HALEY & ALDRICH

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

WELL CLOSURE REPORT

GROUNDWATER MONITORING WELL TMW-16

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

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

Date: **January 27, 2003**

Re: **Well Closure Report, Groundwater Monitoring Well TMW-16**
Boeing Realty Corporation, Former C-6 Facility, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this groundwater monitoring well closure report to summarize the closure and final laboratory results from groundwater monitoring well TMW-16 at Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (Site). The location of the Site is shown on Figure 1. Groundwater monitoring well TMW-16 was located in Parcel C of the Site. Figure 2 shows the location of groundwater wells on the Site. The well was closed due to location conflicts with new building construction. This work was conducted in accordance to the work plan entitled *Request for Well Closure, Groundwater Monitoring Well TMW-16,* dated January 7, 2003 and approved by the California Regional Water Quality Control Board – Los Angeles Region (LARWQCB) on January 9, 2003.

INTRODUCTION

Groundwater monitoring well TMW-16 was installed on January 29, 1999 by Kennedy Jenks Consultants (KJC). TMW-16 was installed as part of a Site-wide groundwater monitoring program. The purpose of this groundwater monitoring well was to facilitate sampling and measurement of groundwater conditions in the Bellflower Aquitard. The boring and well construction log is included in Appendix A. Table 1 summarizes well construction information.

Table 1 - Groundwater Monitoring Well Construction Information

Well No.	Boring Total Depth (feet)	Screen Depth Interval (feet)	Casing Diameter (inches)	Casing Type	Date Drilled
TMW-16	82.5	56.5-76.5	2	Schedule 40 PVC	1/29/1999

The LARWQCB is the lead agency for environmental activities at the Site and the County of Los Angeles, Department of Health Services (DHS) is responsible for the permitting of groundwater monitoring wells at the Site. Haley & Aldrich, Inc. submitted a monitoring well destruction service request application to the DHS on January 7, 2003, notifying the DHS of the closure of groundwater monitoring well TMW-16. A copy of the permit application is included as Appendix B.

FIELD ACTIVITIES

The scope of work for closure of TMW-16 consisted of monitoring and sampling groundwater, submitting the groundwater samples to the laboratory for analysis, and closing the wells. These tasks are discussed below.

Groundwater Monitoring and Sampling

TAIT Environmental Management, Inc. (Tait), BRC's groundwater monitoring and sampling subcontractor, gauged TMW-16 on September 13, 2002 and sampled TMW-16 on September 16, 2002. The water level was gauged against the top of the well casing to the nearest 0.01-foot using an electronic water level indicator (Table 2).

Table 2 - Groundwater Gauging Data

Well No.	Top of Casing Elevation (feet above MSL)	Depth to Water (feet below top of casing)	Groundwater Elevation (feet above MSL)	Total Depth (feet below top of casing)
TMW-16	55.73	68.44	-12.71	76.68

After the water level was gauged, each well was purged using a submersible pump. Purged water was monitored in the field for electrical conductivity, temperature, and pH. Three well casing volumes of water (approximately 4.0 gallons from TMW-16) was purged from the well and placed in a Department of Transportation-approved 55-gallon drum. The groundwater monitoring and sampling data sheet for the September 16, 2002 sampling of TMW-16 is included as Appendix C.

Upon completion of well purging, a groundwater sample was collected from each well using a disposable bailer with a bottom-emptying device. Three 40-ml VOA bottles were filled and placed in a cooler with ice and transported under standard chain-of-custody procedures to Severn Trent Laboratories (STL) in Santa Ana, California for analysis. The groundwater sample was analyzed for volatile organic compounds (VOCs) by EPA Method 8260B. Groundwater analytical results are included in Appendix D.

Groundwater Sampling Results

Based on the results of the laboratory analyses of a groundwater sample collected from TMW-16 on September 16, 2002, concentrations of trichloroethene, tetrachloroethene, and methylene chloride were detected. Table 3 summarizes the concentration of primary VOCs in TMW-16 on September 16, 2002. Copies of the laboratory analytical reports are included in Appendix D.

Table 3 - Groundwater Analytical Results

Analyte	Concentration in TMW-16 (µg/l)
Cis-1,2-dichloroethene	<1
1,1,1-trichloroethane	<1
1,1-dichloroethene	<1
Trichloroethene	1.7
Tetrachloroethene	1.1
Methylene chloride	2.3

µg/l = micrograms per liter

Well Closure

West Hazmat Drilling, Inc. (WHD) was contracted by Haley & Aldrich, Inc. to close well TMW-16. The well closure process consisted of pumping bentonite grout under pressure into the well casing and filter pack. The total volume of the well casing, well screen, and the pore space of the filter pack was calculated to be approximately 4.6 cubic feet (35 gallons). Thirty-five gallons of grout were pumped into the well casing using a pump that generated approximately 20 pounds of pressure per square inch (psi), and pressure was maintained for 5 minutes. Ten additional gallons of grout were pumped into the well casing at 20 psi, and pressure was maintained for 5 minutes. The upper 10 feet of well casing and borehole were drilled out with a 12-inch diameter drill bit. Drill cuttings were placed adjacent to the boring. The upper 10-feet of the over-drilled borehole was filled with hydrated bentonite chips to present site grade.

A photoionization detector (PID) was used during the fieldwork to monitor the level of VOCs present in soil cuttings and in the breathing zone. The PID used for this investigation was a RAE Systems MiniRAE Plus with a 10.6 eV lamp. PID readings did not exceed 0.0 parts per million by volume (ppmv).

The following observations was recorded during the well closure activities:

Table 4 - Well Closure Observations

Overdrilling Observations	**TMW-16**
Original Depth of Well, feet	82.5
Depth of overdrilling (feet)	10
Blank casing removed by drilling (feet)	10
Auger depth before cuttings observed, feet bgs	3
Bentonite/grout/sand mix removed, (cubic feet)	7
Backfilling Observations	
Backfill mixture, Bentonite Grout-well (bags) + water (gallons)	1.5 bags + 35 gals
Total Quantity grout backfilled into boring (gallons)	45
Total Quantity grout backfilled into boring (cubic feet)	6.0

Well decommissioning report forms are included in Appendix E.

WASTE STORAGE, HAULING AND DISPOSAL

Purge water from the groundwater sampling and well destruction activities was stored in 55-gallon drums. Groundwater analytical results were used for the profiling and disposal of the drums. Cuttings from the upper 10-feet of TMW-16 were primarily Portland cement grout with some soil. Due to low PID readings and previously granted closure by the LARWQCB of the upper 12 feet of the Site, these cuttings were placed on the ground adjacent to the former TMW-16.

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

Sincerely yours,
Haley & Aldrich, Inc.

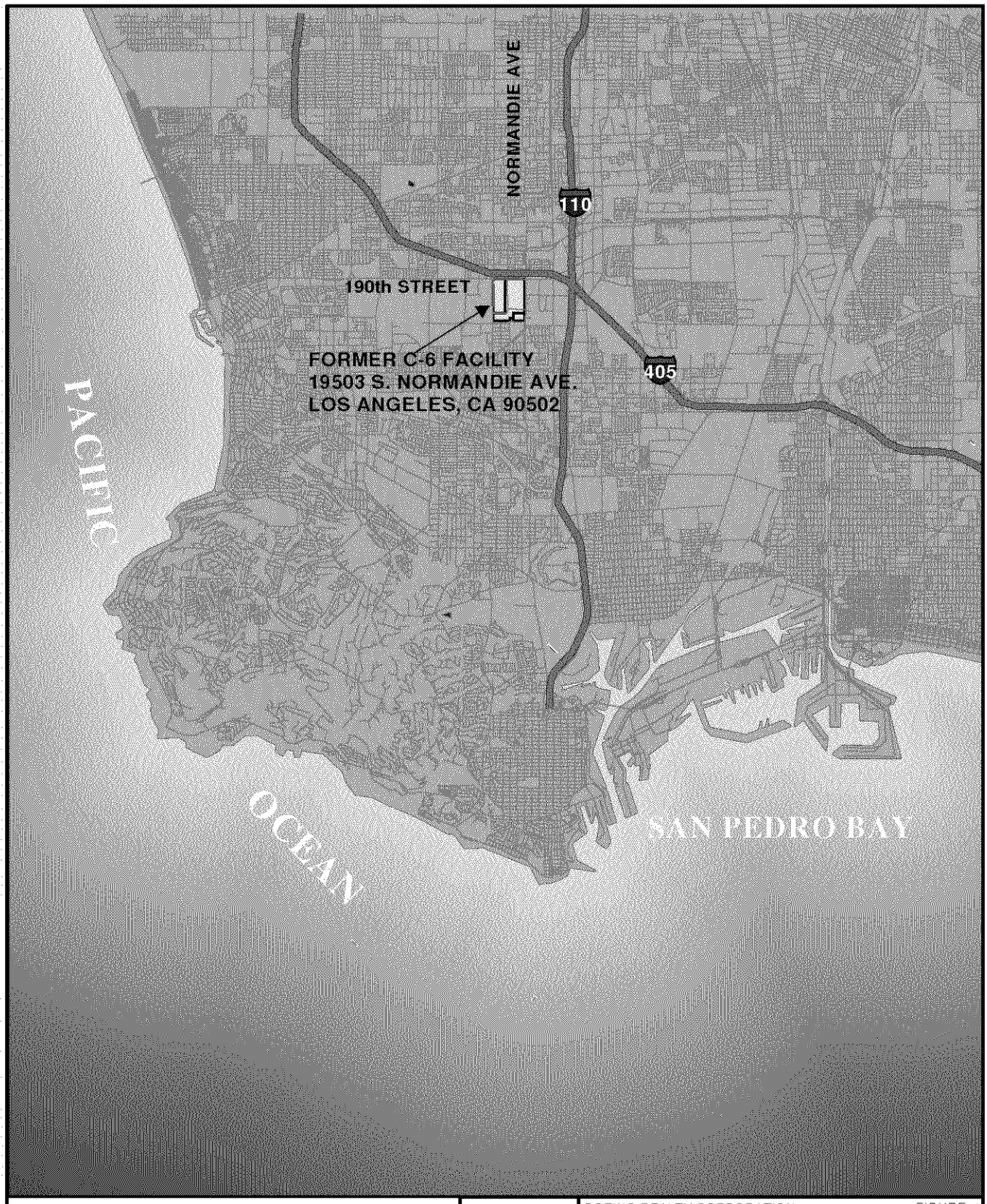
Richard M. Farson, PE
Senior Engineer

Scott P. Zachary
Project Manager

Attachments:

Figure 1 – Site Location Plan
Figure 2 – Site Plan Showing Groundwater Monitoring Wells

Appendix A – Boring and Well Construction Log
Appendix B – County of Los Angeles Monitoring Well Destruction Service Request Application
Appendix C – Groundwater Sampling Data Sheet
Appendix D – Laboratory Report
Appendix E – Well Decommissioning Report



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2 1 0 2 Miles

28882-401

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

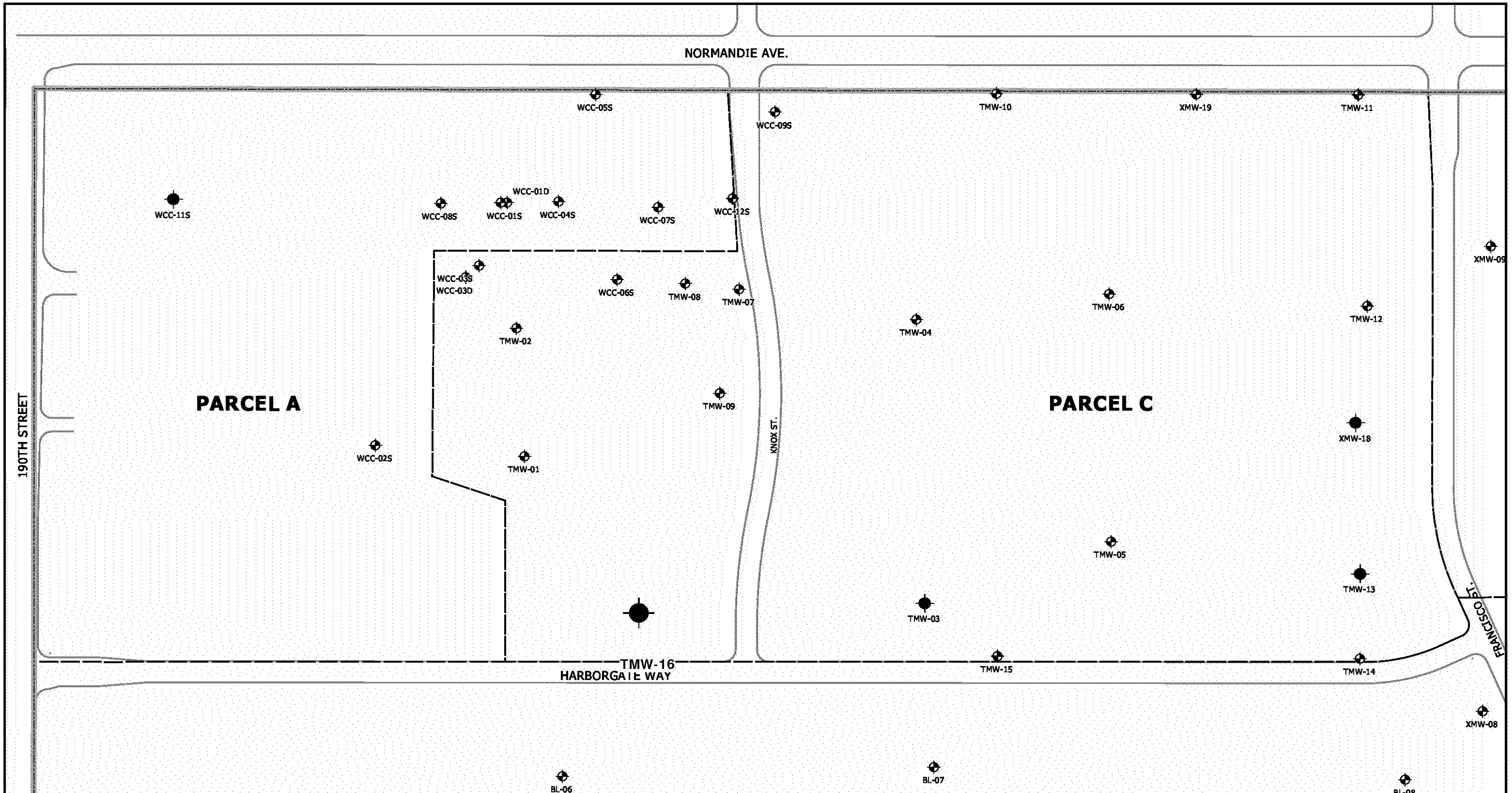
BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA

FIGURE 1

SITE LOCATION PLAN

SCALE AS SHOWN

JANUARY 2003



Legend

TMW-01 Groundwater Monitoring Well Location

TMW-16 Closed Groundwater Monitoring Well

Property Boundary

Parcel Boundary

N

All Locations and Dimensions are Approximate

0 100 200 400 Feet

28882-401

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

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

FIGURE 2

SITE PLAN SHOWING GROUNDWATER MONITORING WELLS AND CLOSED GROUNDWATER MONITORING WELL

SCALE AS SHOWN

JANUARY 2003

BOE-C6-0004332

APPENDIX A

Boring and Well Construction Log

Well Construction Log

Kennedy/Jenks Consultants

BORING LOCATION: Northeast of Building 20		Boring/Well Name: TMW-16	
DRILLING COMPANY: West Hazmat	DRILLER: Scott Campbell	Project Name: Boeing C-6 Facility	
DRILLING METHOD (S): CME 75, Hollow Stem Auger	DRILL BIT (S) SIZE: 8"	Project Number: 994001.00	
BLANK CASING: 2" diam. PVC Schedule 40	FROM 0 TO 56.5 FT	ELEVATION: Not Surveyed	TOTAL DEPTH: 82.5 feet
PERFORATED CASING: 2" diam. PVC Schedule 40, 0.010" slot	FROM 56.5 TO 76.5 FT	DATE STARTED: 1/29/99	DATE COMPLETED: 1/29/99
SIZE AND TYPE OF FILTER PACK: Lonestar 2/12 Sand	FROM 54.5 TO 82.5 FT	DEPTH TO WATER: 65 feet	
SEAL: Medium Bentonite Chips	FROM 51.7 TO 54.5 FT	LOGGED BY: M. Balderman	
GROUT: Neat Portland Cement	FROM 0 TO 51.7 FT	SAMPLING METHODS: 2" x 18" California Split-Spoon and CME dry core	WELL COMPLETION: ☒ SURFACE HOUSING ☐ STAND PIPE ____ FT

Depth (feet)	Blows per 6"	Head Space Reading (mg/L)	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
					Asphalt at surface 8" gravel/asphalt base
			ML	2.5YR 5/2	Clayey SILT with Minor Fine Sand: weak red, damp, medium stiff
5	7, 10, 14, 12, 10, 11, 14, 18				
			ML	7.5YR 5/3	Clayey SILT with Minor Fine Sand: brown, damp, very stiff
10	11, 15, 17	8.2			
					increasing sand below 12 feet 1-inch thickness of disseminated calcite at 13.5 feet
15			SM	7.5YR 5/3	Fine Silty SAND: brown, 60% sand, damp, dense
20	10, 14, 20	12.4			
			CL	7.5YR 5/2	Silty CLAY with Minor Fine Sand: brown, irregular calcite stringers, damp, hard
25	12, 15, 30	11.5			
			ML	2.5Y 5/4	Sandy SILT: light olive brown, 40% fine sand, damp, hard clayey silt interbed from 27.7 to 28 feet calcite stringers at 29.5 feet
30	14, 17, 20	17.2			
			SM	2.5Y 6/4	Fine Silty SAND: light yellowish brown, 80% sand, damp, dense
35					

Well Construction Log

Kennedy/Jenks Consultants

Boring/Well Name TMW-16
Project Name Boeing C-6 Facility
Project Number 994001.00

Depth (feet)	SAMPLES: Driven	Recovered	Collected	Blows per 6"	Head Space Reading (mg/L)	WELL CONSTRUCTION	Graphic Log	USCS Log	Munsell Color	Description
								SM		Fine Silty SAND, continued
										hard caliche nodules from 36.5 to 37 feet
	core								2.5Y 6/2	light brownish gray
40				20 25 27	8.9					
45	core									hard calcite nodules at 47.3 feet abundant calcite cement to 50 feet
50				10 14 25	13.9			CL	2.5Y 6/2	Silty CLAY: light brownish gray, trace of fine sand, damp to moist, hard
						Top of Seal 51.7 feet				
								CL		Sandy CLAY: 30% fine sand
						Top of Filter 54.5 feet		SM	2.5Y 7/1	Fine Silty SAND: light gray, 80% sand
55	core							ML	2.5Y 6/2	Clayey SILT: light brownish gray, trace of fine sand, damp, hard
						Top of Screen 56.5 feet		ML	2.5Y 5/2	Fine Sandy SILT: grayish brown, 40% sand, trace of fine mica, moist, hard
								SM		grades to Silty SAND
60				11 16 23	22.7	Depth to first water 61 feet		ML		grades to Sandy SILT
								SM ML	2.5Y 5/4	water encountered at 61 feet Fine Silty SAND and Sandy SILT: light olive brown, trace of fine mica, wet, dense
65	core							ML	2.5Y 5/3	Fine Sandy SILT: light olive brown, 30% fine sand clayey, moist, hard
								SM	2.5Y 5/4	Fine Silty SAND: light olive brown, 50% sand
70								CL	7.5YR 5/6 7.5YR 6/1	Silty CLAY: mottled strong brown and gray, trace of fine sand, wet, hard
								ML	2.5Y 5/4	Fine Sandy SILT: light olive brown, 35% sand, wet, hard
75	core					Bottom of Screen 76.5 feet		SM	2.5Y 5/2	Fine Silty SAND: grayish brown, 65% sand, trace of fine mica, wet, dense
80										Boring terminated at 82.5 feet.

APPENDIX B

County of Los Angeles Monitoring Well Destruction Service Request Application

SERVICE APPLICATION AND FEE COLLECTION
COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES
PUBLIC HEALTH PROGRAMS - ENVIRONMENTAL HEALTH

SERVICE REQUEST APPLICATION

INSTRUCTIONS

1. Check the TYPE OF SERVICE requested and attach the required non-refundable fee to the application. Make money order or check payable to LOS ANGELES COUNTY TREASURER, DO NOT SEND CASH. This application is nontransferable.

FEE REQUIRED*		TYPE OF SERVICE
	☐	MONITORING WELL CONSTRUCTION/DESTRUCTION
160.00	☒	WELL CONSTRUCTION, RENOVATION OR DESTRUCTION PERMIT Complete and attach a Well Permit Application
	☐	PRIVATE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT
	☐	PRIVATE SEWAGE DISPOSAL SYSTEM RENOVATION/EXPANSION
	☐	INSPECTION OF MOUNTAIN CABIN SITE as required by the United States Forest Service
	☐	INSPECTION OF EXISTING PRIVATE SEWAGE SYSTEM as required by FHA/VA
	☐	WATER SUPPLY TEST AND CERTIFICATION as required by U.S. Department of Agriculture

2. Check with Contact Office stamped below for requirements or information.
3. Complete the required information or deliver the completed application, money order or check with the forms indicated.

to: County of Los Angeles
Department of Health Services
Public Health Programs
Environmental Health
5050 COMMERCE DRIVE
BALDWIN PARK, CA 91706
626-430-5380
FAX 626-813-3016

*Refer to Schedule of Fees for current fiscal year.

NOTE: FIELD PERSONNEL CANNOT ACCEPT FEES.

4. Phone Contact Office noted below, after you have received your receipt, to request an inspection.

19320 HARBORGATE WAY LOS ANGELES — 1/7/03
Service/Job Location Address — Date

HALEY & ALDRICH, INC 9040 FRIARS ROAD, SUITE 220 SAN DIEGO, CA 92108 619-280-9210
Owner/Applicant's Name — Address — Phone No.

WEST HAZMAT DRILLING CORP. 1016 E. KATELLA ANAHEIM, CA 92805 714-939-6850
Contractor's Name — Address — Phone No.

Co. Engineer Plan Check No._____ Tract No. _____ Lot No. _____ No. Bedrooms ____
(Complete line above for Private Sewage Disposal System Construction or Renovation Application)

CONTACT OFFICE	DEPARTMENT STAMP

Printed on recycled materials.

APPLICATION FOR WELL PERMIT
ENVIRONMENTAL HEALTH 5050 COMMERCE DRIVE BALDWIN PARK, CA 91706
COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES

DATE 1/7/03

DESCRIPTION

TYPE OF PERMIT (CHECK)

- ☐ NEW WELL CONSTRUCTION
- ☐ RECONSTRUCTION OR RENOVATION
- ☒ DESTRUCTION

TYPE OF WELL

- ☐ PRIVATE DOMESTIC
- ☐ PUBLIC DOMESTIC
- ☐ IRRIGATION
- ☒ OBSERVATION/MONITORING
- ☐ CATHODIC
- ☐ INDUSTRIAL
- ☐ GRAVEL PACK
- ☐ TEST

TYPE OF CASING
SCHEDULE 40 PVC, 2-INCH DIAMETER

METHOD OF SEALING OF CASING
3' MEDIUM BENTONITE CHIPS, 51.7-FEET NEAT PORTLAND CEMENT GROUT

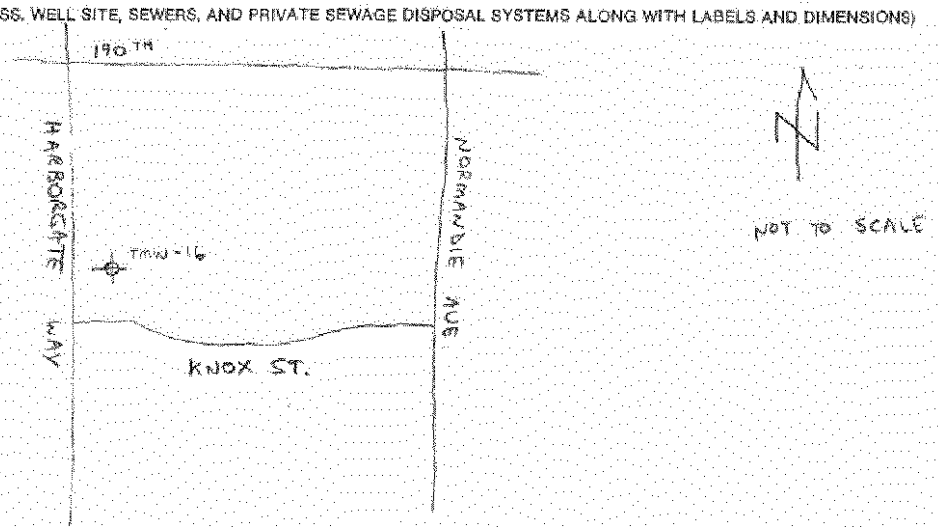
METHOD OF DESTRUCTION
PRESSURE GROUT WITH BENTONITE GROUT THROUGH THE WELL CASING. OVERDRILL AND REMOVE THE UPPER 10-FEET OF CASING / PORTLAND CEMENT. BACKFILL UPPER 10-FEET WITH BENT

LOCATION

ADDRESS (NUMBER, STREET, AND NEAREST INTERSECTION)
19320 HARBORGATE WAY

CITY
LOS ANGELES

DIAGRAM (SHOW PROPERTY LINES, STREET, ADDRESS, WELL SITE, SEWERS, AND PRIVATE SEWAGE DISPOSAL SYSTEMS ALONG WITH LABELS AND DIMENSIONS)



NAME OF WELL DRILLER (PRINT)
WEST HAZMAT DRILLING CORP

TRADE NAME

BUSINESS ADDRESS
1016 E. KATELLA AVE

CITY
ANAHEIM CA 92805

NAME OF WELL OWNER (PRINT)
BOEING REALTY CORPORATION

MAILING ADDRESS
3855 LAKEWOOD BLVD, BUILDING 1A MC D001-0097

CITY
LONG BEACH, CA 90846

I hereby agree to comply in every respect with all regulations of the County Preventive/Public Health Services and with all ordinances and laws of the County of Los Angeles and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the County Preventive/Public Health Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by such County Preventive/Public Health Services.

Applicant's Signature

DISPOSITION OF APPLICATION: (For Sanitarians Use Only)

- ☐ APPROVED
- ☐ DENIED
- ☐ APPROVED WITH CONDITIONS

If denied or approved with conditions, report reason or conditions here:

DATE	SANITARIAN
DATE	SECTION CHIEF

When signed by Section Chief, this application is a permit.

76A688
H-13 (Rev. 3/91) 2/95

APPLICANT COPY
Please Return All Copies

BOE-C6-0004338

APPENDIX C

Groundwater Sampling Data Sheet

Well Gauging Data Sheet

Tait Environmental Management, Inc.
Engineering • Environmental • Compliance

Site Name: BRC, Former C-6 Facility
Project: September 2002 GW Monitoring

Well ID	Date	Time	Diameter (inches)	Measurement Point (mp)	Well Installation/Boring Depth* (ft-bmp)	Screened Interval* (feet)	Depth to Water (March 2002) (ft-bmp)	Depth to Water (ft-bmp)	Total Depth (ft-bmp)	Personnel	Comments
TMW-7	09/13/2002	9:36	2	TOC Blackmark	89.50	64-84	66.07	66.36	83.65	NC/RK	Good well condition. Soft well bottom.
TMW-8	09/13/2002	8:02	2	TOC Blackmark	89.50	61-81	67.49	67.81	82.80	NC/RK	Good well condition. Soft well bottom.
TMW-9	09/13/2002	9:45	2	TOC Blackmark	86.00	61-81	66.32	66.58	80.14	NC/RK	Above ground casing loose. Soft well bottom.
TMW-10	09/13/2002	11:45	2	TOC Redmark	85.00	60.5-80.5	61.36	61.60	78.03	NC/RK	Good well condition. Soft well bottom.
TMW-11	09/13/2002	12:09	2	TOC Blackmark	83.00	58-78	60.89	62.02	77.73	NC/RK	Well condition good. Pulled tubing. Soft well bottom.
TMW-12	09/13/2002	12:18	2	TOC Blackmark	88.00	62-82	66.25	66.40	80.43	NC/RK	Well condition good. Above ground casing loose. Well bottom soft.
TMW-13	09/13/2002	12:34	2	TOC Blackmark	85.00	60-80	65.49	65.49	78.32	NC/RK	Well box & casing surrounded by dirt & rocks. Well bottom soft & muddy.
TMW-14	09/13/2002	11:01	2	TOC Northside	90.00	65-85	72.69	72.72	87.94	NC/RK	Missing well cap, taped closed. Marked north side on casing. Soft well bottom.
TMW-15	09/13/2002	11:08	2	TOC Northside	92.00	62-87	68.88	69.03	87.42	NC/RK	Marked north side on casing. Soft well bottom
TMW-16	09/13/2002	9:59	2	TOC Northside	82.50	56.5-76.5	68.06	68.44	81.12	NC/RK	Marked north side on casing. Soft well bottom
BL-3	09/13/2002	10:53	2	TOC Notch	82.00	62-82	70.25	70.42	81.26	NC/RK	Good well condition. Soft well bottom.
XMW-09	09/13/2002	13:07	4	TOC Blackmark	---	66-81	68.34	68.42	79.25	NC/RK	Good well condition. Obstacle in well make gauging difficult. Soft well bottom.
XMW-18	09/13/2002	12:44	4	TOC Northside	---	66-83	65.51	65.48	138.49	NC/RK	Well box & casing surrounded by dirt. Well bottom soft & very muddy.
XMW-19	09/13/2002	11:51	4	TOC Blackmark	---	63-79	60.76	60.95	77.29	NC/RK	Good well condition. Cap has hose attached. Well bottom soft.

Notes:
ft-bmp = Feet Below Measurement Point
TOC = Top Of Casing
*Referenced from *Table 1 - Well Completion Information, Groundwater Monitoring Workplan 2002, Former C-6 Facility, Torrance, California.* Haley & Aldrich, Inc. December 2001.

BOE-C6-0004340

Tait Environmental Management, Inc.

Engineering • Environmental • Compliance

ENTERED 9/19/02

Groundwater Sampling Data Sheet

Project Name: Sept. 2002 GW Sampling – C-6 Torrance	**Date:** 9/16/02
Project No.: EN2303	**Prepared By:** NC/RK
Well Identification: TMW-16	**Pump Intake Depth (ft-bmp):** ~ 71 ft.
Measurement Point Description: TOC - Northside	

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
NA	68.90	81.21	12.31	NA	2	6

Well Diameter (in)				Gallons/Foot			
				0.75	2	4	6
0.75	(2)	4	6	0.02	(0.16)	0.65	1.47

Field Equipment: see page 1

Purge Method: see page 1

Well Condition: Good; soft well bottom

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:39	0	0	~0.3	71.15	7.47	24.66	200	2.53	9.51	+47	slightly silty
10:42	0.5	1	~0.3	71.72	7.17	24.13	760	2.48	8.06	+90	" "
10:47	1	2	~0.2	71.38	7.42	25.64	480	2.52	7.49	+85	" "
10:51	1.5	3	~0.25	71.48	7.45	26.18	600	2.57	7.49	+80	mostly clear
10:57	2	4	0.28 NC	71.33	7.49	26.44	570	2.56	7.52	+77	" "
11:02	2.5	5	~~0.3~~ NC 0.2	75.08	7.46	26.12	960	2.55	8.11	+44	Silty
11:08	3	6	0.28 NC		7.42	25.20	>990	2.57	8.08	+40	" "

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:38	12:15	~0.3	24	12	71.36	71.36	12:30	TMW-16_WG091602_0001

Notes: Lowered pump ~2ft & increased flow to approx. 0.5 gpm to try to lower turbidity (~11:00)

ft-bmp = feet below measuring point
LNAPL = light non-aqueous phase liquid

BOE-C6-0004341

TAIT Environmental Management, Inc

GROUNDWATER SAMPLING DATA SHEET
~~WELL DEVELOPMENT DATA SHEET~~ NC
(continued)

ENTERED 9/19/02

WELL ID TMW-16

Sept. 2002 GW Sampling

PROJECT NAME: BRC Former C-6 Torrance	DATE: 9/16/02
PROJECT NO.: EM2303	PREPARED BY: NC

TIME	ELAPSED TIME (MIN)	FLOW RATE (GPM)	CASING VOLUMES PURGED	VOLUME PURGED (GAL)	WATER LEVEL (FBMP)	TEMP. (°C)	Ph	CONDUCTIVITY ~~(umhos/cm)~~ mS/cm	TURBIDITY (NTU)	DO	ORP	COMMENTS
11:15	NA	NC ~~0.2~~ 0.6	5	10	73.96	25.23	7.44	2.58	900	7.82	+50	Silty
11:19		0.25	5.5	11		25.14	7.47	2.58	430	7.82	+49	mostly clear
11:24		0.2	6	12	74.25	25.07	7.48	2.57	340	7.89	+42	clear
11:45		0.4	8	16	74.03	25.56	7.38	2.53	>990	7.98	+55	silty
11:52		0.14	8.5	17	73.83	25.33	7.38	2.55	620	8.13	+68	slightly silty
11:55		0.3	9	18	73.92	25.11	7.41	2.56	340	8.21	+65	mostly clear
11:59		0.25	9.5	19	73.87	25.03	7.41	2.55	250	8.06	+62	clear
12:02		0.3	10	20	74.02	25.04	7.43	2.55	250	8.07	+62	" "
12:06		0.25	10.5	21	73.97	25.03	7.46	2.55	200	8.06	+64	" "
12:09		0.3	11	22	73.94	25.04	7.46	2.55	160	8.03	+59	" "
12:12		0.3	11.5	23	73.99	25.01	7.47	2.55	160	8.04	+61	" "
12:15		0.3	12	24	73.89	25.02	7.47	2.55	75	8.07	+62	" "

NOTES: Stopped pump again at 11:30 after pump lowered itself, to reset pump at desired intake depth.
↳ turbidity went up.

BOE-C6-0004342

APPENDIX D

Laboratory Report

ANALYTICAL REPORT

PROJECT NO. 05160-SEV002

Boeing C-6/Tait EM2303

Scott Ek

Tait Environmental

SEVERN TRENT LABORATORIES, INC.

Diane Suzuki
Project Manager

September 20, 2002

ANALYTICAL REPORT

PROJECT NO. 05160-SEV002

Boeing C-6/Tait EM2303

Beth Breitenbach

SEVERN TRENT LABORATORIES, INC.

Diane Suzuki
Project Manager

September 20, 2002

ANALYTICAL REPORT

PROJECT NO. 05160-SEV002

Boeing C-6/Tait EM2303

CH2M Hill

SEVERN TRENT LABORATORIES, INC.

Diane Suzuki
Project Manager

September 20, 2002

EXECUTIVE SUMMARY - Detection Highlights

E2I170153

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
EB_TAIT091602_0002 09/16/02 08:12 002				
Bromodichloromethane	0.72 J	1.0	ug/L	SW846 8260B
Chloroform	0.54 J	1.0	ug/L	SW846 8260B
WCC_5S_WG091602_0001 09/16/02 09:35 003				
1,1-Dichloroethene	5.8	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.34 J	1.0	ug/L	SW846 8260B
Toluene	3.0	1.0	ug/L	SW846 8260B
Trichloroethene	1.5	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	0.86 J	2.0	ug/L	SW846 8260B
TMW_16_WG091602_0001 09/16/02 12:30 004				
Methylene chloride	2.3	1.0	ug/L	SW846 8260B
Tetrachloroethene	1.1	1.0	ug/L	SW846 8260B
Trichloroethene	1.7	1.0	ug/L	SW846 8260B
TMW_10_WG091602_0001 09/16/02 13:25 006				
Dichlorodifluoromethane	2.0	1.0	ug/L	SW846 8260B
Chloroform	2.9	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.82 J	1.0	ug/L	SW846 8260B
Toluene	2.2	1.0	ug/L	SW846 8260B
Trichloroethene	3.8	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	1.5 J	2.0	ug/L	SW846 8260B
TMW_14_WG091602_0001 09/16/02 14:15 007				
Carbon tetrachloride	2.0	0.50	ug/L	SW846 8260B
Chloroform	4.0	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	0.34 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	1.1	1.0	ug/L	SW846 8260B
Toluene	0.98 J	1.0	ug/L	SW846 8260B
Trichloroethene	10	1.0	ug/L	SW846 8260B

METHODS SUMMARY

E2I170153

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E2I170153

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E8CM4	001	EB_TAIT091602_0001	09/16/02	08:00
E8CNJ	002	EB_TAIT091602_0002	09/16/02	08:12
E8CNR	003	WCC_5S_WG091602_0001	09/16/02	09:35
E8CN2	004	TMW_16_WG091602_0001	09/16/02	12:30
E8CN5	005	FB_TAIT091602_0001	09/16/02	13:10
E8CN9	006	TMW_10_WG091602_0001	09/16/02	13:25
E8CPD	007	TMW_14_WG091602_0001	09/16/02	14:15
E8CPE	008	TB_TAIT091602_0001	09/16/02	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TAIT ENVIRONMENTAL

Client Sample ID: EB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-001 **Work Order #...:** E8CM41AA **Matrix.....:** WG
Date Sampled...: 09/16/02 08:00 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

(Continued on next page)

TAIT ENVIRONMENTAL

Client Sample ID: EB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-001 **Work Order #...:** E8CM41AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
1,2-Dichloroethane-d4	106	(65 - 135)
Toluene-d8	90	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: EB_TAIT091602_0002

GC/MS Volatiles

Lot-Sample #...: E2I170153-002 **Work Order #...:** E8CNJ1AA **Matrix.....:** WG
Date Sampled...: 09/16/02 08:12 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	**0.72 J**	**1.0**	**ug/L**
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	**0.54 J**	**1.0**	**ug/L**
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: EB_TAIT091602_0002

GC/MS Volatiles

Lot-Sample #...: E2I170153-002 **Work Order #...:** E8CNJ1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	102	(75 - 130)
1,2-Dichloroethane-d4	110	(65 - 135)
Toluene-d8	90	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

TAIT ENVIRONMENTAL

Client Sample ID: WCC_5S_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-003 **Work Order #...:** E8CNR1AA **Matrix.....:** WG
Date Sampled...: 09/16/02 09:35 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	**5.8**	**1.0**	**ug/L**
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: WCC_5S_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-003 **Work Order #...:** E8CNR1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	**0.34 J**	**1.0**	**ug/L**
Toluene	**3.0**	**1.0**	**ug/L**
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	**1.5**	**1.0**	**ug/L**
Trichlorofluoromethane	**0.86 J**	**2.0**	**ug/L**
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	100	(75 - 130)
1,2-Dichloroethane-d4	106	(65 - 135)
Toluene-d8	90	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

TAIT ENVIRONMENTAL

Client Sample ID: TMW_16_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-004 **Work Order #...:** E8CN21AA **Matrix.....:** WG
Date Sampled...: 09/16/02 12:30 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

(Continued on next page)

TAIT ENVIRONMENTAL

Client Sample ID: TMW_16_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-004 **Work Order #...:** E8CN21AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	**2.3**	**1.0**	**ug/L**
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	**1.1**	**1.0**	**ug/L**
Toluene	ND	1.0	ug/L
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	**1.7**	**1.0**	**ug/L**
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
1,2-Dichloroethane-d4	114	(65 - 135)
Toluene-d8	91	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: FB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-005 **Work Order #...:** E8CN51AA **Matrix.....:** WG
Date Sampled...: 09/16/02 13:10 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: FB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-005 **Work Order #...:** E8CN51AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	102	(75 - 130)
1,2-Dichloroethane-d4	110	(65 - 135)
Toluene-d8	89	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: TMW_10_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-006 **Work Order #...:** E8CN91AA **Matrix.....:** WG
Date Sampled...: 09/16/02 13:25 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	**2.0**	**1.0**	**ug/L**
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	**2.9**	**1.0**	**ug/L**
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: TMW_10_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-006 **Work Order #...:** E8CN91AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	**0.82 J**	**1.0**	**ug/L**
Toluene	**2.2**	**1.0**	**ug/L**
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	**3.8**	**1.0**	**ug/L**
Trichlorofluoromethane	**1.5 J**	**2.0**	**ug/L**
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	101	(75 - 130)
1,2-Dichloroethane-d4	112	(65 - 135)
Toluene-d8	89	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

TAIT ENVIRONMENTAL

Client Sample ID: TMW_14_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-007 **Work Order #...:** E8CPD1AA **Matrix.....:** WG
Date Sampled...: 09/16/02 14:15 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/18/02 **Analysis Date..:** 09/18/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	**2.0**	**0.50**	**ug/L**
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	**4.0**	**1.0**	**ug/L**
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	**0.34 J**	**1.0**	**ug/L**
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: TMW_14_WG091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-007 **Work Order #...:** E8CPD1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	**1.1**	**1.0**	**ug/L**
Toluene	**0.98 J**	**1.0**	**ug/L**
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	**10**	**1.0**	**ug/L**
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	101	(75 - 130)
1,2-Dichloroethane-d4	110	(65 - 135)
Toluene-d8	90	(80 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

TAIT ENVIRONMENTAL

Client Sample ID: TB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-008 **Work Order #...:** E8CPE1AA **Matrix.....:** WG
Date Sampled...: 09/16/02 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	2.0	ug/L
Carbon tetrachloride	ND	0.50	ug/L
2-Butanone	ND	5.0	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon disulfide	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	0.50	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
Chloroethane	ND	2.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Iodomethane	ND	2.0	ug/L
Isopropyl ether	ND	2.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
Vinyl chloride	ND	0.50	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
t-Butanol	ND	25	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L

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TAIT ENVIRONMENTAL

Client Sample ID: TB_TAIT091602_0001

GC/MS Volatiles

Lot-Sample #...: E2I170153-008 **Work Order #...:** E8CPE1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Ethylbenzene	ND	1.0	ug/L
Hexachlorobutadiene	ND	1.0	ug/L
2-Hexanone	ND	5.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
Methyl tert-butyl ether	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,2,3-Trichlorobenzene	ND	1.0	ug/L
1,2,4-Trichloro-benzene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	2.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Vinyl acetate	ND	5.0	ug/L
Tetrahydrofuran	ND	10	ug/L
2-Chloroethyl vinyl ether	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	99	(75 - 130)
1,2-Dichloroethane-d4	106	(65 - 135)
Toluene-d8	88	(80 - 130)

QC DATA ASSOCIATION SUMMARY

E2I170153

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WG	SW846 8260B		2261237	2261107
002	WG	SW846 8260B		2261237	2261107
003	WG	SW846 8260B		2261237	2261107
004	WG	SW846 8260B		2261237	2261107
005	WG	SW846 8260B		2261237	2261107
006	WG	SW846 8260B		2261237	2261107
007	WG	SW846 8260B		2261237	2261107
008	WG	SW846 8260B		2261237	2261107

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8ENG1AA **Matrix.....:** WATER
MB Lot-Sample #: E2I180000-237

Prep Date.....: 09/17/02
Analysis Date..: 09/17/02 **Prep Batch #...:** 2261237

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	0.50	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	0.50	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
Iodomethane	ND	2.0	ug/L	SW846 8260B
Isopropyl ether	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	0.50	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
t-Butanol	ND	25	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Tert-amyl methyl ether	ND	2.0	ug/L	SW846 8260B
Tert-butyl ethyl ether	ND	2.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8ENG1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
p-Isopropyltoluene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	1.0	ug/L	SW846 8260B
n-Propylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,2,3-Trichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,2,4-Trichloro-benzene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
1,3,5-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acrolein	ND	20	ug/L	SW846 8260B
Acrylonitrile	ND	20	ug/L	SW846 8260B
Vinyl acetate	ND	5.0	ug/L	SW846 8260B
Tetrahydrofuran	ND	10	ug/L	SW846 8260B
2-Chloroethyl vinyl ether	ND	5.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	101	(75 - 130)
1,2-Dichloroethane-d4	107	(65 - 135)
Toluene-d8	90	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8ENG1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2I180000-237
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**99**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**97**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**112**	**(70 - 140)**	**SW846 8260B**
Toluene	**100**	**(75 - 125)**	**SW846 8260B**
Trichloroethene	**109**	**(70 - 130)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	96	(65 - 135)
Toluene-d8	97	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8ENG1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2I180000-237
Prep Date.....: 09/17/02 **Analysis Date..:** 09/17/02
Prep Batch #...: 2261237

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**9.89**	**ug/L**	**99**	**SW846 8260B**
Chlorobenzene	**10.0**	**9.66**	**ug/L**	**97**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**11.2**	**ug/L**	**112**	**SW846 8260B**
Toluene	**10.0**	**9.97**	**ug/L**	**100**	**SW846 8260B**
Trichloroethene	**10.0**	**10.9**	**ug/L**	**109**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	96	(65 - 135)
Toluene-d8	97	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8CN21AC-MS **Matrix.....:** WG
MS Lot-Sample #: E2I170153-004 E8CN21AD-MSD
Date Sampled...: 09/16/02 12:30 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/18/02
Prep Batch #...: 2261237

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	103	(75 - 120)			SW846 8260B
	102	(75 - 120)	0.77	(0-25)	SW846 8260B
Chlorobenzene	100	(75 - 120)			SW846 8260B
	99	(75 - 120)	0.30	(0-25)	SW846 8260B
1,1-Dichloroethene	118	(70 - 140)			SW846 8260B
	116	(70 - 140)	2.2	(0-25)	SW846 8260B
Toluene	101	(75 - 125)			SW846 8260B
	99	(75 - 125)	2.2	(0-25)	SW846 8260B
Trichloroethene	116	(70 - 130)			SW846 8260B
	116	(70 - 130)	0.37	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	118	(75 - 130)
	116	(75 - 130)
1,2-Dichloroethane-d4	125	(65 - 135)
	125	(65 - 135)
Toluene-d8	99	(80 - 130)
	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2I170153 **Work Order #...:** E8CN21AC-MS **Matrix.....:** WG
MS Lot-Sample #: E2I170153-004 E8CN21AD-MSD
Date Sampled...: 09/16/02 12:30 **Date Received..:** 09/16/02 17:01
Prep Date.....: 09/17/02 **Analysis Date..:** 09/18/02
Prep Batch #...: 2261237

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	10.0	10.3	ug/L	103		SW846 8260B
	ND	10.0	10.2	ug/L	102	0.77	SW846 8260B
Chlorobenzene	ND	10.0	9.97	ug/L	100		SW846 8260B
	ND	10.0	9.94	ug/L	99	0.30	SW846 8260B
1,1-Dichloroethene	ND	10.0	11.8	ug/L	118		SW846 8260B
	ND	10.0	11.6	ug/L	116	2.2	SW846 8260B
Toluene	ND	10.0	10.1	ug/L	101		SW846 8260B
	ND	10.0	9.92	ug/L	99	2.2	SW846 8260B
Trichloroethene	1.7	10.0	13.4	ug/L	116		SW846 8260B
	1.7	10.0	13.3	ug/L	116	0.37	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	118	(75 - 130)
	116	(75 - 130)
1,2-Dichloroethane-d4	125	(65 - 135)
	125	(65 - 135)
Toluene-d8	99	(80 - 130)
	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

APPENDIX E

Well Decommissioning Report

HALEY & ALDRICH

WELL DECOMMISSIONING REPORT

Well No.

TMW-16

PROJECT	Former C-6 Facility	**H&A FILE NO.**	28882-002
LOCATION	Los Angeles, California	**PROJECT MGR.**	S.P. Zachary
CLIENT	Boeing Realty Corporation	**FIELD REP.**	T.S. Hammond
CONTRACTOR	West Hazmat Drilling	**REMOVAL DATE**	1/10/2003

Well Designation	TMW-16
Well Diameter	2-inches
Decommissioning Technique	Pressure grout with bentonite grout, overdrill top 10 feet
Depth to Groundwater	68.85-feet
Total Depth of Well	80.8-feet

	Grout/Cement (Lbs. - Bags*)	Additive (Lbs. - Gals.)	Water (Gals.)	Final Quantity (Gals.)
Type	Bentonite Grout well	None		
Manufacturer	Wyo-ben	None		
Quantity	1.5 bags	None	35	45

Exlanation of Well Decommissioning Techniques:

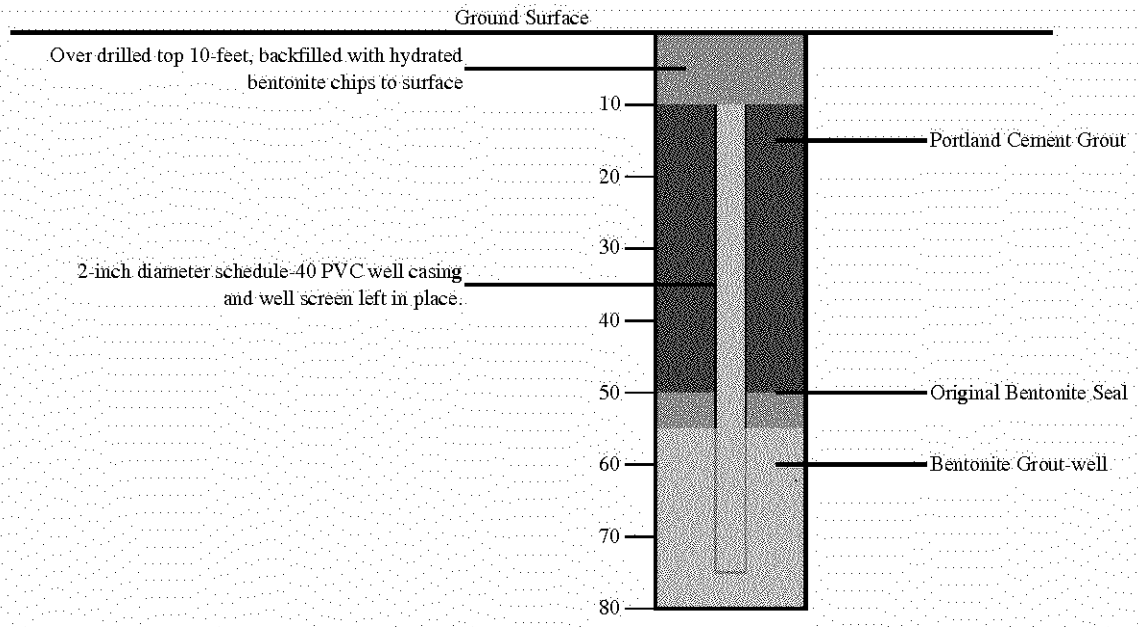
A. Shallow Wells:

These wells may either be removed by pulling the casing out of the ground, or plugged in-place using bentonite grout. If the well is plugged in-place, the casing must be plugged above the screen using a bentonite/cement grout (see grout placement guidelines), and the casing should be cut-off a minimum of 3 feet below the ground surface. If the well is pulled, care should be taken to compact the soils to avoid significant ground subsidence.

B. Deep Wells: Deep wells must be plugged using a bentonite/cement grout, which will fill the casing and annular space (see grout placement guidelines). The casing must be terminated 3 feet below the ground surface.

***1 Bag = 94 Lbs.**

Sketch:



COMMENTS: Measured depth to water and total depth. Calculated the volume of the well casing, well screen, and pore space of the filter pack (approximately 35 gallons). Pressure grouted the filter pack, well screen, and well casing with 35-gallons of bentonite grout using the pump on the drill rig which produces approximately 20 pounds of pressure per square inch (psi). Maintained 20 psi pressure for 5 minutes. Pumped 10 more gallons of bentonite grout at 20 psi and maintained pressure for 5 minutes. Over drilled top 10 feet of well casing and borehole with 12-inch diameter drill bit designed to stay centered on the well casing during advance. Backfilled top 10 feet of borehole with hydrated bentonite chips.