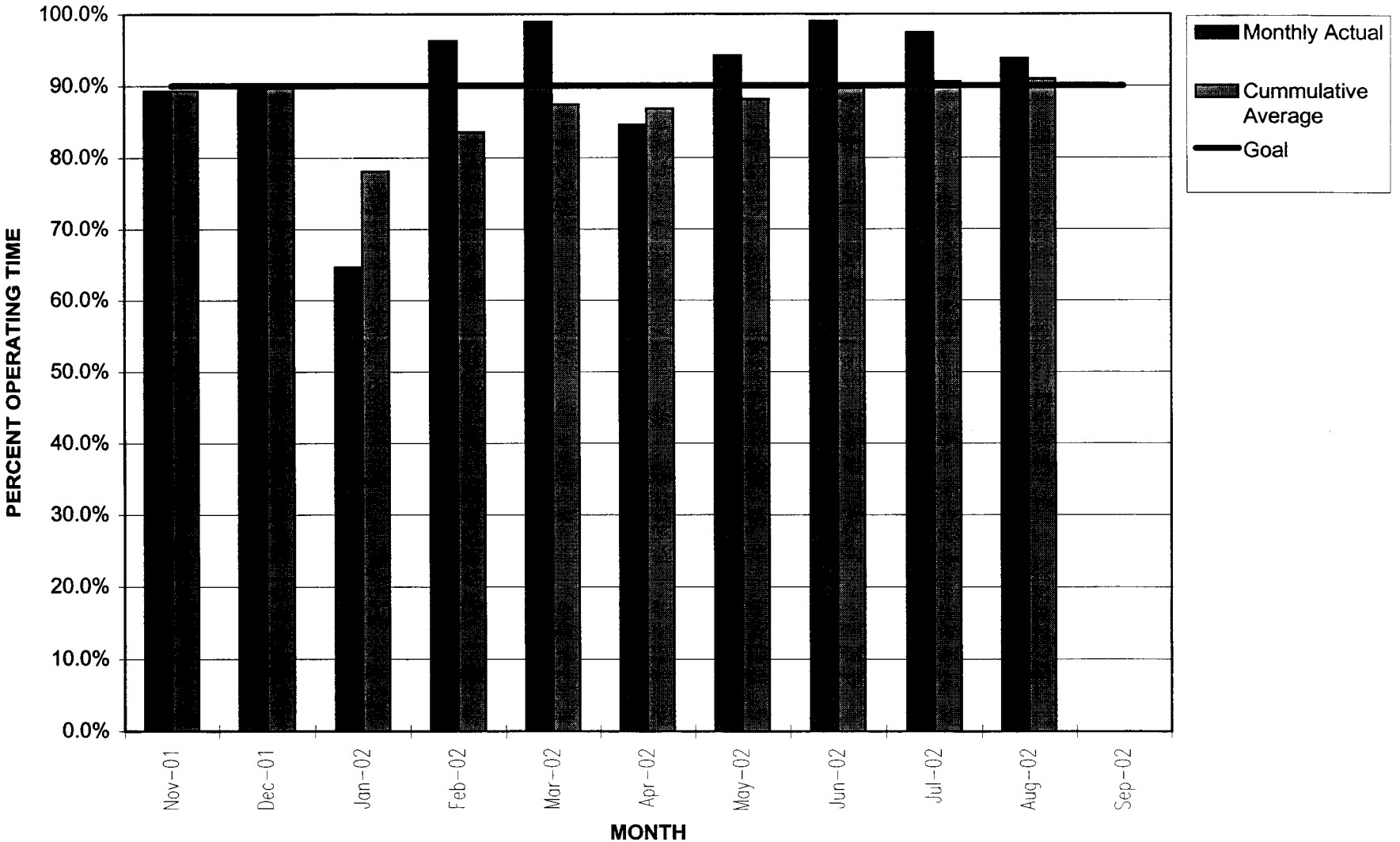
Site Name: BRC Former C-6 Facility
Location: Los Angeles, California
System: Building 2 SVE system

PRE-SVE SOIL BORING	SAMPLE DEPTH (FEET BGS)	PRE-SVE TCE CONCENTRATION (ug/kg)	AUGUST 2002 SOIL BORING	SAMPLE DEPTH (FEET BGS)	AUGUST 2002 TCE CONCENTRATION (ug/kg)	LOCATION OF AUGUST 2002 SAMPLE IN RELATION TO PRE-SVE SAMPLE	APPROXIMATE CONCENTRATION REDUCTION (%)*
C-2-143	25	160	SB1000_SSA080102_0001	25	< 2.0	5 feet west	98.75
C-2-26-1	25	160	2_VEW_19_SSC080102_0001	25	< 2.0	35 feet west	98.75
C-2-26-2	25	37	2_VEW_18_SSC080102_0001	25	< 2.0	25 feet west	94.59
S-24-3	40	220	SB1001_SSB080102_0001	40	380	20 feet northeast	**
C-2-143	50	450	SB1000_SSC080102_0001	50	3.6 J	5 feet west	99.20
C-2-26-1	50	200	2_VEW_19_SSC080102_0001	50	< 2.0	35 feet west	99.00
C-2-26-2	50	130	2_VEW_18_SSC080102_0001	50	< 2.0	25 feet west	98.46
S-24-3	50	450	SB1001_SSC080102_0001	50	7	20 feet north	98.44
S-24-5	50	82,000	SB1001_SSC080102_0002	50	< 2.0	10 feet southeast	100.00

Notes:
J = Result is below laboratory reporting limit, result estimated.
< 2.0 = Not detected above method detection limit of 2.0 ug/kg
* = To calcultae % reduction for samples below method detection limit, the concentration is assumed to be the method detection limit (2.0 ug/kg)
** = August 2002 TCE sample result (SB1001) greater than previous sample (S-24-3) collected 20 feet to the southwest

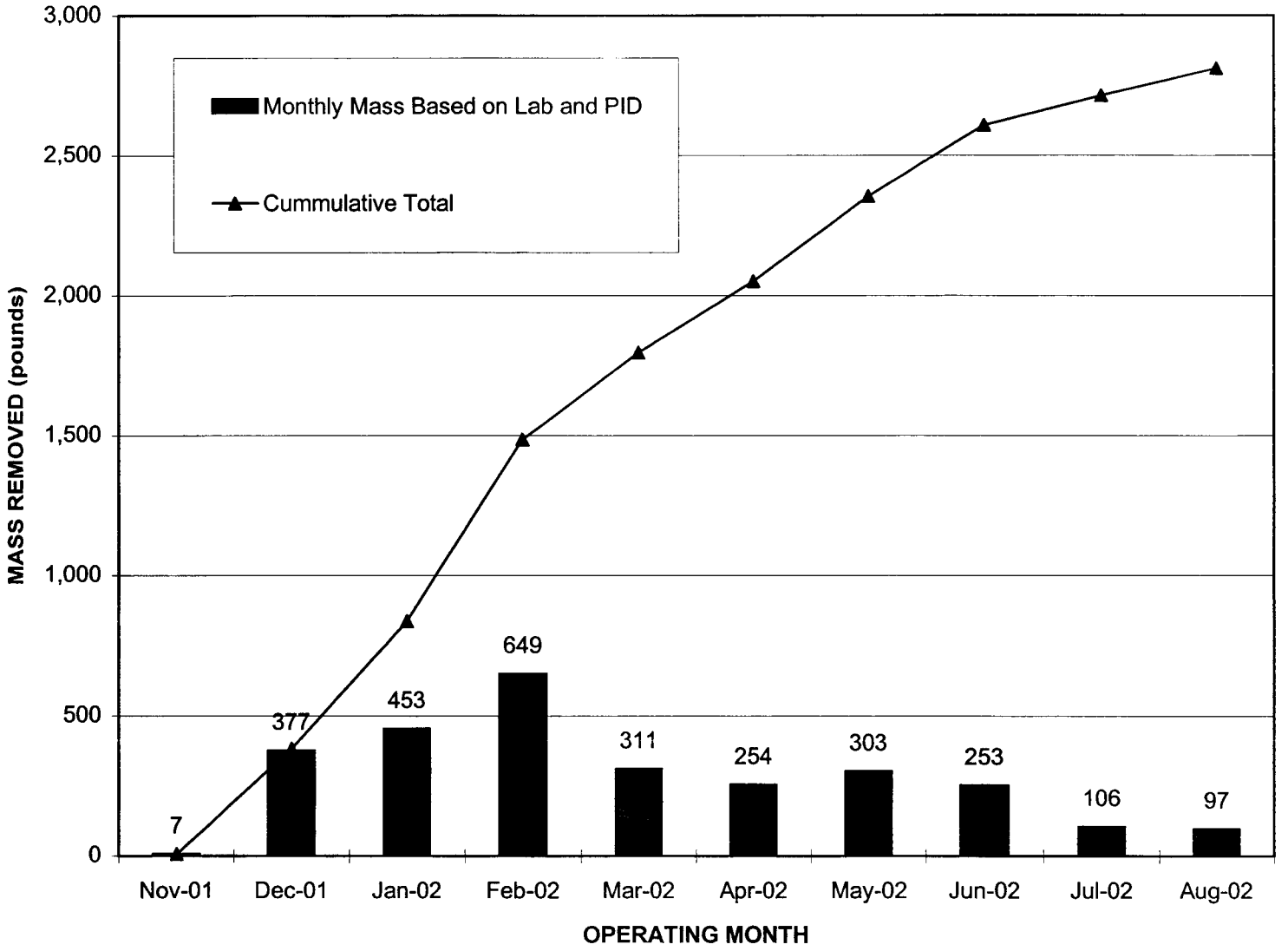
BOE-C6-0129627

GRAPH 1
BUILDING 2 SVE MONTHLY PERCENT OPERATION



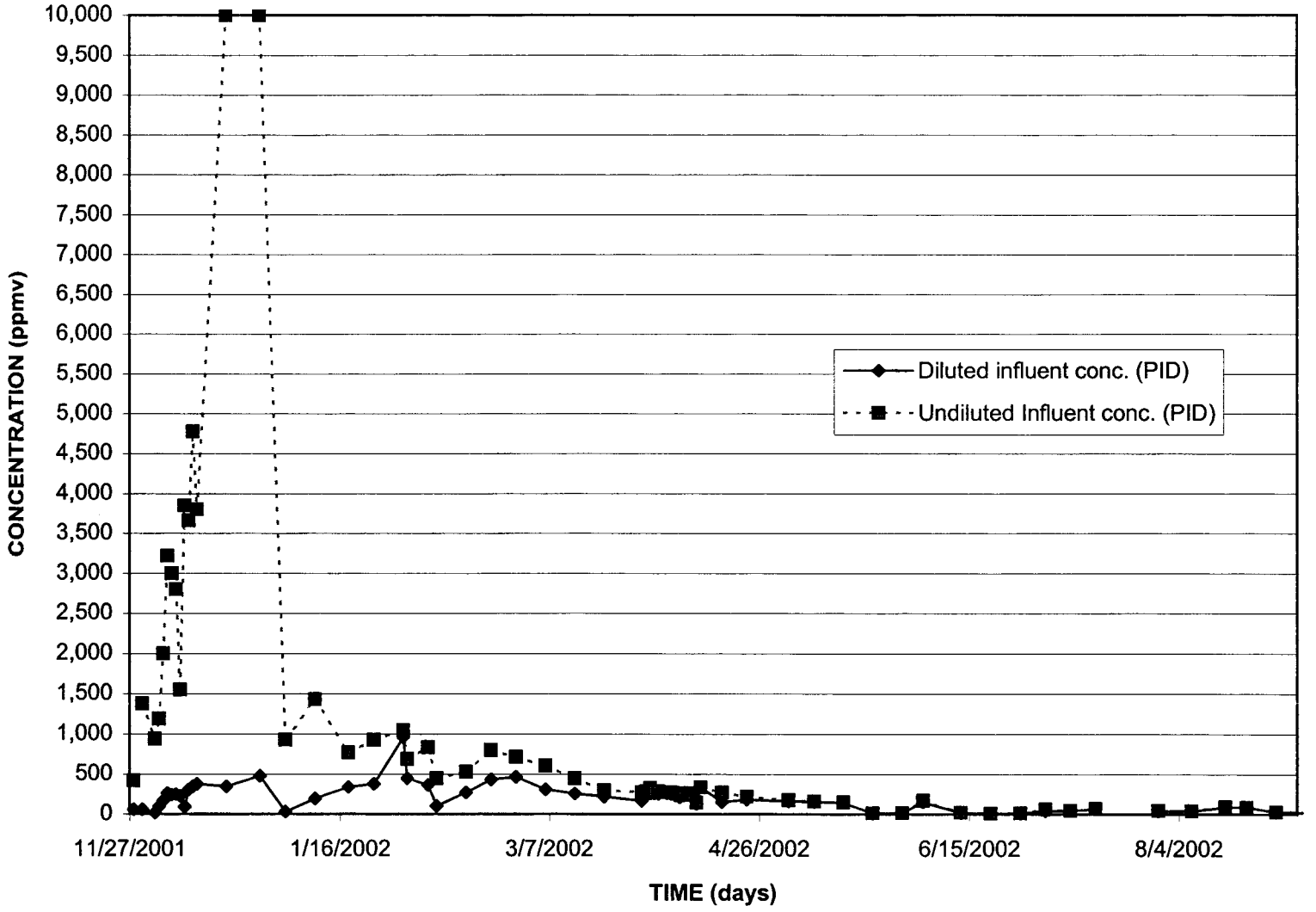
BOE-C6-0129628

GRAPH 2
CUMMULATIVE VOLATILE ORGANIC COMPOUND MASS REMOVED

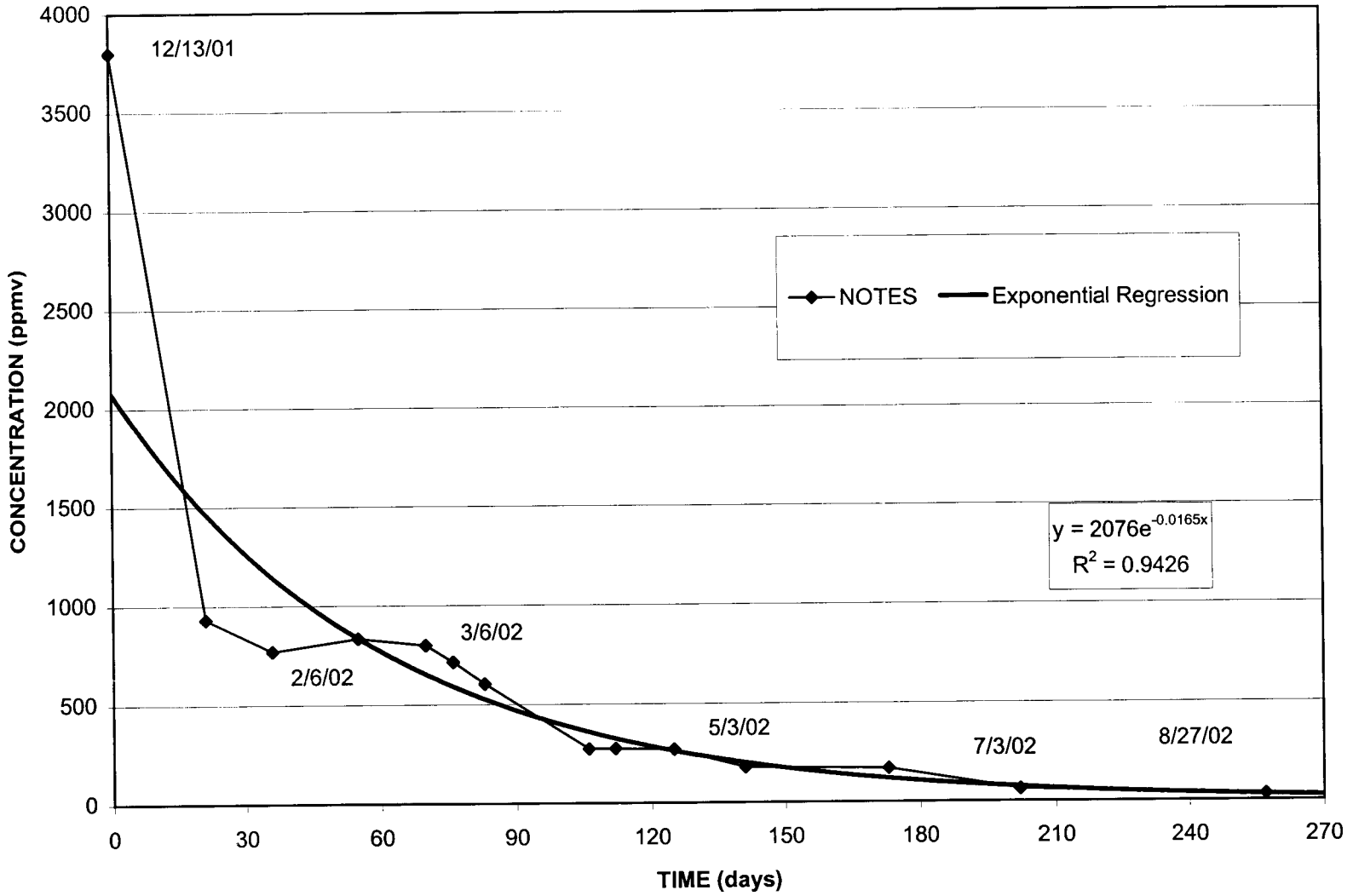


BOE-C6-0129629

GRAPH 3
BUILDING 2 SVE SYSTEM TOTAL VOC INFLUENT CONCENTRATIONS



GRAPH 4
BUILDING 2 SVE SYSTEM REGRESSION ANALYSIS
CONCENTRATION REDUCTION



Haley & Aldrich, Inc.

9/26/2002

BOE-C6-0129631

Figures

BOE-C6-0129632

N

2 1 0 2 Miles

27936-002

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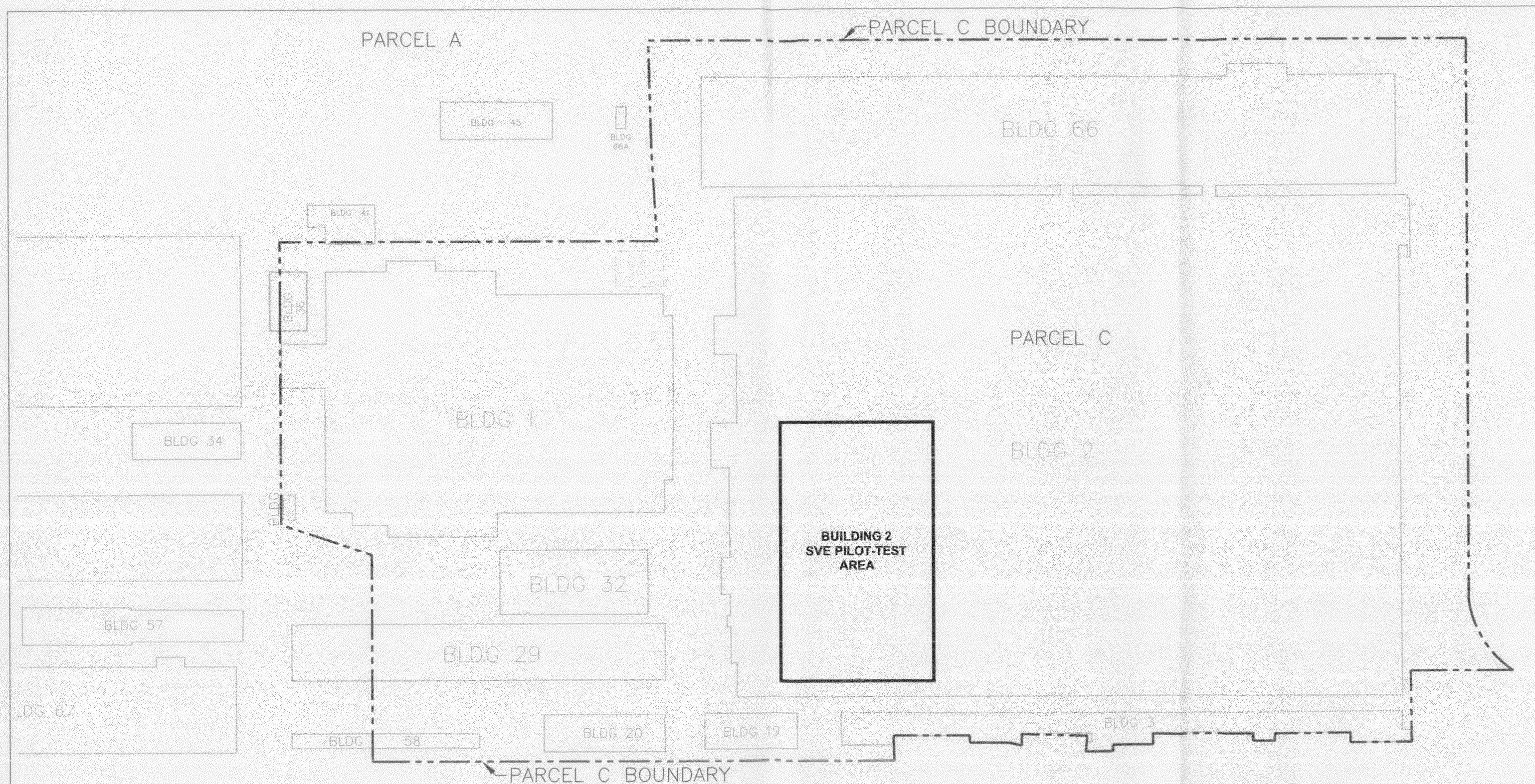
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE 1

SITE LOCATION MAP

SCALE AS SHOWN

AUGUST 2002



N

0 20 40 80

FEET

ALL DIMENSIONS AND LOCATIONS APPROXIMATE

SOURCE OF BASEMAP: KENNEDY JENKS CONSULTANTS, 2000, SAMPLING AND ANALYSIS PLAN, BOEING REALTY CORPORATION'S C-6 FACILITY, PARCEL C, LOS ANGELES, CA, AUGUST 16, 2000.

28997B04-AC

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UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

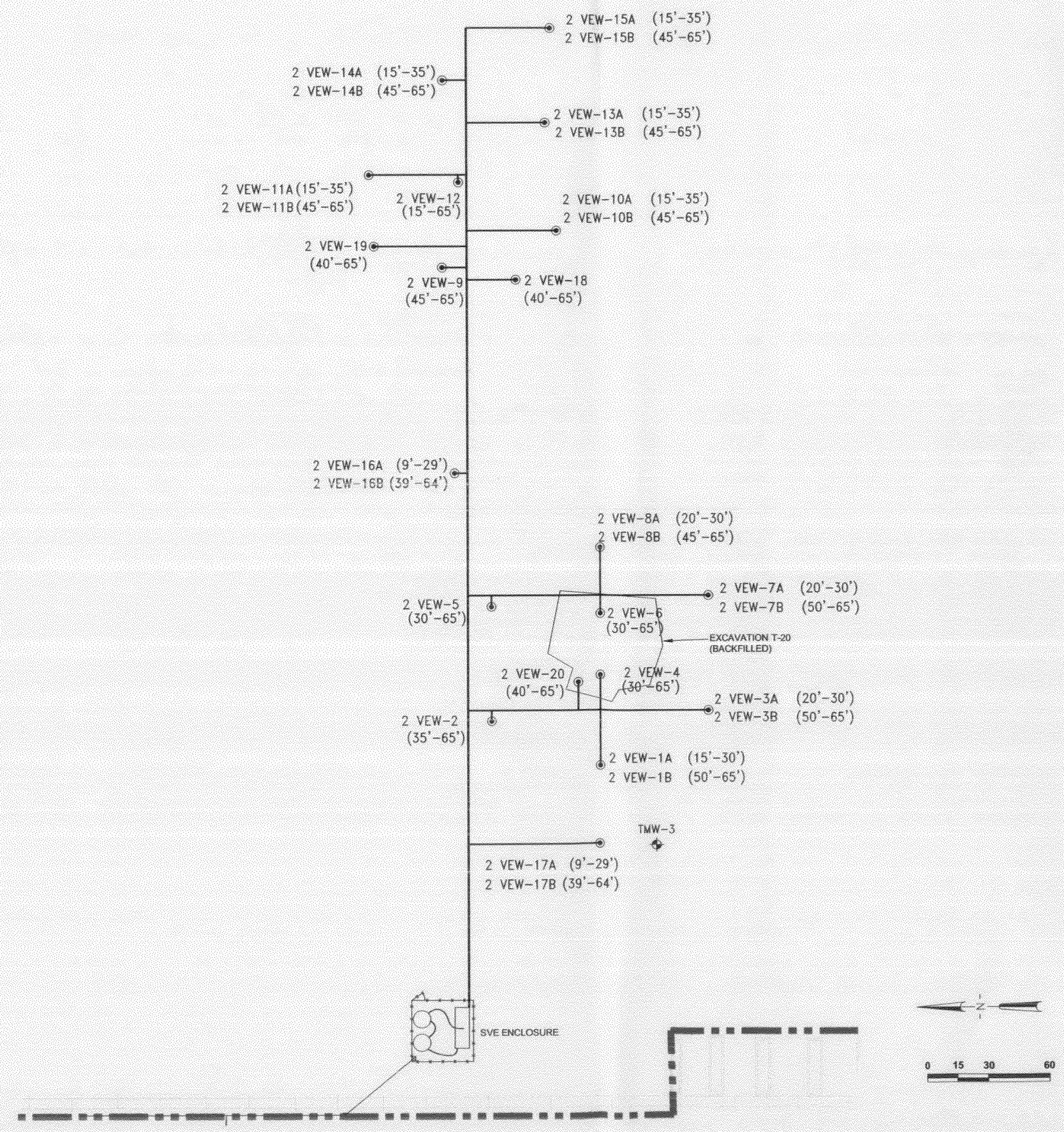
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE: 2

BUILDING 2 SVE SYSTEM LOCATION

SCALE: AS SHOWN	QA/QC:	PROJECT: 28997
DRAWN: SAL	REVIEWED: RMF	DATE: 26 SEPT 2002

BOE-C6-0129634



LEGEND

- VAPOR EXTRACTION WELL
- GROUNDWATER MONITOR WELL
- ABOVE-GROUND PIPING
- (15'-30') SCREENED INTERVALS (FEET BELOW GROUND SURFACE)
- PPMV PARTS PER MILLION BY VOLUME

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FORMER C-6 FACILTY
LOS ANGELES, CALIFORNIA

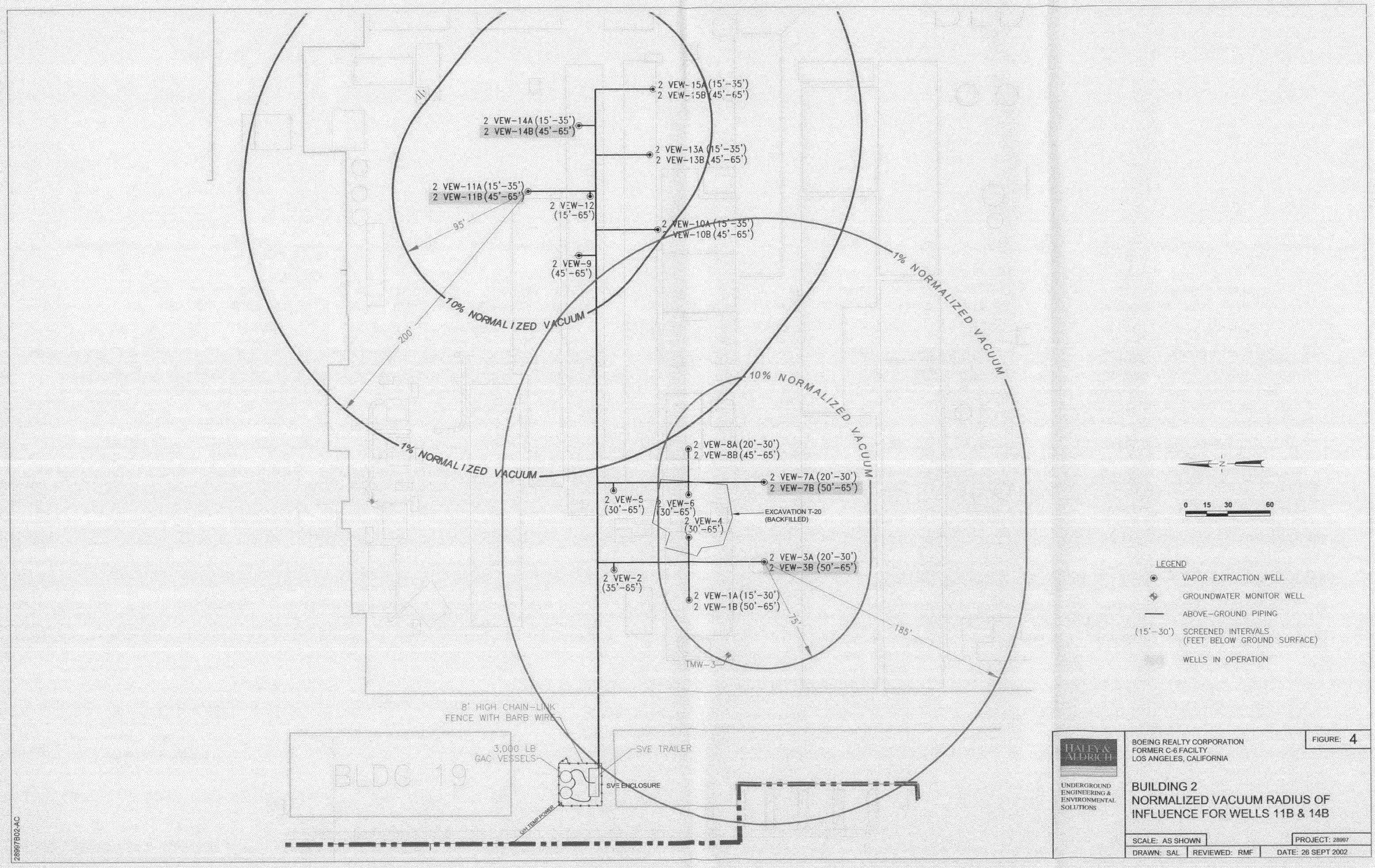
FIGURE: 3

BUILDING 2 SVE PILOT TEST SYSTEM

SCALE: AS SHOWN | PROJECT: 28997
DRAWN: SAL | REVIEWED: RMF | DATE: 26 SEPT 2002

28997B03-AC

BOE-C6-0129635



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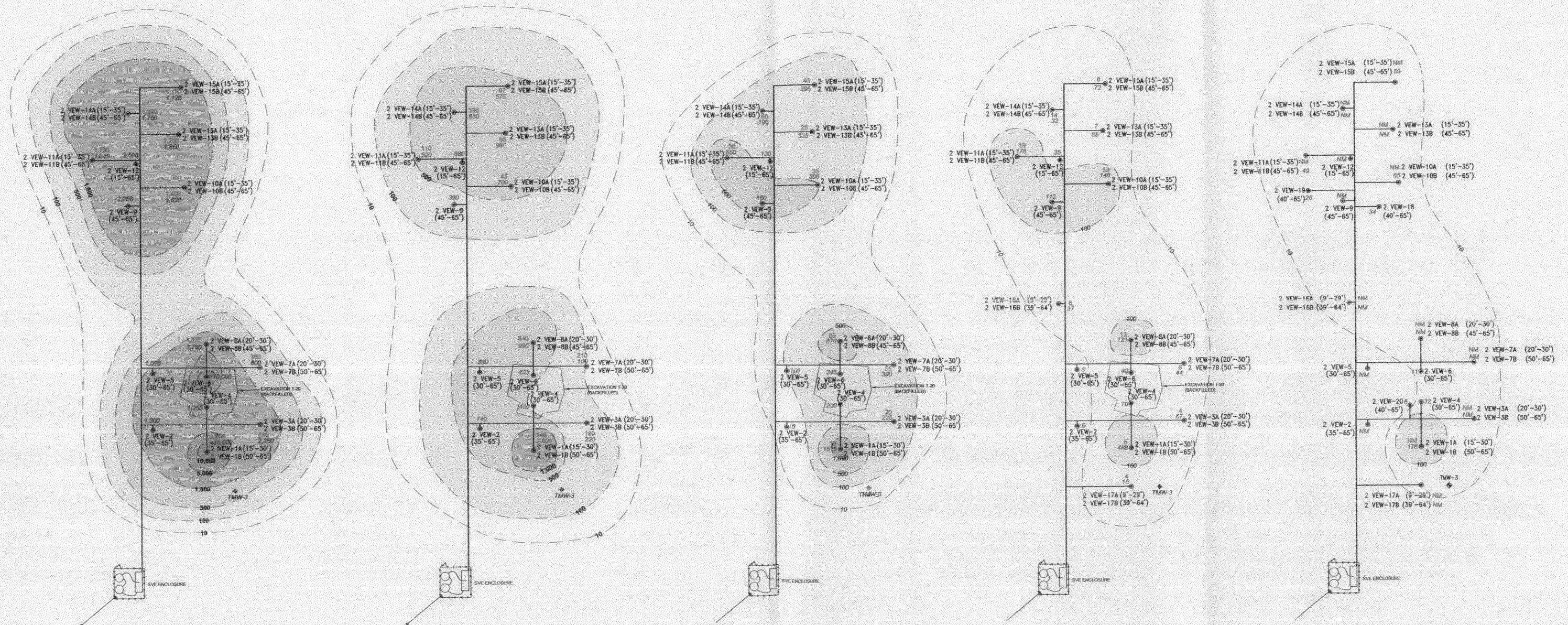
BOEING REALTY CORPORATION
FORMER C-6 FACILTY
LOS ANGELES, CALIFORNIA

FIGURE: 4

BUILDING 2
NORMALIZED VACUUM RADIUS OF INFLUENCE FOR WELLS 11B & 14B

SCALE: AS SHOWN | PROJECT: 28997
DRAWN: SAL | REVIEWED: RMF | DATE: 26 SEPT 2002

BOE-C6-0129636



27 NOVEMBER 2001

3 JANUARY 2002

30 MARCH 2002

3 JULY 2002

17 SEPT 2002

LEGEND

SHALLOW	SVE – 10 PPMV – 100 PPMV
DEEP	SVE – 101 PPMV – 500 PPMW
VAPOR EXTRACTION WELL	SVE – 501 PPMV – 1,000 PPMV
GROUNDWATER MONITOR WELL	SVE – 1,001 PPMV – 5,000 PPMW
ABOVE–GROUND PIPING	SVE – 5,001 PPMV – 10,000 PPMV
(15'–30') SCREENED INTERVALS (FEET BELOW GROUND SURFACE)	SVE – 10,001+ PPMV
PPMV PARTS PER MILLION BY VOLUME	SVE CONCENTRATION CONTOUR

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LOS ANGELES, CALIFORNIA

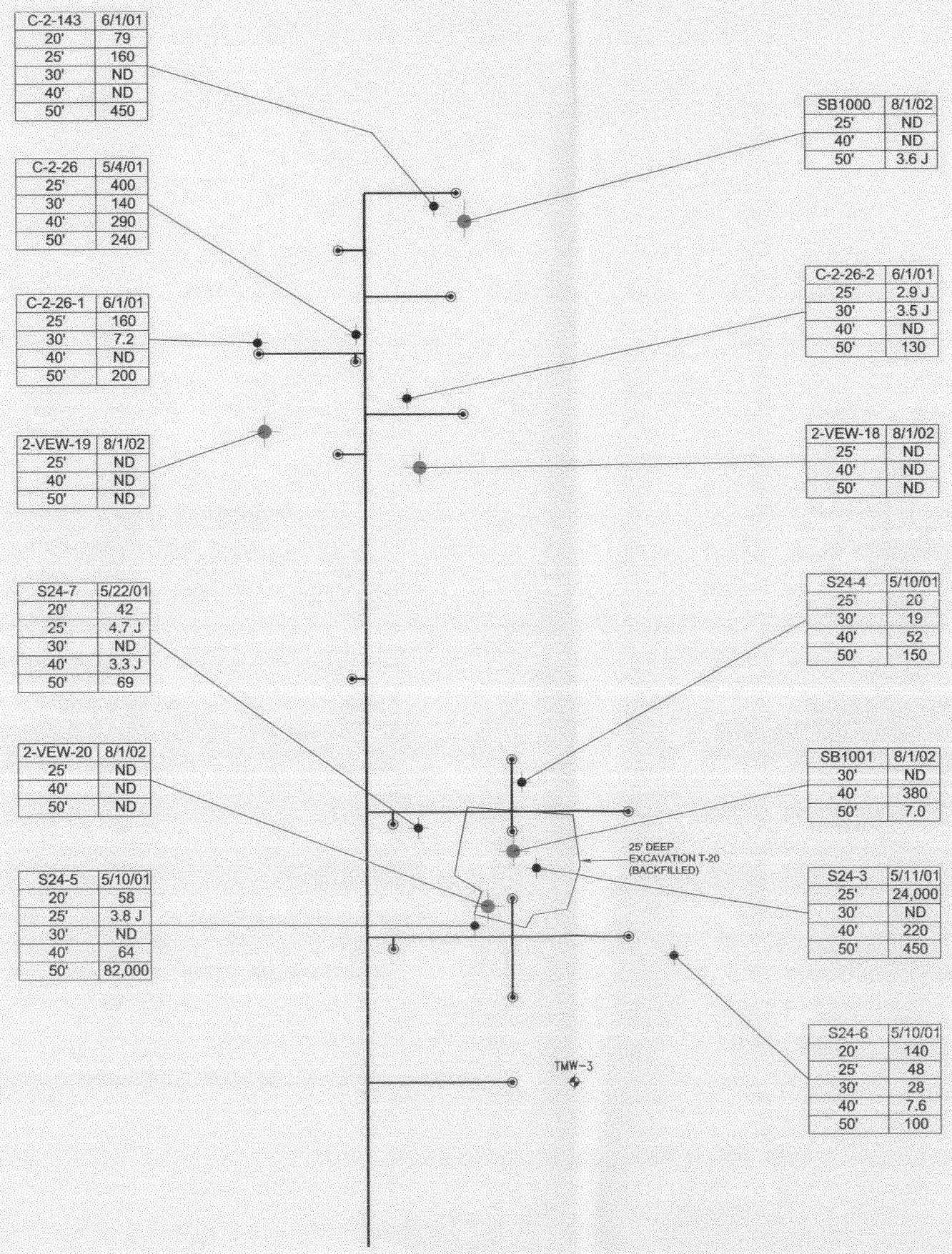
SVE CONTOURS
NOVEMBER 2001 - SEPTEMBER 2002

NOT TO SCALE

FIGURE 5
26 SEPT 2002

26937B05-AC

BOE-C6-0129637



C-2-143	6/1/01
20'	79
25'	160
30'	ND
40'	ND
50'	450

C-2-26	5/4/01
25'	400
30'	140
40'	290
50'	240

C-2-26-1	6/1/01
25'	160
30'	7.2
40'	ND
50'	200

2-VEW-19	8/1/02
25'	ND
40'	ND
50'	ND

S24-7	5/22/01
20'	42
25'	4.7 J
30'	ND
40'	3.3 J
50'	69

2-VEW-20	8/1/02
25'	ND
40'	ND
50'	ND

S24-5	5/10/01
20'	58
25'	3.8 J
30'	ND
40'	64
50'	82,000

SB1000	8/1/02
25'	ND
40'	ND
50'	3.6 J

C-2-26-2	6/1/01
25'	2.9 J
30'	3.5 J
40'	ND
50'	130

2-VEW-18	8/1/02
25'	ND
40'	ND
50'	ND

S24-4	5/10/01
25'	20
30'	19
40'	52
50'	150

SB1001	8/1/02
30'	ND
40'	380
50'	7.0

S24-3	5/11/01
25'	24,000
30'	ND
40'	220
50'	450

S24-6	5/10/01
20'	140
25'	48
30'	28
40'	7.6
50'	100

NOTES
1. ALL DIMENSIONS AND LOCATIONS APPROXIMATE.
2. SURVEY DATA PROVIDED BY TAIT ENVIRONMENTAL, INC.
3. ALL CONCENTRATIONS IN UNITS OF MICROGRAMS PER KILOGRAM (ug/Kg).
4. THE SITE-SPECIFIC FIELD ACTION LEVEL (FAL) FOR TCE IS 27 ug/Kg.
5. APPROXIMATE SURFACE ELEVATION AT TIME OF INVESTIGATION WAS 51.5 FEET MSL.
6. ND = NOT DETECTED ABOVE LABORATORY METHOD 8260B DETECTION LIMIT OF 2.0 (ug/Kg).
7. J = RESULT IS BELOW LABORATORY REPORTING LIMIT (5.0 ug/Kg) AND IS ESTIMATED.

LEGEND

2BB-5-45 — PRE-SVE SOIL BORING LOCATION

TMW-9 / WCC-01S — GROUNDWATER MONITORING WELLS

AUGUST 2002 SOIL BORING LOCATION

BORING NAME — DATE SAMPLE TAKEN

2-VEW-20	8/1/02
25'	ND

DEPTH bgs — TCE CONCENTRATION IN MICROGRAMS PER KILOGRAM (µg/Kg)

N

0 15 30 60

FEET

ALL DIMENSIONS AND LOCATIONS APPROXIMATE

SOURCE OF BASEMAP: KENNEDY JENKS CONSULTANTS, 2000, SAMPLING AND ANALYSIS PLAN, BOEING REALTY CORPORATION'S C-6 FACILITY, PARCEL C, LOS ANGELES, CA, AUGUST 16, 2000.

28997B06-AC

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

FIGURE: 6

PRE-SVE AND AUGUST 2002 SOIL SAMPLING LOCATIONS AND RESULTS

SCALE: AS SHOWN	QA/QC: TSH	PROJECT: 28997-003
DRAWN: SAL	REVIEWED: SPZ	DATE: 26 SEPT 2002

BOE-C6-0129638

Appendix A

APPENDIX A

SOIL VAPOR EXTRACTION BORING LOGS

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-1

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

File No. 28997-005
Sheet No. 1 of 3
Start September 11, 2001
Finish September 11, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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																	
					13.8	ML	brown SILT (ML), moist					5	95			L	
15							PID = 0.1-0.5 ppm (BZ), ~60 (cutings) ppm										
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-1

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVE\BLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-1
File No. 28997-005
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

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 28, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-1
File No. 28997-005
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 = ~180 (cuttings) ppm										
							Total Depth = 65 ft Vapor well Installed 9/11/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-35-002\GINT\279600028.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. 2 VEW-2

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

File No. 28997-005
Sheet No. 1 of 3
Start September 12, 2001
Finish September 12, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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	SILT (ML)										
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-2**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-2
File No. 28997-005
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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-2
File No. 28997-005
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																	
					63.8	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 9/12/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. 2 VEW-3

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

File No. 28997-005
Sheet No. 1 of 3
Start September 12, 2001
Finish September 12, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

Sample Identification		Well Diagram	
O	Open End Rod		Riser Pipe
T	Thin Wall Tube		Screen
U	Undisturbed Sample		Filter Sand
S	Split Spoon		Cuttings
G	Geoprobe		Grout
			Concrete
			Bentonite Seal

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

Boring No. 2 VEW-3

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-3
File No. 28997-005
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 = 0.6-0.8 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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\279600028.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-3
File No. 28997-005
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 9/12/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-35-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-4

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

File No. 28997-005
Sheet No. 1 of 3
Start September 11, 2001
Finish September 11, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-4**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\279800028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-4
File No. 28997-005
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), 8 (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																	
					48.8	SM	fine sand w/ silt (SM)					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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-35\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-4
File No. 28997-005
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	PID = 5.5 (cuttings) ppm										
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 9/11/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-5

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

File No. 28997-005
Sheet No. 1 of 3
Start September 12, 2001
Finish September 12, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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																	
					18.8	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

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.)
- Rock Cored (lin. ft.)
- Samples

Boring No. 2 VEW-5

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-5
File No. 28997-005
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																	
					28.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 28, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-5
File No. 28997-005
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					90	10				
							PID = 0.1 ppm (BZ), 0.5 (cuttings) ppm										
55																	
60					60.0	ML	brown (ML), moist, grades back into silt					5	95			L	
						ML	SILT (ML)					5	95				
65					65.0		PID = 0.1 ppm (BZ), 0.1 (cuttings) ppm Total depth = 65 ft Vapor Well Installed 9/12/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-6

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

File No. 28997-005
Sheet No. 1 of 3
Start September 11, 2001
Finish September 11, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-6

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36I-002\GINT\27980002B.GPJ Sep 28, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-6
File No. 28997-005
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																	
					28.8	ML	brown SILT (ML), moist PID = 0.1-0.2 ppm (BZ), 140-160 (cuttings) ppm					5	95			L	
30																	
35																	
					38.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 28, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-6
File No. 28997-005
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																	
					63.8	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 9/11/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6\SVEBLDG1-3\5-002\GINT\279800028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-7

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

File No. 28997-005
Sheet No. 1 of 3
Start September 12, 2001
Finish September 12, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-7**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\279600002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-7
File No. 28997-005
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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-361-002\GINT\279600002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-7
File No. 28997-005
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											
					53.8	SM	Loose, orange-brown fine sand w/ silt (SM), moist					85	15				
55							PID = 0.1 ppm (BZ), 0.1 (cuttings) ppm										
60																	
					63.8	ML	brown (ML), moist, grade back into silt 55-60 ft					85	15			L	
65					65.0		Total depth = 65 ft Vapor Well Installed 9/12/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-8

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

File No. 28997-005
Sheet No. 1 of 3
Start September 11, 2001
Finish September 11, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-8**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVE\BLDG1-36\-002\GINT\279800028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-8
File No. 28997-005
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																	
					28.8	ML	brown SILT (ML), damp PID = 0.1 ppm (BZ), 0.5 (cuttings) ppm					5	95			L	
30																	
35																	
					38.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-8
File No. 28997-005
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 9/11/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-9

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

File No. 28997-005
Sheet No. 1 of 3
Start September 13, 2001
Finish September 14, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-9**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600002B.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-9
File No. 28997-005
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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-9
File No. 28997-005
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																	
					63.8	ML	Loose, brown SILT (ML), moist					5	95				
							PID = 0.2-0.4 (BZ), 5-6 (cuttings) ppm										
65					65.0		Total depth = 65 ft Vapor Well Installed 9/14/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. 2 VEW-10

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

File No. 28997-005
Sheet No. 1 of 3
Start September 13, 2001
Finish September 13, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-10

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-10
File No. 28997-005
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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\279600028.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-10
File No. 28997-005
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)					90	10				
							PID = 0.3 ppm (BZ), 1-2 (cuttings) ppm										
55																	
					56.3	ML	brown SILT (ML), moist					10	90			L	
							PID = 1-2 ppm (cuttings), 6-12 (sample) ppm										
60																	
						ML	brown SILT (ML), moist, increase in clay					5	95			L	
65					65.0		Total depth = 65 ft Vapor Well Installed 9/13/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-8SVEBLDG1-36-002\GINT\279600028.GPJ Sep 28, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-11

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

File No. 28997-005
Sheet No. 1 of 3
Start September 14, 2001
Finish September 14, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-11

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-11
File No. 28997-005
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																	
					28.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36I-002\GINT\27960002B.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-11
File No. 28997-005
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 9/14/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 28, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-12

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

File No. 28997-005
Sheet No. 1 of 3
Start September 14, 2001
Finish September 14, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-12

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVE\BLDG1-3\5-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-12
File No. 28997-005
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																	
					28.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-12
File No. 28997-005
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 9/14/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\279800028.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. 2 VEW-13

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

File No. 28997-005
Sheet No. 1 of 3
Start September 13, 2001
Finish September 13, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

Sample Identification	Well Diagram	Summary
O Open End Rod	Riser Pipe	Overburden (lin. ft.)
T Thin Wall Tube	Screen	Rock Cored (lin. ft.)
U Undisturbed Sample	Filter Sand	Samples
S Split Spoon	Cuttings	**Boring No. 2 VEW-13**
G Geoprobe	Grout	
	Concrete	
	Bentonite Seal	

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27990_C-6SVE\BLDG1-36\-002\GINT\27990002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-13
File No. 28997-005
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																	
					33.8	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-13
File No. 28997-005
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), 8-12 (cuttings) ppm					10	90				
55																	
60																	
					63.8	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 9/13/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEB\LDG1-36\-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-14

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

File No. 28997-005
Sheet No. 1 of 3
Start September 13, 2001
Finish September 14, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-14**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-14
File No. 28997-005
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																	
					48.8	SM	Loose, More brown (SM), moist, fine sand w/ silt and shell fragments					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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-8SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-14
File No. 28997-005
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	PID = 0.1 ppm (BZ), 1-3 (cuttings) ppm										
55																	
60					60.0	ML	brown SILT (ML), moist, tr. clay					10	90			L	
							PID = 5-7 (cuttings) ppm										
						ML	(ML)					5	95				
65					65.0		Total depth = 65 ft Vapor Well Installed 9/14/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. 2 VEW-15

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

File No. 28997-005
Sheet No. 1 of 3
Start September 13, 2001
Finish September 13, 2001
Driller R. Lares
H&A Rep. C. Brooks
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)
Rock Cored (lin. ft.)
Samples

Boring No. 2 VEW-15

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27990_C-6\SVE\BLDG1-3\B-002\GINT\27990002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-15
File No. 28997-005
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																	
					48.8	SM	Loose, brown-yellow fine sand (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.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-15
File No. 28997-005
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	PID = 0.2 ppm (BZ), 2-3 (cuttings) ppm										
					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 9/13/01										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\279600002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-16

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

File No. 28997-005
Sheet No. 1 of 3
Start May 1, 2002
Finish May 1, 2002
Driller O. Gonzales
H&A Rep. T. Hammond
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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 CLAY 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

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.)	
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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27990_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-16
File No. 28997-005
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 CLAY 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

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-16
File No. 28997-005
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 5/1/02										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEB\LDG1-36h-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-17

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

File No. 28997-005
Sheet No. 1 of 3
Start May 1, 2002
Finish May 1, 2002
Driller O. Gonzales
H&A Rep. T. Hammond
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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 93.8 ppm.										
5																	
10					10.0		Stiff, Medium brown sandy CLAY, no odor, moist PID = ATHA, BG, BZ, 3" = 0.0 ppm										
15					16.5		CLAY										
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

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.), Rock Cored (lin. ft.), Samples

Boring No. 2 VEW-17

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36\-002\GINT\279800028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-17
File No. 28997-005
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 CLAY 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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-17
File No. 28997-005
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 5/1/02										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-18

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

File No. 28997-005
Sheet No. 1 of 3
Start August 1, 2002
Finish August 1, 2002
Driller S. Molera
H&A Rep. T. Hammond
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-18**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVE\BLDG1-36\-002\GINT\279800002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-18
File No. 28997-005
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 28 33	A 18"	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 18"	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-18
File No. 28997-005
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 18"	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 8/1/02										

[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.

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-19

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

File No. 28997-005
Sheet No. 1 of 3
Start August 1, 2002
Finish August 1, 2002
Driller D. Worley
H&A Rep. T. Hammond
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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							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

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.)	
Rock Cored (lin. ft.)	
Samples	
Boring No.	**2 VEW-19**

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 28, 02

TEST BORING REPORT

HALEY & ALDRICH

Boring No. 2 VEW-19
File No. 28997-005
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 18"	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 18 22	B 18"	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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6S\VEB\LDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-19
File No. 28997-005
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 18"	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 8/1/02										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-20

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

File No. 28997-005
Sheet No. 1 of 3
Start August 1, 2002
Finish August 1, 2002
Driller S. Molera
H&A Rep. T. Hammond
Elevation
Datum
Location

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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

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.)
- Rock Cored (lin. ft.)
- Samples

Boring No. 2 VEW-20

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36\-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-20
File No. 28997-005
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 18"	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 18"	40.0 41.5		40.0		Soft, light brown fine sand w/ silt, no odor, moist, bedding structure, max = medium sand PID = ATHA = 80 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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. 2 VEW-20
File No. 28997-005
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 18"	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 8/1/02										

[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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27980_C-6SVEBLDG1-36-002\GINT\27980002B.GPJ Sep 26, 02

TEST BORING REPORT

Boring No. SB-1000

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

File No. 28997-005
Sheet No. 1 of 3
Start August 1, 2002
Finish August 1, 2002
Driller D. Worley
H&A Rep. T. Hammond
Elevation
Datum
Location 5' southwest of 2-VEW-15

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				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				NO WELL INSTALLED			Drilled to 25 ft with no sampling.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	Well Diagram	Summary
O Open End Rod	Riser Pipe	Overburden (lin. ft.)
T Thin Wall Tube	Screen	Rock Cored (lin. ft.)
U Undisturbed Sample	Filter Sand	Samples
S Split Spoon	Cuttings	**Boring No. SB-1000**
G Geoprobe	Grout	
	Concrete	
	Bentonite Seal	

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6\SVE\BLDG1-36-002\GINT\279600028.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-1000
File No. 28997-005
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	18 22 26	A 18	25.0 26.5		25.0		Hard, olive-brown CLAY w/ silt, no odor, low moisture, occasional fine sand, blocky structure PID = ATHA = 270 ppm										
30																	
35																	
40	13 17 25	B	40.0 41.5		40.0		Soft, light-brown to yellow-brown silty SAND w/ trace clay, no odor, low moisture, horizontal structure PID = ATHA = 150 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. SB-1000

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENV\IRONMENTAL\27960_C-6\SVE\LDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-1000
File No. 28997-005
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																	
	14 17 20	C	50.0 51.5		50.0		Stiff, light-brown to red-gray CLAY with silt, no odor, moist, max size = silt, horizontal structure, fractures, rust staining										
							PID = ATHA = 260 ppm										
					51.5		Bottom of exploration 51.5 ft. Backfilled with 2.5 drums grout (50 gal drums) to 1 ft bgs, used 4.5 bags grout well & 1 bag chips.										

[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. SB-1000

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6\SVE\LDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-1001

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

File No. 28997-005
Sheet No. 1 of 3
Start August 1, 2002
Finish August 1, 2002
Driller S. Molera
H&A Rep. T. Hammond
Elevation
Datum
Location 5' west of 2-VEW-6

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	HSA	S		Rig Make & Model: Truck
Inside Diameter (in.)		1 3/8		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				NO WELL INSTALLED			Drilled to 30 ft with no sampling.										
5																	
10																	
15																	
20																	

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

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.)
Rock Cored (lin. ft.)
Samples

Boring No. SB-1001

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 USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6\SVEBLDG1-36-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-1001
File No. 28997-005
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																	
30	16 24 28	A	30.0 31.5		30.0		Stiff, brown to light brown clayey SILT w/ sand, no odor, moist, horizontal structure PID = ATHA = 140 ppm										
35																	
40	28 32 35	B	40.0 41.5		40.0		Very Stiff, light brown to olive brown silty SAND, strong petroleum odor, moist, bedding structure PID = ATHA = 160 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. SB-1001

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-6\SVEBLDG1-3\6-002\GINT\27960002B.GPJ Sep 26, 02

HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-1001
File No. 28997-005
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																	
	16 22 26	C	50.0 51.5		50.0		Loose, brown to tan silty SAND w/ gravel, petroleum odor, low moisture PID = ATHA = 45 ppm										
					51.5		Bottom of exploration 51.5 ft Backfilled with bentonite grout.										

[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. SB-1001

USCS_TB3A_PID_CENTER USCSLIB4.GLB USCSTBC3.GDT G:\PROJECTS\ENVIRONMENTAL\27960_C-8SVEBLDG1-36\-002\GINT\27960002B.GPJ Sep 26, 02

Appendix B

BOE-C6-0129707

APPENDIX B

TABULATED RADIUS OF INFLUENCE CALCULATIONS

TABLE 1
RADIUS OF INFLUENCE, VACUUM
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

Date	2-VEW-1A	2-VEW-1B	2-VEW-2	2-VEW-3A	2-VEW-3B	2-VEW-4	2-VEW-5	2-VEW-6	2-VEW-7A	2-VEW-7B	2-VEW-8A	2-VEW-8B
11/28/2001	0.11	0.15	0.2	0.08	0.13	0.22	0.62	0.32	0.16	0.28	0.4	0.88
11/30/2001	0.6	0.8	0.76	0.6	0.7	0.82	1.2	0.9	0.6	0.9	1	1.5
12/3/2001	0.2	0.28	0.17	0.12	0.18	0.18	0.1	0.17	0.1	0.18	1	0.05
12/4/2001	0.76	1.1	0.92	0.82	0.92	1	1.5	1.1	0.72	1.2	1.2	1.7
12/5/2001	0.54	0.72	0.66	0.54	0.63	0.72	1.1	0.84	0.52	0.8	1	1.4
12/6/2001	0.68	0.94	0.82	0.68	0.8	0.88	1.3	1	0.63	1	1.1	1.6
12/7/2001	1	1.25	1.15	1	1.2	1.3	1.65	1.45	0.92	1.35	1.4	1.95
12/8/2001	0.04	0.04	0.12	0.03	0.05	0.13	0.52	0.2	0.08	0.14	0.28	0.72
12/9/2001	0	0	0	0	0	0	0	0	0	0	0	0
12/10/2001	0.37	0.4	0.47	0.35	0.4	0.49	0.82	0.56	0.31	0.5	0.64	1.1
12/11/2001	1.2	1.6	1.3	1.2	1.4	1.5	1.9	1.6	1.1	1.6	1.7	2.3

Date	2-VEW-9	2-VEW-10A	2-VEW-10B	2-VEW-11A	2-VEW-11B	2-VEW-12	2-VEW-13A	2-VEW-13B	2-VEW-14A	2-VEW-14B	2-VEW-15A	2-VEW-15B
11/28/2001	4.2	1.2	4.5	1.3	27.5	4.3	1.1	5.2	2.2	27.5	1	5.5
11/30/2001	3.8	1.4	4.4	1.8	27	4.4	1.3	5.5	2.5	27	1.2	5.7
12/3/2001	2.6	0.34	2.4	0.62	26.5	2.9	0.38	3.6	1.3	26	0.34	3.5
12/4/2001	5	2	5.2	2.2	27.5	5	2	6.2	3.1	28	1.7	6.5
12/5/2001	4.8	1.7	5	1.9	29	4.9	1.6	5.9	2.7	28	1.4	6
12/6/2001	5	1.9	5	2.1	28.8	5	1.52	6.4	3	28.2	1.56	6.5
12/7/2001	5.1	2.2	5.3	2.4	29	5	1.6	6.5	3.4	29.5	1.8	6.8
12/8/2001	4	1	4.2	1.4	29	4.2	0.65	5.3	2.1	29	0.9	5.5
12/9/2001	3.5	0.38	3.5	0.8	27	3.5	0.25	4.8	1.7	24	0.5	4.9
12/10/2001	4	1.4	4.5	1.6	28.5	4.4	0.55	5.2	2.4	28	1.1	5.7
12/11/2001	5.5	2.6	5.9	2.7	30	5.4	0.81	7	3.8	30	2.2	6.3

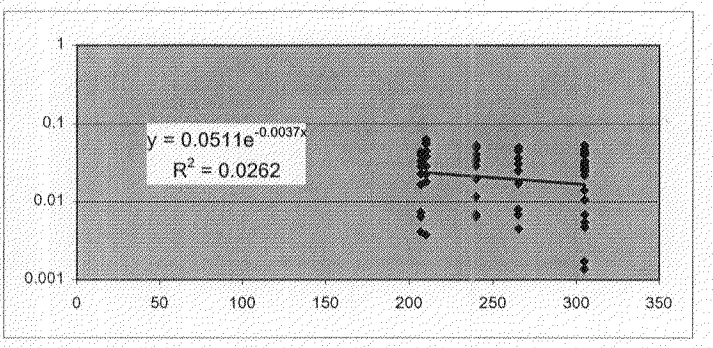
NOTES

All vaccum units are expressed as inches of water (inches H_2O)

BOE-C6-0129709

TABLE 2
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 11B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

Well	Distance from 11B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
1B	305	27.5	0.15	0.005454545
1B	305	27	0.8	0.02962963
1B	305	26.5	0.28	0.010566038
1B	305	27.5	1.1	0.04
1B	305	29	0.72	0.024827586
1B	305	28.8	0.94	0.032638889
1B	305	29	1.25	0.043103448
1B	305	29	0.04	0.00137931
1B				
1B	305	28.5	0.4	0.014035088
1B	305	30	1.6	0.053333333
2	207	27.5	0.2	0.007272727
2	207	27	0.76	0.028148148
2	207	26.5	0.17	0.006415094
2	207	27.5	0.92	0.033454545
2	207	29	0.66	0.022758621
2	207	28.8	0.82	0.028472222
2	207	29	1.15	0.039655172
2	207	29	0.12	0.004137931
2				
2	207	28.5	0.47	0.016491228
2	207	30	1.3	0.043333333
3B	305	27.5	0.13	0.004727273
3B	305	27	0.7	0.025925926
3B	305	26.5	0.18	0.006792453
3B	305	27.5	0.92	0.033454545
3B	305	29	0.63	0.021724138
3B	305	28.8	0.8	0.027777778
3B	305	29	1.2	0.04137931
3B	305	29	0.05	0.001724138
3B				
3B	305	28.5	0.4	0.014035088
3B	305	30	1.4	0.046666667
4	265	27.5	0.22	0.008
4	265	27	0.82	0.03037037
4	265	26.5	0.18	0.006792453
4	265	27.5	1	0.036363636
4	265	29	0.72	0.024827586
4	265	28.8	0.88	0.030555556
4	265	29	1.3	0.044827586
4	265	29	0.13	0.004482759
4				
4	265	28.5	0.49	0.017192982
4	265	30	1.5	0.05
5	210	27.5	0.62	0.022545455
5	210	27	1.2	0.044444444
5	210	26.5	0.1	0.003773585
5	210	27.5	1.5	0.054545455
5	210	29	1.1	0.037931034
5	210	28.8	1.3	0.045138889
5	210	29	1.65	0.056896552
5	210	29	0.52	0.017931034
5				
5	210	28.5	0.82	0.02877193
5	210	30	1.9	0.063333333
6	240	27.5	0.32	0.011636364
6	240	27	0.9	0.033333333
6	240	26.5	0.17	0.006415094
6	240	27.5	1.1	0.04
6	240	29	0.84	0.028966517
6	240	28.8	1	0.034722222
6	240	29	1.45	0.05
6	240	29	0.2	0.006896552
6				
6	240	28.5	0.56	0.019649123
6	240	30	1.6	0.053333333

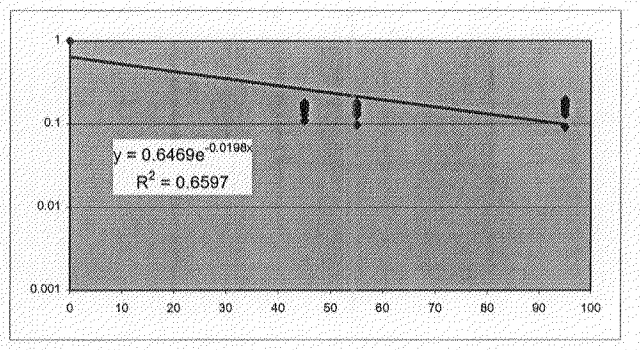


Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
1.00%	**312**
10.00%	**141.4**

Well	Distance from 11B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
7B	260	27.5	0.28	0.010181818
7B	260	27	0.9	0.033333333
7B	260	26.5	0.18	0.006792453
7B	260	27.5	1.2	0.043636364
7B	260	29	0.8	0.027586207
7B	260	28.8	1	0.034722222
7B	260	29	1.35	0.046551724
7B	260	29	0.14	0.004827586
7B				
7B	260	28.5	0.5	0.01754386
7B	260	30	1.6	0.053333333
8B	210	27.5	0.88	0.032
8B	210	27	1.5	0.055555556
8B	210	26.5	0.05	0.001886792
8B	210	27.5	1.7	0.061818182
8B	210	29	1.4	0.048275862
8B	210	28.8	1.6	0.055555556
8B	210	29	1.95	0.067241379
8B	210	29	0.72	0.024827586
8B				
8B	210	28.5	1.1	0.038596491
8B	210	30	2.3	0.076666667
11B	0	27.5	27.5	1
11B	0	27	27	1
11B	0	26.5	26.5	1
11B	0	27.5	27.5	1
11B	0	29	29	1
11B	0	28.8	28.8	1
11B	0	29	29	1
11B	0	29	29	1
11B	0			
11B	0	28.5	28.5	1
11B	0	30	30	1

TABLE 2
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 11B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

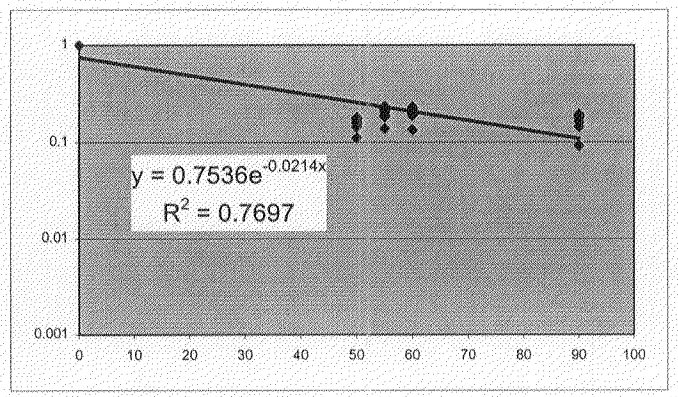
Well	Distance from 11B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
9	55	27.5	4.2	0.152727273
9	55	27	3.8	0.140740741
9	55	26.6	2.6	0.098113208
9	55	27.5	5	0.181818182
9	55	29	4.8	0.165517241
9	55	28.8	5	0.173611111
9	55	29	5.1	0.175862069
9	55	29	4	0.137931034
9	55	27	3.5	0.12962963
9	55	28.5	4	0.140350877
9	55	30	5.5	0.183333333
10B	95	27.5	4.5	0.163636364
10B	95	27	4.4	0.162962963
10B	95	26.5	2.4	0.090566038
10B	95	27.5	5.2	0.189090909
10B	95	29	5	0.172413793
10B	95	28.8	5	0.173611111
10B	95	29	5.3	0.182758621
10B	95	29	4.2	0.144827586
10B	95	27	3.5	0.12962963
10B	95	28.5	4.5	0.157894737
10B	95	30	5.9	0.196666667
12	45	27.5	4.3	0.156363636
12	45	27	4.4	0.162962963
12	45	26.5	2.9	0.109433962
12	45	27.5	5	0.181818182
12	45	29	4.9	0.168965517
12	45	28.8	5	0.173611111
12	45	29	5	0.172413793
12	45	29	4.2	0.144827586
12	45	27	3.5	0.12962963
12	45	28.5	4.4	0.154385965
12	45	30	5.4	0.18
11B	0	27.5	27.5	1
11B	0	27	27	1
11B	0	26.5	26.5	1
11B	0	27.5	27.5	1
11B	0	29	29	1
11B	0	28.8	28.8	1
11B	0	29	29	1
11B	0	29	29	1
11B	0	27	27	1
11B	0	28.5	28.5	1
11B	0	30	30	1



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
1.00%	**210.5**
10.00%	**94.3**

TABLE 3
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 14B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

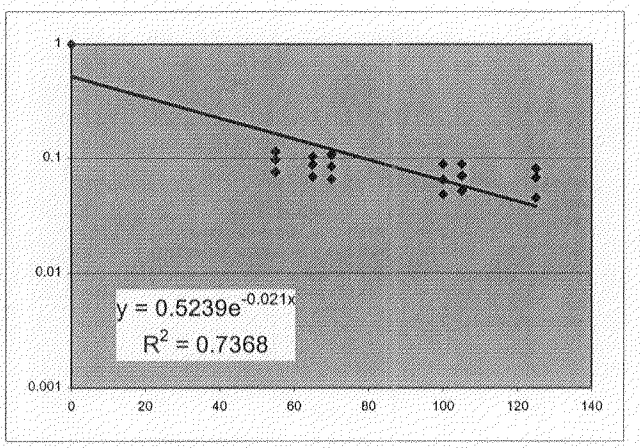
Well	Distance from 14B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
13B	55	27.5	5.2	0.189090909
13B	55	27	5.5	0.203703704
13B	55	26	3.6	0.138461538
13B	55	28	6.2	0.221428571
13B	55	28	5.9	0.210714286
13B	55	28.2	6.4	0.226950355
13B	55	29.5	6.5	0.220338983
13B	55	29	5.3	0.182758621
13B	55	24	4.8	0.2
13B	55	28	5.2	0.185714286
13B	55	30	7	0.233333333
15B	60	27.5	5.5	0.2
15B	60	27	5.7	0.211111111
15B	60	26	3.5	0.134615385
15B	60	28	6.5	0.232142857
15B	60	28	6	0.214285714
15B	60	28.2	6.5	0.230496454
15B	60	29.5	6.8	0.230508475
15B	60	29	5.5	0.189655172
15B	60	24	4.9	0.204166667
15B	60	28	5.7	0.203571429
15B	60	30	6.3	0.21
12	50	27.5	4.3	0.156363636
12	50	27	4.4	0.162962963
12	50	26	2.9	0.111538462
12	50	28	5	0.178571429
12	50	28	4.9	0.175
12	50	28.2	5	0.177304965
12	50	29.5	5	0.169491525
12	50	29	4.2	0.144827586
12	50	24	3.5	0.145833333
12	50	28	4.4	0.157142857
12	50	30	5.4	0.18
10B	90	27.5	4.5	0.163636364
10B	90	27	4.4	0.162962963
10B	90	26	2.4	0.092307692
10B	90	28	5.2	0.185714286
10B	90	28	5	0.178571429
10B	90	28.2	5	0.177304965
10B	90	29.5	5.3	0.179661017
10B	90	29	4.2	0.144827586
10B	90	24	3.5	0.145833333
10B	90	28	4.5	0.160714286
10B	90	30	5.9	0.196666667
14B	0	27.5	27.5	1
14B	0	27	27	1
14B	0	26	26	1
14B	0	28	28	1
14B	0	28	28	1
14B	0	28.2	28.2	1
14B	0	29.5	29.5	1
14B	0	29	29	1
14B	0	24	24	1
14B	0	28	28	1
14B	0	30	30	1



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
1.00%	**202**
10.00%	**94.4**

TABLE 4
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 7B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

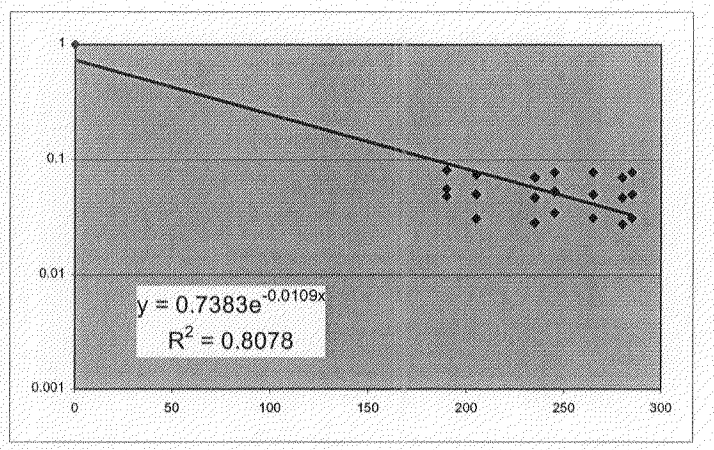
Well	Distance from 7B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
1B	100	27	2.4	0.088888889
1B	100	29	1.4	0.048275862
1B	100	34	2.2	0.064705882
2	125	27	2.2	0.081481481
2	125	29	1.3	0.044827586
2	125	34	2.3	0.067647059
4	65	27	2.8	0.103703704
4	65	29	2	0.068965517
4	65	34	3	0.088235294
5	105	27	2.4	0.088888889
5	105	29	1.5	0.051724138
5	105	34	2.4	0.070588235
6	55	27	3.1	0.114814815
6	55	29	2.2	0.075862069
6	55	34	3.3	0.097058824
7B	0	27	27	1
7B	0	29	29	1
7B	0	34	34	1
8B	70	27	2.9	0.107407407
8B	70	29	1.9	0.065517241
8B	70	34	2.9	0.085294118



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
10.00%	**79**
1.00%	**189**

TABLE 4
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 7B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

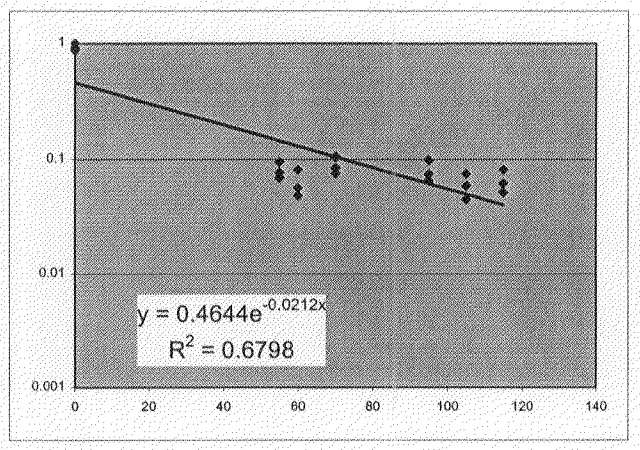
Well	Distance from 7B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
9	205	27	2	0.074074074
9	205	29	0.89	0.030689655
9	205	34	1.7	0.05
10B	190	27	2.2	0.081481481
10B	190	29	1.4	0.048275862
10B	190	34	1.9	0.055882353
11B	265	27	2.1	0.077777778
11B	265	29	0.9	0.031034483
11B	265	34	1.7	0.05
12	235	27	1.9	0.07037037
12	235	29	0.82	0.028275862
12	235	34	1.6	0.047058824
13B	245	27	2.1	0.077777778
13B	245	29	1	0.034482759
13B	245	34	1.8	0.052941176
7B	0	27	27	1
7B	0	29	29	1
7B	0	34	34	1
14B	280	27	1.9	0.07037037
14B	280	29	0.8	0.027586207
14B	280	34	1.6	0.047058824
15B	285	27	2.1	0.077777778
15B	285	29	0.9	0.031034483
15B	285	34	1.7	0.05



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
1.00%	**395**
10.00%	**183**

TABLE 5
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 3B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

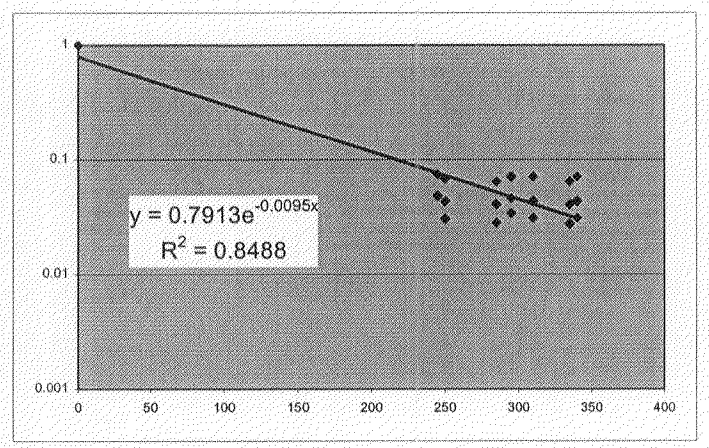
Well	Distance from 3B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
1B	60	29.5	2.4	0.081355932
1B	60	29	1.4	0.048275862
1B	60	39	2.2	0.056410256
2	105	29.5	2.2	0.074576271
2	105	29	1.3	0.044827586
2	105	39	2.3	0.058974359
4	55	29.5	2.8	0.094915254
4	55	29	2	0.068965517
4	55	39	3	0.076923077
5	115	29.5	2.4	0.081355932
5	115	29	1.5	0.051724138
5	115	39	2.4	0.061538462
6	70	29.5	3.1	0.105084746
6	70	29	2.2	0.075862069
6	70	39	3.3	0.084615385
3B	0	29.5	27	0.915254237
3B	0	29	29	1
3B	0	39	34	0.871794872
8B	95	29.5	2.9	0.098305085
8B	95	29	1.9	0.065517241
8B	95	39	2.9	0.074358974



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
10.00%	**72**
1.00%	**181**

TABLE 5
NORMALIZED RADIUS OF INFLUENCE DATA, WELL 3B
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

Well	Distance from 3B (feet)	Extraction well vacuum (inches H_2O)	Monitoring Point Vacuum (inches H_2O)	Normalized Vacuum
9	250	29.5	2	0.06779661
9	250	29	0.89	0.030689655
9	250	39	1.7	0.043589744
10B	245	29.5	2.2	0.074576271
10B	245	29	1.4	0.048275862
10B	245	39	1.9	0.048717949
11B	310	29.5	2.1	0.071186441
11B	310	29	0.9	0.031034483
11B	310	39	1.7	0.043589744
12	285	29.5	1.9	0.06440678
12	285	29	0.82	0.028275862
12	285	39	1.6	0.041025641
13B	295	29.5	2.1	0.071186441
13B	295	29	1	0.034482759
13B	295	39	1.8	0.046153846
14B	335	29.5	1.9	0.06440678
14B	335	29	0.8	0.027586207
14B	335	39	1.6	0.041025641
15B	340	29.5	2.1	0.071186441
15B	340	29	0.9	0.031034483
15B	340	39	1.7	0.043589744
3B	0	29.5	29.5	1
3B	0	29	29	1
3B	0	39	39	1



Radial Dist. corresponding to operating vacuum	
Percentage	**Feet**
10.00%	**218**
1.00%	**460**

Appendix C

BOE-C6-0129717

APPENDIX C

TABULATED REGRESSION ANALYSIS CALCULATIONS

TABLE 1
PREDICTED REDUCTION IN CONCENTRATION
BUILDING 2 SOIL VAPOR EXTRACTION SYSTEM
LOS ANGELES, CALIFORNIA

REGRESSION BASED ON UNDILUTED CONCENTRATIONS

12/13/2001 **Cn = 3800**

Date	DAYS	Co	Co/Cn	ln(Co/Cn)	t (days)	K	$t_{90\%}$	$t_{99\%}$	Projected 90% Concentration Reduction	Projected 99% Concentration Reduction
12/13/2001	0	3800	1.00	0.00	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1/3/2002	21	930	0.24	-1.41	-21	0.067	34.4	68.7	1/16/2002	2/19/2002
1/18/2002	36	770	0.20	-1.60	-36	0.044	51.9	103.8	2/2/2002	3/26/2002
2/6/2002	55	835	0.22	-1.52	-55	0.028	83.6	167.1	3/6/2002	5/29/2002
2/21/2002	70	800	0.21	-1.56	-70	0.022	103.5	206.9	3/26/2002	7/7/2002
2/27/2002	76	715	0.19	-1.67	-76	0.022	104.8	209.5	3/27/2002	7/10/2002
3/6/2002	83	605	0.16	-1.84	-83	0.022	104.0	208.0	3/27/2002	7/9/2002
3/29/2002	106	274	0.07	-2.63	-106	0.025	92.8	185.6	3/15/2002	6/16/2002
4/4/2002	112	276	0.07	-2.62	-112	0.023	98.4	196.7	3/21/2002	6/27/2002
4/17/2002	125	270	0.07	-2.64	-125	0.021	108.9	217.7	3/31/2002	7/18/2002
5/3/2002	141	178	0.05	-3.06	-141	0.022	106.1	212.1	3/29/2002	7/13/2002
6/4/2002	173	170	0.04	-3.11	-173	0.018	128.2	256.4	4/20/2002	8/26/2002
7/3/2002	202	62	0.02	-4.12	-202	0.020	113.0	226.0	4/5/2002	7/27/2002
8/27/2002	257	32	0.01	-4.78	-257	0.019	123.9	247.7	4/15/2002	8/17/2002

NOTES

$Cn = Co\ e^{(-k\ t)}$

$0.1 = Cn / Co = e^{-kt}$

$\ln 0.1 = -kt$

$t_{90\%} = 2.303 / k$

$Cn = Co\ e^{(-k\ t)}$

$0.01 = Cn / Co = e^{-kt}$

$\ln 0.01 = -kt$

$t_{99\%} = 4.605 / k$

	90% Reduction	99% Reduction
Estimated	April 2002	July-Aug 2002

Appendix D

BOE-C6-0129720