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Environmental Services, Inc.

September 30, 1999

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S. Mario Stavale
Program Manager
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4060 Lakewood Blvd., 6th Floor
Long Beach, CA 90808-1700

Subject: **Interim Progress Report, Parcel B Groundwater Monitoring**

Project: **Boeing C6 Facility, Los Angeles, California**

Dear Mr. Stavale:

This interim progress report has been prepared to summarize current groundwater quality beneath Parcel B as determined from the existing monitoring data. The latest available groundwater monitoring results for Parcel B are provided in the attached table. Parcel B monitoring well locations are shown in Figure 1.

History

Parcel B forms the western extent of the Boeing C-6 facility, and is bordered by industrial sites. The Capital Metals facility and the former Lockheed Martin Corporation (LMC) International Light Metals (ILM) facility are adjacent to Parcel B on the west. Parcel B has been used primarily for employee parking since 1952. No manufacturing or machining operations have occurred in Parcel B.

Data gathered during the RCRA Facility Investigation (RFI) of the LMC property indicates that off-site migration of LMC-derived constituents of concern (COCs) has occurred. The LMC site is hydraulically upgradient of Parcel B. Monitoring well DAC-P1, installed by Boeing Realty Company (BRC) at the LMC/BRC boundary has been used to evaluate the quality of shallow groundwater entering C6 from upgradient sources. Groundwater samples collected from DAC-P1 have consistently contained high levels of trichloroethene (TCE). The latest sampling data from December 1996 show that TCE at 15,000 ppb is present in groundwater at the border between LMC and BRC (K/J 1997). A review of sample data collected from DAC-P1 shows that concentrations of TCE in groundwater at the location remain high but are decreasing (K/J 1997). Groundwater samples collected from DAC-P1 are analyzed only for volatile organic compounds (VOCs).

Groundwater Investigation

An investigation to characterize and delineate the groundwater plume containing COCs migrating from the LMC property was proposed jointly by BRC and LMC in December 1998. LMC is responsible for funding the investigation and has escrowed sufficient capital to finance the remedial investigation. In addition, LMC is financially responsible for any necessary remediation if LMC-derived groundwater contamination is found beneath the C-6 facility.

As part of the groundwater investigation, eight monitoring wells, BL-1 through BL-8, were installed in March 1999 (Figure 1). Each well was installed in Parcel B within the shallow groundwater zone of the Bellflower aquiclude. The locations for these wells were based on known or suspected sources of contamination on the LMC property and the regional southeasterly flow of groundwater.

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Boundary wells BL-1 through BL-4 are located on BRC property near the western BRC fence line and are used to determine the quality of groundwater entering BRC property from upgradient sources. Wells BL-5 through BL-8 are used to evaluate the lateral and downgradient extent of LMC-derived COCs.

Groundwater samples obtained from wells BL-1 through BL-8 are submitted to a state-certified laboratory, and analyzed for COCs known to be present at both the LMC and BRC sites. Initial groundwater samples collected from wells BL-2 through BL-4 and BL-6 through BL-8 will be analyzed for:

- VOCs using EPA Method 8260
- Filtered and non-filtered Title 22 metals, including aluminum and total chromium, using EPA Method 6010
- Filtered and non-filtered hexavalent chromium using EPA Method 7196

Initial groundwater samples collected from wells BL-1 and BL-5 will be analyzed for:

- TPH-fuel fingerprint (TPH-ff) using modified EPA Method 8015
- VOCs using EPA Method 8260
- Filtered and non-filtered Title 22 metals, including aluminum and total chromium, using EPA Method 6010
- Filtered and non-filtered hexavalent chromium using EPA Method 7196

This data set will establish a broad information baseline that can be used to assess groundwater quality and, if needed, to assist in development a groundwater remediation program. Sample analysis may change if the initial phase of sampling do not indicate the presence of a particular class of analyte.

Groundwater Sample Results, BL-Series Wells

To date, two rounds of groundwater samples have been collected (in March 1999 and July 1999) from wells BL-1 through BL-8. Sample results are presented in the attached table.

The only compounds detected in BL-series wells above maximum contaminant levels (MCLs) are hexavalent chromium and cis-1,2-dichloroethene (cis-1,2-DCE).

Hexavalent chromium was detected in BL-6 at 167 μg/L in March 1999. The maximum contaminant level (MCL) for hexavalent chromium is 100 μg/L. The ILM RFI shows that an extensive hexavalent chromium plume covers the eastern portion of the LMC property and extends beyond the LMC property boundary (G&M 1996b). Well BL-6 is downgradient of a potential LMC-chromium source.

Cis-1,2-DCE was detected above MCLs at two locations (BL-1 and BL-5) during the July 1999 sampling event. The MCL for cis-1,2-DCE is 6 μg/L. Cis-1,2-DCE is a degradation product of TCE, and is typically found in groundwater in which TCE is or has been detected. TCE is the most frequently detected VOC in the shallow groundwater beneath the upgradient LMC property. An extensive TCE plume covers the eastern portion of the LMC property and extends beyond the LMC property boundary (G&M 1996b).

Groundwater Results, DAC-P1

The most recent groundwater data obtained from DAC-P1 is not yet available. The latest available data (from December 1996) indicates that two compounds were detected above MCLs: toluene and TCE. Toluene was detected in DAC-P1 at 610 μg/L while TCE was detected at 15,000 μg/L. The MCLs for toluene and TCE are 150 μg/L and 5 μg/L, respectively. It is expected that natural degradation processes may have significantly reduced the concentrations of these compounds in DAC-P1 over the last 3 years.

Conclusion

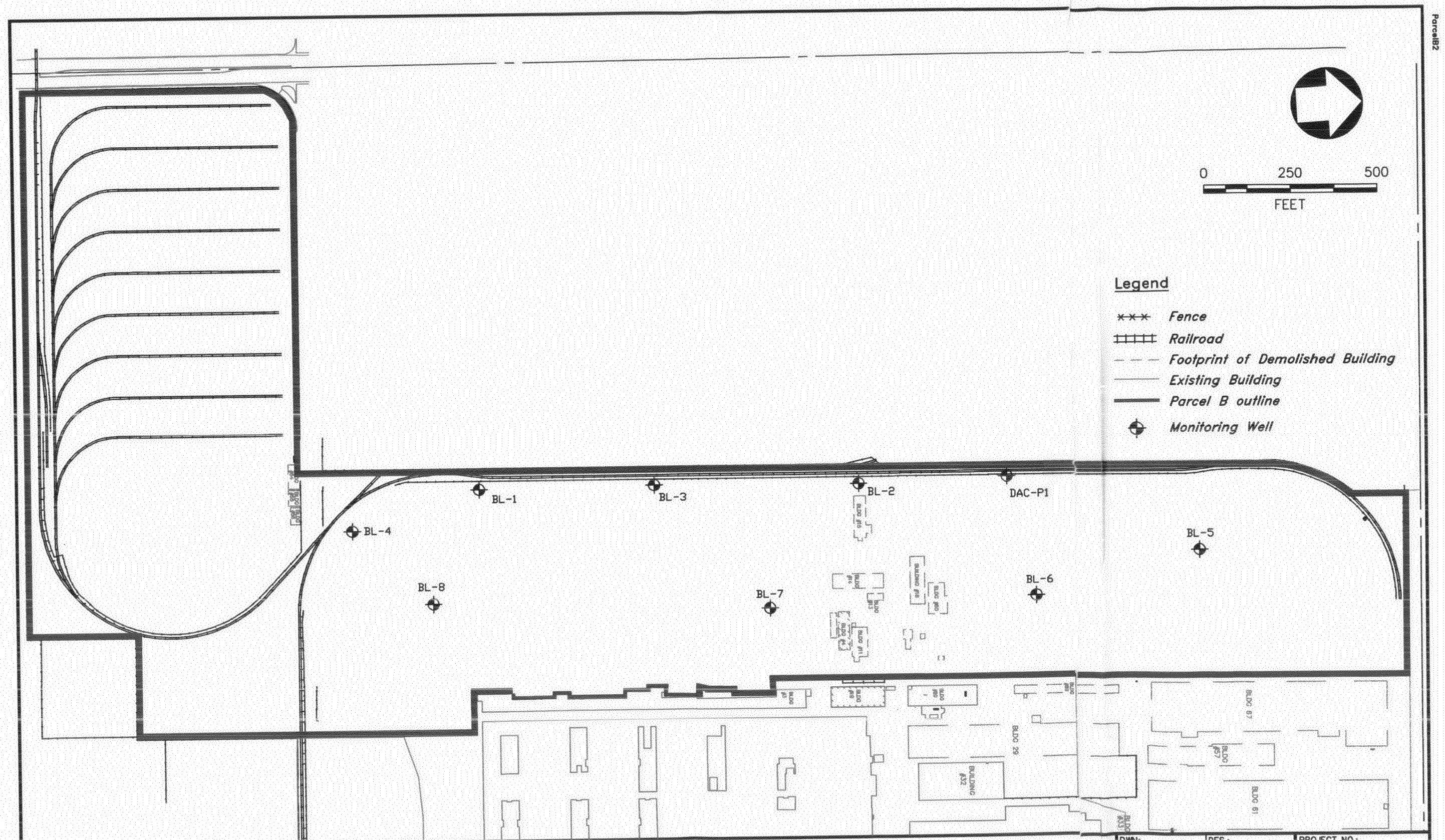
Although only two sets of groundwater data are available for the BL-series wells, it appears that the shallow Bellflower aquiclude beneath Parcel B appears may have been impacted by COCs migrating from the upgradient LMC facility. Hexavalent chromium was detected above MCLs in well BL-6 while cis-1,2-DCE was detected above MCLs in BL-1 and BL-5. Both hexavalent chromium and TCE are known to have migrated onto the western portion of the C6 facility from the LMC property. Cis-1,2-DCE is a degradation product of TCE.

The latest available data (December 1996) from DAC-P1 indicates that toluene and TCE may have impacted the shallow Bellflower aquiclude. Data from the most recent sampling of DAC-P1 is needed to determine whether an impact exists. Recent data from neighboring wells BL-2 and BL-6 indicates that toluene and TCE in these wells are either nondetect or below MCLs. It is expected that natural degradation processes may have significantly reduced the concentrations of these compounds in DAC-P1 over the last 3 years.

This progress report will be finalized as soon as the latest DAC-P1 data is available. If you have any questions or if I can be of further assistance, please feel free to contact me at (949) 852-9050.

Sincerely,

Jim Hutchison
Project Manager



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TITLE:
Monitoring Well Locations, Parcel B
Boeing C-6 Facility
Los Angeles, CA

DWN: JDL	DES.: JDL	PROJECT NO.: BOC6\PBbII
CHKD: JPO	APPD: JSB	FIGURE NO.: 1
DATE: 9/20/99	REV.: 2	

BOE-C6-0141819

SUMMARY OF DETECTIONS OF ORGANIC COMPOUNDS IN GROUNDWATER
Boeing Realty Company, Parcel B, C-6 Facility
Los Angeles, California

Well	Sample Date	Chloroform (ug/L)	1,1-DCE (ug/L)	TCE (ug/L)	Toluene (ug/L)	cis-1,2-DCE (ug/L)	Hexavalent Chromium (ug/L)
DAC-P1	10/9/89	ND	ND	17,000	ND	ND	NA
	6/17/92	10	ND	21,000	ND	13	NA
	9/23/92	54	4	28,000	ND	71	NA
	12/9/92	ND	ND	29,000	ND	ND	NA
	3/18/93	44	21	21,000	260	68	NA
	6/8/93	ND	ND	28,000	130	ND	NA
	11/19/93	52	ND	24,000	ND	81	NA
	2/24/94	47	ND	20,000	ND	89	NA
	6/13/94	46	ND	20,000	ND	92	NA
	9/9/94	ND	ND	18,000	ND	ND	NA
	12/22/94	ND	ND	11,000	ND	ND	NA
	3/14/95	ND	ND	21,000	ND	ND	NA
	6/13/95	ND	ND	18,000	ND	ND	NA
	9/7/95	33	12	13,000	53	89	NA
	12/16/95	45	120	20,000	680	130	NA
	3/4/96	ND	100	15,000	260	100	NA
	6/7/96	ND	190	13,000	490	95	NA
	9/19/96	ND	350	15,000	740	ND	NA
	12/19/96	ND	ND	15,000	610	ND	NA
BL-1	3/04/99	0.57	ND	ND	ND	15	4.1
	7/13/99	ND	ND	ND	ND	15	ND
BL-2	3/03/99	0.81	ND	ND	ND	ND	15
	7/14/99	ND	ND	ND	ND	ND	14
BL-3	3/03/99	3	3.8	2.1	ND	0.76	11
	7/15/99	ND	ND	ND	25	ND	NA
BL-4	3/02/99	ND	ND	ND	8.4	ND	4.3
	7/14/99	ND	ND	ND	ND	ND	10
BL-5	3/04/99	2.8	1.3	ND	ND	71	5.5
	7/13/99	1.4	0.79	ND	ND	110	ND
BL-6	3/01/99	11	ND	ND	0.6	15	167
	7/16/99	ND	ND	ND	ND	ND	NA
BL-7	3/02/99	0.67	ND	ND	5.2	ND	16
	7/14/99	0.6	ND	ND	ND	ND	26
BL-8	3/02/99	1.2	ND	ND	5	ND	14
	7/13/99	1	ND	ND	ND	ND	ND

Notes:
ND indicates constituent result was below detection limit.
NA indicates not analyzed.