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July 30, 2003

BROWN AND CALDWELL

Mr. Steven Hariri, P.E.
Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

12/22946-100

Subject: Groundwater Sampling Report - July 2003
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Dear Mr. Hariri:

On behalf of Jervis B. Webb Company of California (Webb of California), Brown and Caldwell is submitting this report for environmental activities completed at 5030 Firestone Boulevard and 9301 Rayo Avenue, South Gate, California (site) (Figure 1). This report summarizes the activities, including groundwater monitoring and sampling performed at the site, completed on June 30, 2003 and July 11, 2003.

BACKGROUND

Numerous subsurface investigations have been performed at the subject site since 1998. Erler and Kalinowski, Inc. (EKI) completed several investigations at the site between 1998 and 2001 that included nine CPT borings, 37 soil gas probe locations, 19 soil borings, nine PIPP groundwater samples, five groundwater monitoring wells, and collection and analysis of 78 soil samples. Additionally, EKI operated and maintained a soil vapor extraction (SVE) system at the site from March 2000 until October 2001 removing approximately 177 pounds of volatile organic compounds (VOCs) from the soil, primarily trichloroethylene (TCE).

IT Corporation advanced five soil borings to determine how effectively the SVE system had removed soil contamination. IT Corporation collected 40 additional soil samples, and analyzed them for VOCs. Subsequently, IT Corporation submitted a Soil Closure Report dated October 3, 2001 to the Los Angeles Regional Water Quality Control Board (RWQCB) and obtained soil closure for the site in a letter issued by the RWQCB dated January 23, 2002.

Quarterly groundwater sampling has been conducted at the site by EKI from March 1998 until June 2001. The RWQCB reduced sampling frequency from quarterly to semi-annually in a letter dated November 8, 2001. IT Corporation conducted the first semi-annual sampling event in January 2002. Consequent semi-annual sampling events were conducted by Brown and Caldwell on July 2, 2002 and January 10, 2003.

Brown and Caldwell performed the current groundwater sampling event on June 30, 2003 and July 11, 2003. Groundwater elevation measurements, groundwater quality data, and analytical results for the current and historic sampling events are provided in Tables 1 & 2 and Appendix A & B of this report.

COMPLETED SCOPE OF WORK

The scope of work performed during this reporting period included collection and analysis of water samples collected from groundwater monitoring wells located on and off-site (Figure 2). Water samples were collected using both a low-flow method and passive diffusion bags (PDBs) so that a comparison can be made regarding the duplicity of concentrations using these two methods. Groundwater sampling using PDBs was approved by the RWQCB in correspondence dated January 2002. All work was performed under the supervision of a California Registered Geologist. Work was performed under a site-specific health and safety plan (HASP) prepared by Brown and Caldwell.

GROUNDWATER SAMPLING

Passive Diffusion Bag Sampling

Brown and Caldwell personnel performed the groundwater monitoring and sampling event on June 30, 2003 and July 11, 2003. The June field activities included depth-to-water measurements, total well depth measurements, and the installation of PDBs in groundwater monitoring wells MW-1 through MW-5 (Figure 2). Prior to the installation of the PDBs, depth-to-water and total well depth were measured in each well to the nearest hundredth of a foot using an electronic water level indicator. The probe was decontaminated between wells with Alconox™ detergent solution and tap water rinse followed by a final rinse with deionized water. The surveyed north side of the top edge of each well was used as a measuring point reference.

The PDBs were provided by the laboratory, Columbia Analytical Services (Columbia), pre-filled with deionized water. The bags were suspended at the target depth in their respective wells (one bag per well). The target depths were at either the middle or bottom of the wells and were determined based on the highest concentrations reported during previous PDB groundwater sampling events conducted by IT and Brown and Caldwell. The PDBs remained in monitoring wells MW-1 through MW-5 for eleven days, thus allowing them to equilibrate with the surrounding groundwater in the wells.

On July 11, 2003 the PDBs were removed from each well. At the time of sampling, the PDBs were removed from the wells (MW-1 through MW-5) and groundwater samples were collected directly from the PDBs. The groundwater samples were containerized in pre-cleaned laboratory supplied bottles. A total of 5 groundwater samples were collected on July 11, 2003 from the PDBs. No duplicate sample was collected due to an insufficient amount of available sample water.

All PDB samples were labeled with the site location, sample identification number, date and time of collection, sampler's initials, and logged on a chain-of-custody form. One set of trip blank samples was also submitted to the laboratory for analysis with the collected PDB samples. All samples were stored in an ice-chilled cooler at approximately 4 degrees Celsius. The PDB groundwater samples were submitted to Columbia, a California certified laboratory, under Brown and Caldwell chain-of-custody protocols.

PDB groundwater samples were analyzed for VOCs using United States Environmental Protection Agency (USEPA) method 8260B. The laboratory analytical results of the groundwater samples are provided in Appendix A of this report.

Low-flow Sampling

Immediately after the PDBs were removed and sampled on July 11, 2003, low-flow groundwater purging and sampling was performed. Prior to purging and sampling, depth-to-water and total well depth were measured in each well to the nearest hundredth of a foot using an electronic water level indicator. The probe was decontaminated between uses with Alconox™ detergent solution and tap water rinse followed by a final rinse with deionized water. The surveyed north side of the top edge of each well was used as a measuring point reference.

Each well was purged using a downhole pump, following low-flow sampling methodology, until the field parameters (pH, temperature, and conductivity) stabilized within ten percent of the last three readings. This ensures that the collected water sample is representative of the formation groundwater. The pump intake was placed at approximately the same depth as the PDB. Depth to groundwater, field groundwater quality parameters, and other pertinent information were recorded on Well Monitoring and Purging Data Forms, which are presented in Appendix B.

During the sampling, wells were purged using a submersible pump. Purged groundwater from the wells (MW-1 through MW-5) and water used for equipment decontamination (decon) (approximately 30 gallons) was temporarily stored in a labeled, 55-gallon drum and left on-site. The drum containing the groundwater and decon water will be removed from the site and transported to a California licensed disposal site by Belshire Environmental Services, Inc. A copy of the manifest will be provided under separate cover. Used personal protection equipment (PPE) was double bagged and placed in a municipal refuse dumpster.

Following purging, groundwater samples were collected directly from the pump discharge hose and containerized in pre-cleaned laboratory supplied bottles. A dedicated pump discharge hose was used at each well to minimize the possibility of cross-contamination. All samples were labeled with the site location, sample identification number, date and time of collection, sampler's initials, and logged on a chain-of-custody form. For laboratory quality control purposes, one duplicate sample ('MW-1 DUP') from MW-1 was collected during the groundwater-sampling event. One trip blank sample was also submitted to the laboratory with the collected

samples. All samples were stored in an ice-chilled cooler at approximately 4 degrees Celsius. The groundwater samples were submitted to Chemical & Environmental Laboratories, Inc. (CEL), a California certified laboratory, under Brown and Caldwell chain-of-custody protocols.

Groundwater samples collected using low flow methodology were analyzed for VOCs using USEPA method 8260B, arsenic, barium, total chromium, molybdenum, and zinc using USEPA method 6010B, and hexavalent chromium using USEPA method 7196. The sample water collected for the metals analysis was field filtered at the time of collection.

RESULTS

Site Hydrogeology

Groundwater elevations within each well (MW-1 through MW-5) were monitored on June 30, 2003 and July 11, 2003. Groundwater elevations ranged from 56.56 feet above mean sea level (ft. msl) in well MW-4 to 59.57 ft. msl in well MW-2. The water surface elevations recorded during the June/July 2003 sampling event indicate the potentiometric surface has risen in elevation since the December 2002/January 2003 semi-annual event, with an average increase of 0.28 feet. The water surface elevation in all five wells has increased since January 2003 with a maximum increase of 0.44 feet observed in well MW-3.

The direction of groundwater flow on June 30, 2003 and July 11, 2003 was southeasterly, which is consistent with previous sampling events. Figure 3 depicts the groundwater potentiometric surface on July 11, 2003. The gradient averages approximately 0.63 vertical feet per 100 lateral feet (0.0063 ft/ft). Depth to groundwater and groundwater elevations for the monitoring wells are presented in Table 1.

Groundwater Sampling

VOCs. Groundwater samples collected from all five wells using PDBs and low-flow methods (MW-1 through MW-5) were analyzed for VOCs. Current and historical analytical data from previous sampling events are presented in Table 2. Detected concentrations of trichloroethylene (TCE) from the current event for both methods are similar to those reported during previous events and ranged from 0.54 micrograms per liter (µg/l) in MW-4 to 25,000 µg/l in MW-1. The concentrations reported for the samples collected from the PDBs are consistent with prior PDB and are generally higher than those from the low-flow samples. Overall, the VOC concentrations from each well (using PDB and low flow) are generally consistent.

Figure 4 represents a map of TCE concentrations for both PDBs and low-flow methods from the July 2003 sampling event. Based on this data, the TCE plume size and shape have remained stable since groundwater sampling commenced in 1998. Various chlorinated VOC degradation compounds were detected in the five wells, including cis-1,2-DCE (high of 340 µg/l in MW-5), trans-1,2-DCE (high of 59.3 µg/l

in MW-1), and 1,1-DCE (high of 72.7 μg/l in MW-1). Benzene was detected at 3.4 μg/l in the PDB sample collected from MW-4.

Metals. Groundwater samples collected using the low-flow method during the July 2003 event were also analyzed for dissolved metals. A summary of the metal analytical results is provided in Table 3. Dissolved metals detected during this sampling event include arsenic (high of 0.214 milligrams per liter (mg/l) in MW-1), barium (high of 0.023 mg/l in MW-5), molybdenum (high of 0.945 mg/l in MW-2), and zinc (high of 0.223 mg/l in MW-4). Hexavalent chromium and total chromium were not detected in any well. Arsenic has been measured in soils previously at the site, and has been determined to be naturally occurring. These arsenic levels are within normal background levels (naturally occurring) for Southern California soils according to a background trace metals report published by the California Department of Toxic Substances Control (1992) and are consistent with those levels found previously at the Rayo portion of the site. The arsenic levels are also consistent with background arsenic levels observed locally, including the nearby Cooper Drum Company site (9316 South Atlantic Avenue, South Gate (USEPA 1999)) and the Proposed Park Avenue Primary Center (SE corner of Florence Avenue and Wilcox Avenue in Cudahy (IT 2001)). This data supports the arsenic concentrations in groundwater to be part of the natural system at this site.

A summary of the VOC and metal analytical results from the June 2003/July 2003 sampling event is presented in Tables 2 & 3, respectively. A copy of the laboratory analytical report and chain-of-custody forms are presented as Attachment A.

SUMMARY

The following provides a summary of results based on data collected during the July 2003 sampling event:

- Five existing groundwater monitoring wells were sampled and analyzed for VOCs using PDBs. The same wells were sampled and analyzed for VOCs and metals using a low-flow method so that a comparison of results can be made for these two sampling methods.
- Groundwater surface elevations have increased an average of 0.28 feet since the last sampling event.
- Groundwater flow direction is to the southeast, which is consistent with previous sampling events.
- The TCE plume size and shape remains consistent with previous sampling events, suggesting the plume is stable.
- VOC and metal concentrations from the July 2003 event are similar to previous events, with the highest detected concentrations observed in well MW-1.
- Hexavalent chromium was not detected in any well.

FUTURE SAMPLING

Data from the July 2003 sampling event and previous sampling events suggests the plume has remained stable over several events. Metal concentrations from the July 2003 sampling event are consistent with all previously reported metal concentrations since March 2001 and are considered to be equivalent to background concentrations. Based on the data collected to date, Webb of California proposes that groundwater sampling be conducted on an annual basis (beginning July 2004) and that the water samples be collected using PDBs and analyzed for VOCs only. If the RWQCB does not agree with this change in the sampling schedule, please contact the undersigned at (714) 689-4846 so that a meeting can be arranged to discuss this site. Otherwise, please provide correspondence that approves our request for the modification in the sampling. Webb of California appreciates a response by November 1, 2003.

Very truly yours,

BROWN AND CALDWELL

Reinhard Ruhmke, R.G., C.HG.
Principal Geologist

REGISTERED GEOLOGIST
REINHARD M. RUHMKE
Exp 8/03
No. 6910
STATE OF CALIFORNIA

cc: Michael Farley – Jervis B. Webb Company
Project file

Encl. Figures 1-4
Tables 1, 2 and 3
Appendix A: Laboratory Analytical Reports and Chain of Custody Forms
Appendix B: Well Monitoring and Purging Data Forms

REFERENCES

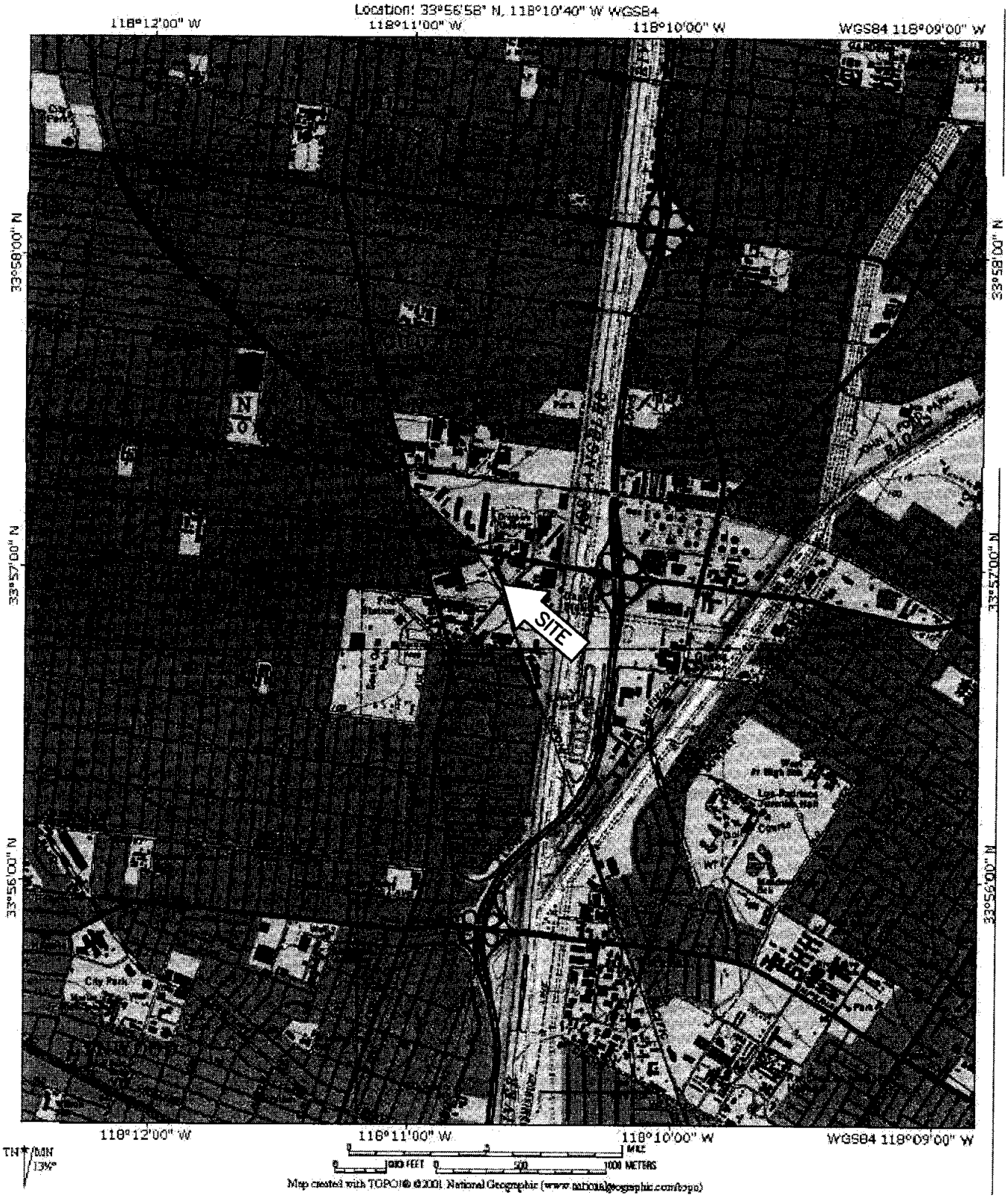
Brown and Caldwell, 2003, Semi-Annual Groundwater Sampling Report – January 2003, 5030 Firestone Boulevard and 9301 Rayo Avenue, South Gate, California, Consultant Report dated January 22, 2003.

Brown and Caldwell, 2002, Semi-Annual Groundwater Sampling Report – July 2002, 5030 Firestone Boulevard and 9301 Rayo Avenue, South Gate, California, Consultant Report dated July 30, 2003.

The IT Group 2002, IT Corporation, Semi-Annual Groundwater Sampling Report – First Semester 2002, Jervis B. Webb Company of California, South Gate, California, Consultant Report dated February 28, 2002.

The IT Group 2001, IT Corporation, Soil Closure Report, Jervis B. Webb Company of California, South Gate, California, SLIC File No. 744, Consultant Report dated October 3, 2001.

FIGURES



DATE	PROJECT NUMBER	
JAN 2003	22946	**SITE LOCATION**
BROWN AND CALDWELL IRVINE, CALIFORNIA	PROJECT LOCATION	JERVIS B. WEBB COMPANY OF CALIFORNIA 5030 FIRESTONE BOULEVARD/9301 RAYO AVENUE SOUTH GATE, CALIFORNIA	FIGURE 1

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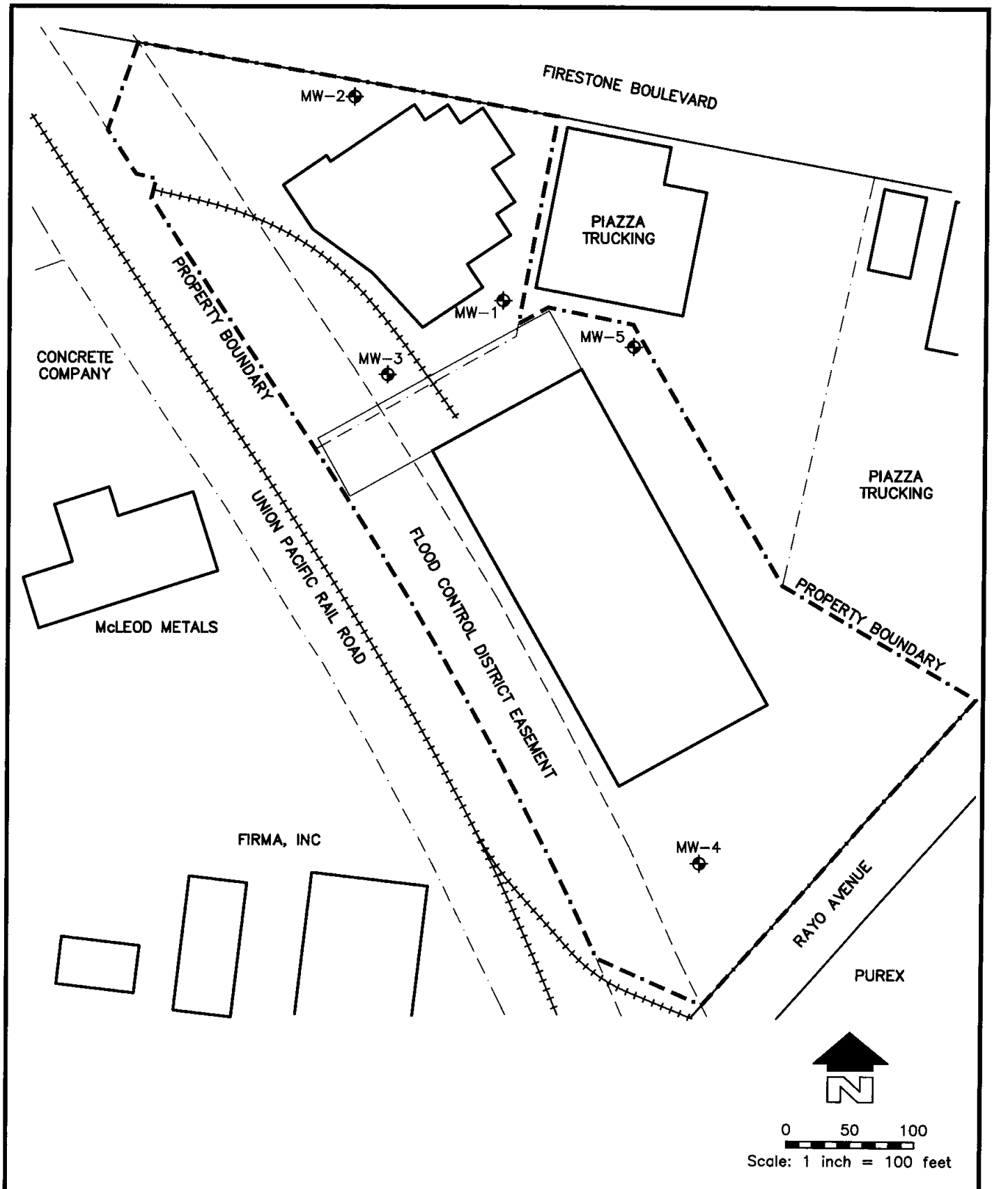

DATE	PROJECT NUMBER	
JAN 2003	22946	SITE PLAN
BROWN AND CALDWELL IRVINE, CALIFORNIA	PROJECT LOCATION	JERVIS B. WEBB COMPANY OF CALIFORNIA 5030 FIRESTONE BOULEVARD/9301 RAYO AVENUE SOUTH GATE, CALIFORNIA — FIGURE 2

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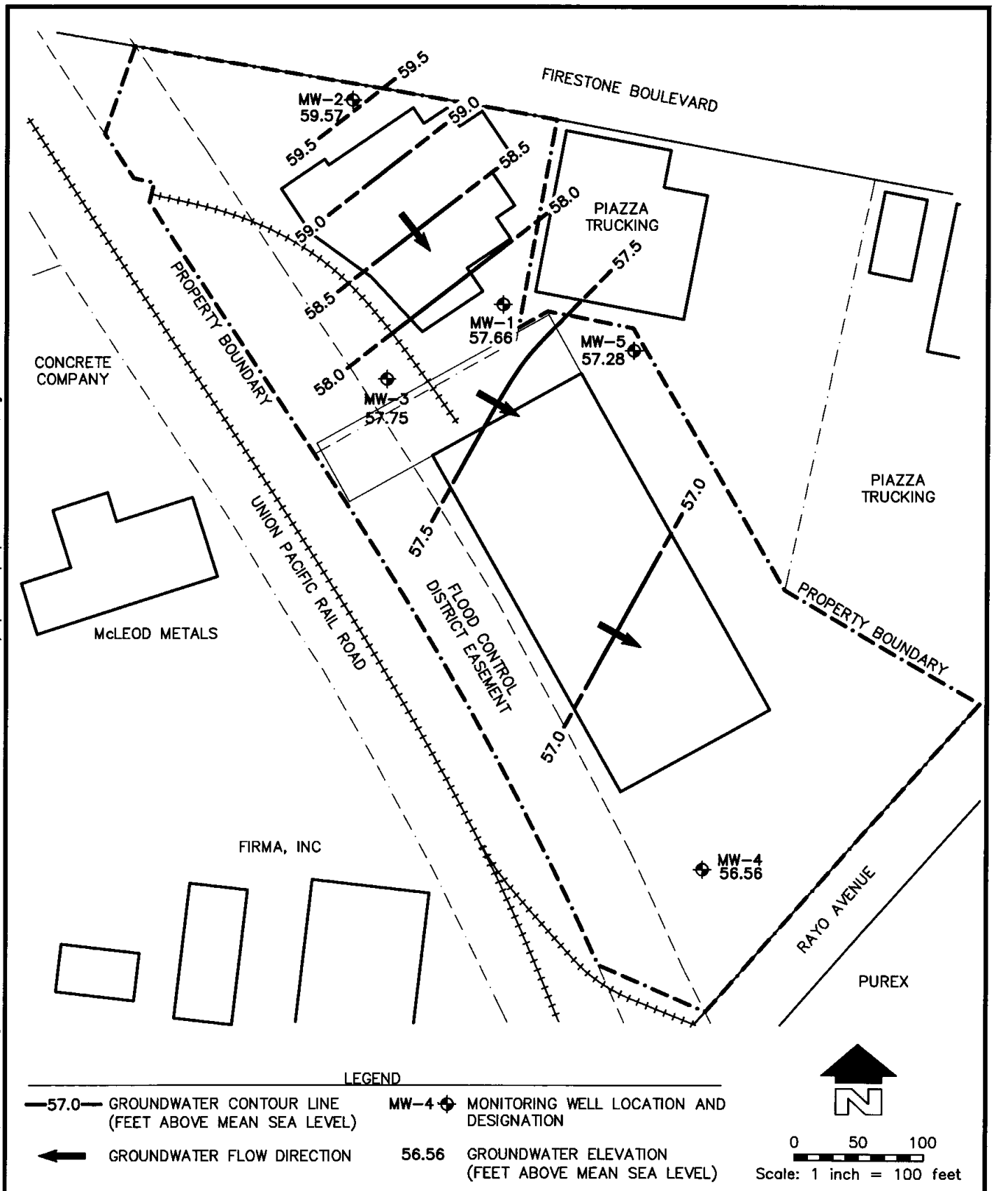

DATE	PROJECT NUMBER	
JULY 2002	22946	**GROUNDWATER CONTOURS JULY 2003**
BROWN AND CALDWELL IRVINE, CALIFORNIA	PROJECT LOCATION	JERVIS B. WEBB COMPANY OF CALIFORNIA 5030 FIRESTONE BOULEVARD/9301 RAYO AVENUE SOUTH GATE, CALIFORNIA
		FIGURE 3

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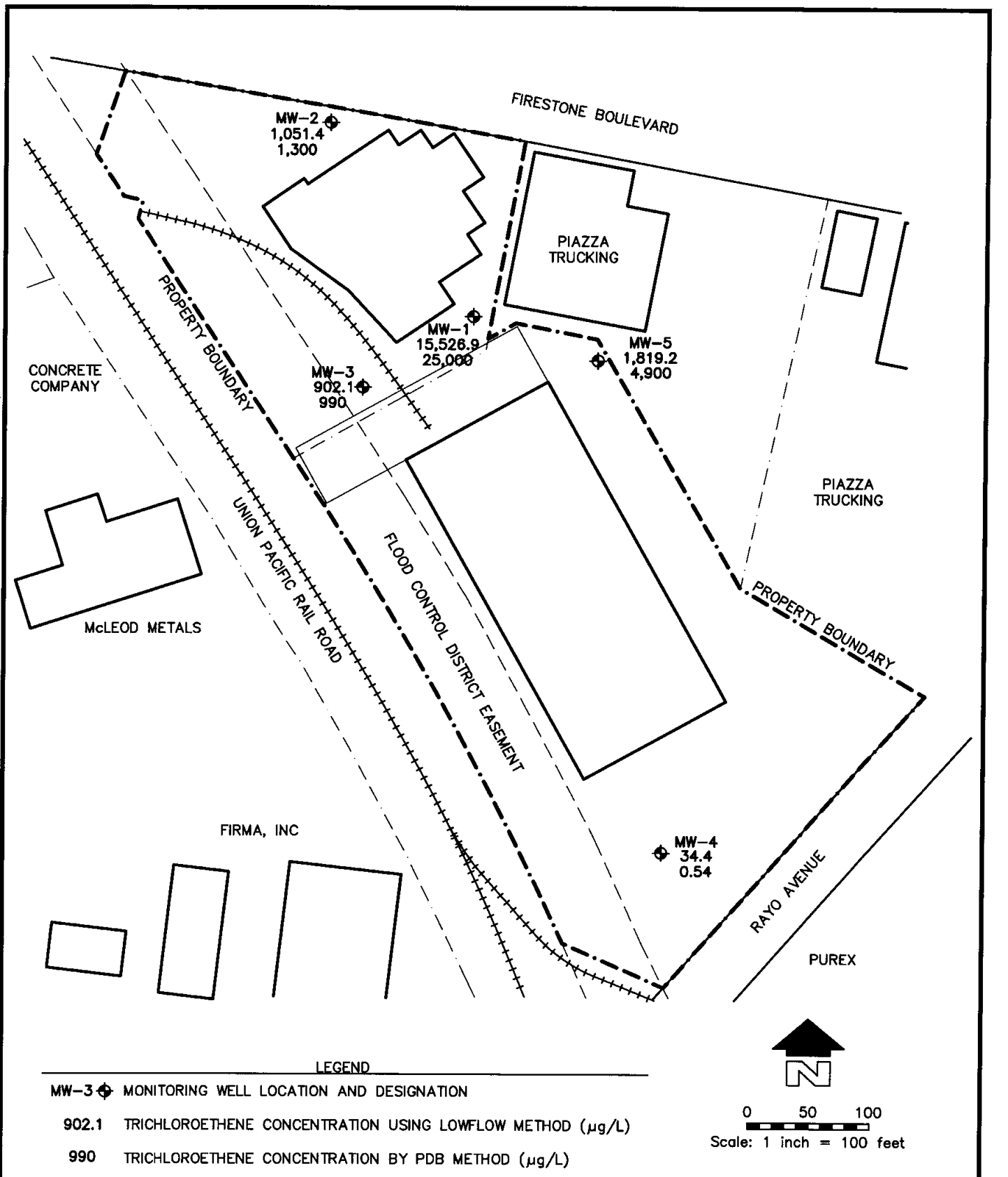

LEGEND

MW-3 ⊕ MONITORING WELL LOCATION AND DESIGNATION

902.1 TRICHLOROETHENE CONCENTRATION USING LOWFLOW METHOD (μg/L)

990 TRICHLOROETHENE CONCENTRATION BY PDB METHOD (μg/L)

DATE	PROJECT NUMBER	TCE CONCENTRATION MAP JULY 2003	
JULY 2002	22946		
BROWN AND CALDWELL IRVINE, CALIFORNIA		PROJECT LOCATION: JERVIS B. WEBB COMPANY OF CALIFORNIA, 5030 FIRESTONE BOULEVARD/9301 RAYO AVENUE, SOUTH GATE, CALIFORNIA	FIGURE 4

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TABLES

Table 1.
Groundwater Elevations in Monitoring Wells
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Date	Elevation of Top-of-Casing (ft. msl)	Depth to Water (ft bgs)	Elevation of Water Surface (ft msl)	Comments
MW-1	02/27/98	106.09	44.79	61.30	
	03/02/98	106.09	44.82	61.27	
	03/04/98	106.09	44.58	61.51	
	04/08/98	106.09	44.57	61.52	
	05/20/98	106.09	43.99	62.10	
	10/08/98	106.09	43.38	62.71	
	11/05/98	106.09	43.14	62.95	
	12/21/98	106.09	43.37	62.72	
	01/19/99	106.09	43.26	62.83	
	02/03/99	106.09	42.98	63.11	
	03/30/99	106.09	43.22	62.87	
	06/01/99	106.09	43.48	62.61	
	07/29/99	106.09	43.82	62.27	
	09/01/99	106.09	43.76	62.33	
	09/23/99	106.09	44.03	62.06	
	10/18/99	106.09	44.43	61.66	
	12/08/99	106.09	44.55	61.54	
	01/27/00	106.09	44.40	61.69	
	02/28/00	106.09	44.34	61.75	
	03/15/00	106.09	44.06	62.03	
	04/13/00	106.09	44.73	61.36	
	05/18/00	106.09	44.58	61.51	
	06/20/00	106.09	44.60	61.49	
	07/13/00	106.09	45.17	60.92	
	08/17/00	106.09	45.30	60.79	
	09/07/00	106.09	45.15	60.94	
	10/26/00	106.09	45.87	60.22	
	11/21/00	106.09	45.60	60.49	
	12/05/00	106.09	45.72	60.37	
	01/04/01	106.09	45.67	60.42	
	02/22/01	106.09	45.43	60.66	
	03/08/01	106.09	45.09	61.00	
	04/24/01	106.09	45.75	60.34	
	06/05/01	106.09	45.52	60.57	
	01/14/02	106.09	46.02	60.07	
	07/02/02	106.09	46.95	59.14	
	12/27/02	106.09	48.18	57.91	
	06/30/03	106.09	48.45	57.64	
	07/11/03	106.09	48.43	57.66	

Table 1 (Cont'd).
Groundwater Elevations in Monitoring Wells
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Date	Elevation of Top-of-Casing (ft. msl)	Depth to Water (ft bgs)	Elevation of Water Surface (ft msl)	Comments
MW-2	02/27/98	106.65	44.02	62.63	
	03/02/98	106.65	44.06	62.59	
	03/04/98	106.65	44.13	62.52	
	04/08/98	106.65	NR		Truck parked on well
	05/20/98	106.65	43.51	63.14	
	10/08/98	106.65	42.84	63.81	
	11/05/98	106.65	42.64	64.01	
	12/21/98	106.65	42.69	63.96	
	01/19/99	106.65	42.66	63.99	
	02/03/99	106.65	42.55	64.10	
	03/30/99	106.65	42.63	64.02	
	06/01/99	106.65	42.91	63.74	
	07/29/99	106.65	43.13	63.52	
	09/01/99	106.65	43.14	63.51	
	09/23/99	106.65	43.35	63.30	
	10/18/99	106.65	43.60	63.05	
	12/08/99	106.65	43.62	63.03	
	01/27/00	106.65	43.86	62.79	
	02/28/00	106.65	43.86	62.79	
	03/15/00	106.65	43.62	63.03	
	04/13/00	106.65	43.92	62.73	
	05/18/00	106.65	43.50	63.15	
	06/20/00	106.65	43.48	63.17	
	07/13/00	106.65	43.29	63.36	
	08/17/00	106.65	43.38	63.27	
	09/07/00	106.65	44.30	62.35	
	10/26/00	106.65	44.74	61.91	
	11/21/00	106.65	44.52	62.13	
	12/05/00	106.65	44.51	62.14	
	01/04/01	106.65	44.55	62.10	
	02/22/01	106.65	43.91	62.74	
	03/08/01	106.65	43.25	63.40	
	04/24/01	106.65	44.64	62.01	
	06/05/01	106.65	44.50	62.15	
	01/14/02	106.65	44.90	61.75	
	07/02/02	106.65	45.70	60.95	
	12/27/02	106.65	46.86	59.79	
	06/30/03	106.65	47.83	58.82	
	07/11/03	106.65	47.08	59.57	

Table 1 (Cont'd).
Groundwater Elevations in Monitoring Wells
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Date	Elevation of Top-of-Casing (ft. msl)	Depth to Water (ft bgs)	Elevation of Water Surface (ft msl)	Comments
MW-3	02/27/98	105.87	44.55	61.32	
	03/02/98	105.87	44.56	61.31	
	03/04/98	105.87	44.40	61.47	
	04/08/98	105.87	44.39	61.48	
	05/20/98	105.87	43.80	62.07	
	10/08/98	105.87	43.26	62.61	
	11/05/98	105.87	43.60	62.27	
	12/21/98	105.87	43.33	62.54	
	01/19/99	105.87	43.18	62.69	
	02/03/99	105.87	42.97	62.90	
	03/30/99	105.87	43.19	62.68	
	06/01/99	105.87	43.58	62.29	
	07/29/99	105.87	43.85	62.02	
	09/01/99	105.87	43.90	61.97	
	09/23/99	105.87	44.10	61.77	
	10/18/99	105.87	44.37	61.50	
	12/08/99	105.87	44.64	61.23	
	01/27/00	105.87	44.69	61.18	
	02/28/00	105.87	44.75	61.12	
	03/15/00	105.87	44.41	61.46	
	04/13/00	105.87	44.86	61.01	
	05/18/00	105.87	44.94	60.93	
	06/20/00	105.87	44.88	60.99	
	07/13/00	105.87	45.25	60.62	
	08/17/00	105.87	45.06	60.81	
	09/07/00	105.87	44.83	61.04	
	10/26/00	105.87	45.94	59.93	
	11/21/00	105.87	46.00	59.87	
	12/05/00	105.87	45.77	60.10	
	01/04/01	105.87	45.89	59.98	
	02/22/01	105.87	45.53	60.34	
	03/08/01	105.87	45.21	60.66	
	04/24/01	105.87	45.72	60.15	
	06/05/01	105.87	45.74	60.13	
	01/14/02	105.87	45.13	60.74	
	07/02/02	105.87	45.82	60.05	
	12/27/02	105.87	47.68	58.19	
	06/30/03	105.87	48.15	57.72	
	07/11/03	105.87	48.12	57.75	

Table 1 (Cont'd).
Groundwater Elevations in Monitoring Wells
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Date	Elevation of Top-of-Casing (ft. msl)	Depth to Water (ft bgs)	Elevation of Water Surface (ft msl)	Comments
MW-4	11/03/98	104.72	42.77	61.93	
	11/05/98	104.72	42.64	62.08	
	12/21/98	104.72	42.93	61.79	
	01/19/99	104.72	42.80	61.92	
	02/03/99	104.72	42.63	62.09	
	03/30/99	104.72	42.89	61.83	
	06/01/99	104.72	43.28	61.44	
	07/29/99	104.72	43.63	61.09	
	09/01/99	104.72	43.70	61.02	
	09/23/99	104.72	43.96	60.76	
	10/18/99	104.72	44.22	60.5	
	12/08/99	104.72	44.48	60.24	
	01/27/00	104.72	44.70	60.02	
	02/28/00	104.72	NR		Truck Parked on well
	03/15/00	104.72	44.37	60.35	
	04/13/00	104.72	NR		Truck Parked on well
	05/18/00	104.72	44.81	59.91	
	06/20/00	104.72	44.94	59.78	
	07/13/00	104.72	45.10	59.62	
	08/17/00	104.72	45.36	59.36	
	09/07/00	104.72	45.31	59.41	
	10/26/00	104.72	45.89	58.83	
	11/21/00	104.72	45.86	58.86	
	12/05/00	104.72	45.71	59.01	
	01/04/01	104.72	45.79	58.93	
	02/22/01	104.72	45.49	59.23	
	03/08/01	104.72	45.62	59.10	
	04/24/01	104.72	45.68	59.04	
	06/05/01	104.72	45.80	58.92	
	01/14/01	104.72	46.23	58.49	
	07/02/02	104.72	46.94	57.78	
	12/27/02	104.72	48.03	56.69	
	06/30/03	104.72	48.13	56.59	
	07/11/03	104.72	48.16	56.56	

Table 1 (Cont'd).
Groundwater Elevations in Monitoring Wells
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Date	Elevation of Top-of-Casing (ft. msl)	Depth to Water (ft bgs)	Elevation of Water Surface (ft msl)	Comments
MW-5	11/03/98	106.13	43.32	62.81	
	11/05/98	106.13	43.30	62.83	
	12/21/98	106.13	43.58	62.55	
	01/19/99	106.13	43.46	62.67	
	02/03/99	106.13	43.20	62.93	
	03/30/99	106.13	43.49	62.64	
	06/01/99	106.13	43.88	62.25	
	07/29/99	106.13	44.19	61.94	
	09/01/99	106.13	44.22	61.91	
	09/23/99	106.13	44.48	61.65	
	10/18/99	106.13	44.72	61.41	
	12/08/99	106.13	44.98	61.15	
	01/27/00	106.13	45.17	60.96	
	02/28/00	106.13	45.15	60.98	
	03/15/00	106.13	44.87	61.26	
	04/13/00	106.13	45.22	60.91	
	05/18/00	106.13	45.29	60.84	
	06/20/00	106.13	45.30	60.83	
	07/13/00	106.13	45.63	60.50	
	08/17/00	106.13	45.85	60.28	
	09/07/00	106.13	45.69	60.44	
	10/26/00	106.13	46.35	59.78	
	11/21/00	106.13	46.33	59.80	
	12/05/00	106.13	46.16	59.97	
	01/04/01	106.13	46.26	59.87	
	02/22/01	106.13	46.00	60.13	
	03/08/01	106.13	45.95	60.18	
	04/24/01	106.13	46.19	59.94	
	06/05/01	106.13	46.30	59.83	
	01/14/01	106.13	46.73	59.40	
	07/02/02	106.13	47.41	58.72	
	12/27/02	106.13	48.50	57.63	
	06/30/03	106.13	48.63	57.50	
	07/11/03	106.13	48.85	57.28	

NOTES

ft msl = feet above mean sea level
ft bgs = feet below ground surface
NR = Not Recorded
= Not Applicable

1. Monitoring well northing and easting coordinates and top-of-casting elevations for wells MW-1, MW-2, and MW-3 were surveyed on 6 March 1998 byRattray & Associates, Inc.
2. Monitoring well northing and easting coordinates and top-of-casting elevations for wells MW-4 and MW-5 were surveyed on 21 December 1998 by Rattray & Associates, Inc.

Table 2.
Results of VOCs Detected in Groundwater Samples
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Sample Number	Sample Date	Analyte Concentration (µ/L)								
			Benzene	Toluene	1,1-DCA	1,1-DCE	1,2-DCA	c-1,2-DCE	t-1,2-DCE	PCE	TCE
MW-1	MW-1	03/04/98	<100	<100	<100	220	<100	130	<100	140	24,000
	MW-1-DUP	03/04/98	<100	<100	<100	210	<100	150	<100	160	25,000
	MW-1	05/20/98	<125	<125	<125	160	<125	130	<125	<125	24,000
	MW-1	11/05/98	<125	<125	<125	140	<125	160	<125	170	28,000
	MW-1	02/03/99	<125	<125	<125	130	<125	160	<125	160	27,000
	MW-1	06/01/99	<100	<100	<100	140	<100	190	<100	160	28,000
	MW-1	09/01/99	<100	<100	140	220	<100	200	<100	190	32,000
	MW-1	12/08/99	<250	<250	<250	<250	<250	<250	<250	<250	30,000
	MW-1-A[3]	12/08/99	<100	<100	110	150	<100	200	<100	160	33,000
	MW-1	03/15/00	<100	<100	<100	160	<100	230	<100	150	30,000
	MW-1	06/20/00	<100	<100	<100	<100	<100	<100	<100	<100	24,000
	MW-1	09/07/00	<100	<100	<100	<100	<100	<100	<100	<100	21,000
	MW-1	12/05/00	<100	<100	<100	<100	<100	<100	<100	<100	30,000
	MW-1	03/08/01	<100	<100	<100	<100	<100	<100	<100	<100	23,000
	MW-1	06/05/01	<125	<125	<125	<125	<125	<125	<125	150	31,000
	MW-1	01/17/02	<200	<200	49J	47J	<200	520J	<200	65J	15,000
	MW-1 (PDB-1A)	01/17/02	<200	<200	62J	120J	<200	150J	<200	61J	20,000
	MW-1 (PDB-1B)	01/17/02	<200	<200	64J	120J	<200	150J	<200	84J	19,000
	MW-1	07/02/02	<10	<20	48	71	<10	140	<20	72	15,000
	MW-1-69'	01/10/03	<250	<250	<250	<250	<250	<250	<250	<250	24,000
	MW-1-69'-D	01/10/03	<250	<250	<250	<250	<250	<250	<250	<250	24,000
	MW-1	07/11/03	<5	<5	57.9	72.2	<5	133.7	59.3	48.5	15,526.9
	MW-1 DUP	07/11/03	<5	<5	59.6	72.7	<5	132.9	54	48.9	14,253.3
	MW-1 (PDB-1B)	07/11/03	<250	<250	<250	<250	<250	<250	<250	<250	25,000
MW-2	MW-2	03/04/98	<10	<10	13	34	<10	65	<10	<10	2,700
	MW-2	05/20/98	<10	<10	14	38	<10	68	<10	<10	3,000
	MW-2	11/05/98	<10	<10	13	36	<10	68	<10	<10	3,200
	MW-2	02/03/99	<10	<10	13	36	<10	70	<10	<10	3,200
	MW-2	06/01/99	<10	<10	12	34	<10	68	<10	<10	2,800
	MW-2	09/01/99	<10	<10	16	49	<10	72	<10	<10	3,100
	MW-2	12/08/99	<13	<13	<13	<13	<13	57	<13	<13	2,400
	MW-2-A[3]	12/08/99	<10	<10	12	22	<10	63	<10	<10	2,600
	MW-2	03/15/00	<10	<10	<10	<10	<10	74	<10	<10	2,800
	MW-2	06/20/00	<10	<10	<10	<10	<10	46	<10	<10	2,000
	MW-2	09/07/00	<10	<10	<10	<10	<10	42	<10	<10	1,800
	MW-2	12/05/00	<10	<10	<10	<10	<10	50	<10	<10	2,300
	MW-2	03/08/01	<10	<10	<10	<10	<10	44	<10	<10	1,800
	MW-2-DUP	03/08/01	<10	<10	<10	<10	<10	42	<10	<10	1,600
	MW-2	06/05/01	<10	<10	<10	<10	<10	47	<10	<10	2,300
	MW-2	01/17/02	<50	<50	<50	25J	<50	59J	<50	<50	2,000
	MW-2 (PDB-2A)	01/17/02	<50	<50	<50	32J	<50	46J	<50	<50	1,900
	MW-2 (PDB-2B)	01/17/02	<50	<50	<50	38J	<50	52	<50	<50	2,300
	MW-2	07/02/02	<2.5	<5	<5	20	<2.5	50	<5	<5	1,700
	MW-2-53'	01/10/03	<10	<10	<10	20	<10	46	<10	<10	1,600
	MW-2	07/11/03	<2.5	<2.5	<2.5	26	<2.5	42.7	<2.5	<2.5	1,051.4
	MW-2 (PDB-2A)	07/11/03	<10	<10	<10	20	<10	44	<10	<10	1,300

Table 2 (Cont'd)
Results of VOCs Detected in Groundwater Samples
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Sample Number	Sample Date	Analyte Concentration (µ/L)								
			Benzene	Toluene	1,1-DCA	1,1-DCE	1,2-DCA	c-1,2-DCE	t-1,2-DCE	PCE	TCE
MW-3	MW-3	03/04/98	<10	13	14	82	<10	200	<10	<10	2,800
	MW-3	05/20/98	<10	<10	13	58	<10	230	15	<10	2,800
	MW-3	11/05/98	<10	<10	11	66	<10	240	18	<10	2,300
	MW-3	02/03/99	<10	<10	11	64	<10	220	18	<10	2,000
	MW-3	06/01/99	<10	<10	11	66	<10	240	18	<10	1,900
	MW-3	09/01/99	<10	<10	13	80	<10	270	20	<10	2,600
	MW-3	12/08/99	<13	<13	<13	<13	<13	220	<13	<13	2,500
	MW-3-A[3]	12/08/99	<10	<10	13	55	<10	240	19	<10	2,900
	MW-3	03/15/00	<10	<10	11	61	<10	300	20	<10	3,100
	MW-3	06/20/00	<10	<10	10	<10	<10	170	14	<10	1,900
	MW-3-DUP	06/20/00	<10	<10	11	<10	<10	200	16	<10	2,100
	MW-3	09/07/00	<10	<10	<10	<10	<10	160	<10	<10	1,700
	MW-3-DUP	09/07/00	<10	<10	<10	<10	<10	160	<10	<10	1,700
	MW-3	12/05/00	<10	<10	<10	<10	<10	200	<10	<10	2,,400
	MW-3-DUP	12/05/00	<10	<10	<10	<10	<10	210	<10	<10	2,500
	MW-3	03/08/01	<10	<10	<10	55	<10	200	<10	<10	1,700
	MW-3	06/05/01	<10	<10	<10	<10	<10	210	<10	<10	2,300
	MW-3	01/17/02	18J	<50	<50	40J	<50	130	14J	<50	1,200
	MW-3 (PDB-3A)	01/17/02	<50	<50	<50	18J	<50	140	15J	<50	1,700
	MW-3 (PDB-3A)	01/17/02	13J	<50	<50	54	<50	150	17J	<50	1,700
	MW-3	07/02/02	19	40	7.6	38	2.7	170	12	<5	1,500
	MW-3-69'	01/10/03	<10	<10	<10	31	<10	160	10	<10	1,200
	MW-3	07/11/03	<2.5	<2.5	5.1	38.5	<2.5	154.5	8.2	<2.5	902.1
	MW-3 (PDB-3B)	07/11/03	<10	<10	<10	33	<10	160	<10	<10	990
MW-4	MW-4	11/05/98	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	6.7
	MW-4	02/03/99	<0.5	<0.5	<0.5	<0.5	2.1	<0.5	<0.5	<0.5	<0.5
	MW-4	06/01/99	<0.5	<0.5	<0.5	<0.5	65	1.1	<0.5	<0.5	0.90
	MW-4	09/01/99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	12/08/99	1.2	<0.5	<0.5	<0.5	<0.5	4.1	1.0	<0.5	17
	MW-4-A[3]	12/08/99	1.2	<0.5	<0.5	<0.5	<0.5	4.6	1.1	<0.5	18
	MW-4	03/15/00	77	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68
	MW-4	06/20/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	09/07/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	12/05/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	03/08/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	06/05/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	01/17/02	0.28J	<1	<1	1.4	<1	61	6.7	<1	220
	MW-4 (PDB-4A)	01/17/02	<1	<1	<1	<1	<1	<1	<1	<1	0.30J
	MW-4 (PDB-4B)	01/17/02	<1	<1	<1	<1	<1	<1	<1	<1	0.23J
	MW-4	07/02/02	<0.5	<1	<1	<1	<0.5	17	1.3	<1	140
	MW-4 (DUP)	07/02/02	<0.5	<1	<1	<1	<0.5	20	1.6	<1	150
	MW-4-69'	01/10/03	0.64	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4	07/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	3.4	<0.5	<0.5	34.4
	MW-4 (PDB-4B)	07/11/03	3.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.54

Table 2 (Cont'd)

Results of VOCs Detected in Groundwater Samples

5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

			Analyte Concentration (µg/L)								
Well ID	**Sample Number**	**Sample Date**	**Benzene**	**Toluene**	**1,1-DCA**	**1,1-DCE**	**1,2-DCA**	**c-1,2-DCE**	**t-1,2-DCE**	**PCE**	**TCE**
MW-5	MW-5	11/05/98	<25	<25	<25	42	<25	380	30	<25	5,000
	MW-5-DUP	11/05/98	<25	<25	<25	40	<25	360	29	<25	4,800
	MW-5	02/03/99	<25	<25	<25	49	<25	420	35	<25	5,100
	MW-5-DUP	02/03/99	<25	<25	<25	45	<25	370	31	<25	4,500
	MW-5	06/01/99	<25	<25	<25	52	35	420	36	<25	5,500
	MW-5-DUP	06/01/99	<25	<25	<25	56	39	430	35	<25	5,300
	MW-5	09/01/99	<25	<25	<25	40	<25	420	45	<25	5,500
	MW-5-DUP	09/01/99	<25	<25	<25	69	<25	440	45	<25	6,000
	MW-5	12/08/99	<50	<50	<50	<50	<50	390	<50	<50	5,100
	MW-5-A[3]	12/08/99	<25	<25	<25	<25	<25	410	25	<25	5,300
	MW-5-DUP	12/08/99	<50	<50	<50	<50	<50	360	<50	<50	5,000
	MW-5-DUP-A[3]	12/08/99	<25	<25	<25	<25	<25	410	26	<25	5,300
	MW-5	03/15/00	<50	<50	<50	<50	<50	440	<50	<50	5,500
	MW-5-DUP	03/15/00	<50	<50	<50	<50	<50	450	<50	<50	5,800
	MW-5	06/20/00	<25	<25	<25	<25	<25	350	<25	<25	4,400
	MW-5	09/07/00	<10	<10	<10	<10	<10	280	<10	<10	3,700
	MW-5	12/05/00	<10	<10	<10	<10	<10	190	<10	<10	4,700
	MW-5	03/08/01	<25	140	<25	<25	<25	260	<25	<25	3,600
	MW-5	06/05/01	<25	<25	<25	<25	<25	340	<25	<25	5,400
	MW-5-DUP	06/05/01	<25	<25	<25	<25	<25	350	<25	<25	5,400
	MW-5	01/17/02	<50	<50	<50	13J	<50	120	13J	<50	1,900
	MW-5 (PDB-5A)	01/17/02	<50	<50	<50	22J	<50	140	18J	<50	3,200
	MW-5 (PDB-5B)	01/17/02	<50	<50	<50	37J	<50	270	29J	<50	4,000
	MW-5	07/02/02	<2.5	7.8	<5	8.9	<2.5	58	8.6	<5	1,700
	MW-5-53'	01/10/03	<50	<50	<50	<50	<50	320	<50	<50	4,700
	MW-5	07/11/03	<2.5	<2.5	6.3	<2.5	<2.5	53.6	7.2	<2.5	1,819.2
	MW-5 (PDB-5A)	07/11/03	<50	<50	<50	<50	<50	340	<50	<50	4,900
CA MCL			**1.0**	**150**	**5.0**	**6.0**	**0.5**	**6.0**	**10**	**5.0**	**5.0**

Notes:

1,1-DCA = 1,1-dichloroethane
1,1-DCE = 1,1-dichloroethene
1,2-DCA = 1,2-dichloroethane
c-1,2-DCE = cis-1,2-dicloroethene
t-1,2-DCE = trans-1,2-dichloroethene

PCE = terachloroethene
TCE = thrichloroethene
VOCs = volatile organic compounds
µg/L = micrograms per liter

J = value between Reporting Limit and Method Detection Limit
B = found in associated method blank

1. Current analyses performed by EMAX Laboratories, Inc., in Torrance, California using EPA Method 8260 for VOCs.
2. <indicates that the analyte was not detected at a concentration above the indicated method detection limit.
3. Samples collected on 8 December 1999 were intially analyzed on 9 December 1999 and were re-analyzed on 17 December 1999 in an attempt to achieve lower method detecetion limits.
4. CA MCL = California Maximum Containment Level
5. PDB-1A = bottom of well casing (about 68-69 feet)
   PDB-1B = middle of well casing (about 52-54 feet)

Table 3.
Metal Analytical Results for Groundwater Samples
5030 Firestone Boulevard and 9301 Rayo Avenue
South Gate, California

Well ID	Sample Number	Sample Date	Analyte Concentration (mg/L)						
			Arsenic	Barium	Chromium	Chromium VI	Molybdenum	Zinc	TDS
MW-1	MW-1-0520	05/20/98	--	--	--	--	--	--	1,500
	MW-1	03/08/01	**0.32**	0.13	<0.01	<0.01	0.47	0.016	--
	MW-1	06/05/01	**0.32**	0.25	<0.01	<0.01	0.45	0.024	--
	MW-1	01/17/02	**0.244**	0.0523	<0.02	0.09	0.545	0.0039	--
	MW-1	07/02/02	**0.229**	0.0588	<0.005	0.0017	0.562	0.0242	--
	MW-1	07/11/03	**0.192**	0.019	<0.005	<0.02	0.343	<0.010	
	MW-1 DUP	07/11/03	**0.214**	0.021	<0.005	<0.02	0.428	<0.010	--
MW-2	MW-2-0520	05/20/98	--	--	--	--	--	--	2,500
	MW-2	03/08/01	0.0066	0.019	<0.01	<0.01	1.1	0.015	--
	MW-2-DUP	03/08/01	0.0056	0.019	<0.01	<0.01	1.1	0.014	--
	MW-2	06/05/01	0.039	0.090	<0.01	<0.01	0.95	0.016	--
	MW-2	01/17/02	**0.0847**	0.070	<0.02	**0.22**	1.39	0.0183	--
	MW-2	07/02/02	**0.0682**	0.0232	<0.005	<0.001	1.33	0.0263	--
	MW-2	07/11/03	**0.090**	<0.010	<0.005	<0.02	0.945	<0.010	--
MW-3	MW-3-0520	05/20/98	--	--	--	--	--	--	1,100
	MW-3	03/08/01	**0.080**	0.15	<0.01	<0.01	0.71	0.012	--
	MW-3	06/05/01	**0.11**	0.32	<0.01	<0.01	0.79	0.023	--
	MW-3	01/17/02	**0.095**	0.0472	<0.02	0.15	1.06	<0.02	--
	MW-3	07/02/02	**0.0791**	0.0455	<0.005	<0.001	0.915	0.0157	--
	MW-3	07/11/03	**0.077**	0.019	<0.005	<0.02	0.754	<0.010	--
MW-4	MW-4	03/08/01	0.0079	0.027	<0.01	<0.01	<0.05	0.025	--
	MW-4	06/05/01	0.027	0.030	<0.01	<0.01	<0.05	0.020	--
	MW-4	01/17/02	**0.0504**	0.134	<0.02	0.16	0.564	0.006	--
	MW-4	07/02/02	<0.0150	0.028	<0.005	<0.001	0.00688	0.060	--
	MW-4 (DUP)	07/02/02	<0.0150	0.0261	0.00561	--	0.00502	0.0321	--
	MW-4	07/11/03	0.016	<0.010	<0.005	<0.02	<0.005	0.223	--
MW-5	MW-5	03/08/01	**0.19**	0.15	<0.01	<0.01	0.84	0.014	--
	MW-5	06/05/01	**0.15**	0.16	<0.01	<0.01	1.1	0.011	--
	MW-5-DUP	06/05/01	**0.19**	0.31	<0.01	<0.01	0.92	0.017	--
	MW-5	01/17/01	0.025	0.0356	<0.2	<0.2	0.0179	0.00674	--
	MW-5	07/02/02	<0.015	0.0755	<0.005	<0.001	0.283	0.0196	--
	MW-5	07/11/03	0.019	0.023	<0.005	<0.02	0.158	<0.010	--
CA MCL			0.05	1	0.05	0.05**	NE	5*	

TDS-total dissolved solids -- indicates not analyzed

1. The following analyses were performed by EMAX Laboratories, Inc., and Calscience Environmental Laboratories, Inc.
   Dissolved Metals (Arsenic, Barium, Chromium, Molybdenum, and Zinc) by EPA Method 6010B
   Dissolved Hexavalent Chromium by EPA Method 7196 in ug/l
2. < indicates that the analyte was not detected at a concentration above incated method detection limit.
3. CA MCL = California Maximum Contaminant level
4. NE = Not Established
5. * = Secondary MCL
6. ** = Hexavalent Chromium is included in the MCL for Total Chromium
7. **Bold** denotes exceedance of MCL

APPENDIX A

LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Brown and Caldwell	**Service Request No.:**	L2301476
Project:	22946-100	**Date Received:**	July 11, 2003
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Five Water samples and one trip blank were received for analysis at Columbia Analytical Services on July 11, 2003. No discrepancies were noted upon initial sample inspection. Any exceptions would be noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 8260B

Lab Control Sample Exceptions:

The upper control criterion was exceeded for the following analytes in the Duplicate Laboratory Control Sample (DLCS) LWG0301716-6: Vinyl Chloride and cis-1,3-Dichloropropene. The analytes in question were not detected in the associated field samples. The Laboratory Control Sample passes criteria. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Elevated Method Reporting Limits:

Samples MW-5, MW-1, MW-3, and MW-2 required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Approved by _____ Date 7/18/03

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Brown & Caldwell Consulting
Project: 22946-100

Service Request: L2301476

Cover Page - Organic Analysis Data Package
Volatile Organic Compounds

Sample Name	Lab Code	Date Collected	Date Received
MW-4	L2301476-001	07/11/2003	07/11/2003
TRIP BLANK	L2301476-002	07/11/2003	07/11/2003
MW-5	L2301476-003	07/11/2003	07/11/2003
MW-1	L2301476-004	07/11/2003	07/11/2003
MW-3	L2301476-005	07/11/2003	07/11/2003
MW-2	L2301476-006	07/11/2003	07/11/2003

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature]

Name: Ed Wilson

Date: 7/18/03

Title: Lab Director

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-4
Lab Code: L2301476-001

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Benzene	**3.4**		0.50	1	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	**0.54**		0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Brown & Caldwell Consulting	**Service Request:**	L2301476
Project:	22946-100	**Date Collected:**	07/11/2003
Sample Matrix:	Water	**Date Received:**	07/11/2003

Volatile Organic Compounds

Sample Name:	MW-4	**Units:**	ug/L
Lab Code:	L2301476-001	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	1.5	1	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	10	1	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	91	78-126	07/16/03	Acceptable
Toluene-d8	97	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	93	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: TRIP BLANK
Lab Code: L2301476-002

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: TRIP BLANK
Lab Code: L2301476-002

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	1.5	1	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	10	1	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	101	78-126	07/16/03	Acceptable
Toluene-d8	98	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	96	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-5
Lab Code: L2301476-003

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	200	100	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	200	100	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	**340**	D	50	100	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	**4900**	D	50	100	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-5
Lab Code: L2301476-003

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	150	100	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	50	100	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	200	100	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	100	100	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	200	100	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	1000	100	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	100	78-126	07/16/03	Acceptable
Toluene-d8	96	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	93	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-1
Lab Code: L2301476-004

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	1000	500	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	1000	500	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	**25000**	D	250	500	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Brown & Caldwell Consulting	**Service Request:**	L2301476
Project:	22946-100	**Date Collected:**	07/11/2003
Sample Matrix:	Water	**Date Received:**	07/11/2003

Volatile Organic Compounds

Sample Name:	MW-1	**Units:**	ug/L
Lab Code:	L2301476-004	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	750	500	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	250	500	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	1000	500	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	500	500	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	1000	500	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	5000	500	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	101	78-126	07/16/03	Acceptable
Toluene-d8	96	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	92	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-3
Lab Code: L2301476-005

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	**33**	D	10	20	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	**160**	D	10	20	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	**990**	D	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-3
Lab Code: L2301476-005

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	30	20	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	200	20	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	98	78-126	07/16/03	Acceptable
Toluene-d8	97	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	93	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-2
Lab Code: L2301476-006

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	**20**	D	10	20	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	**44**	D	10	20	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	**1300**	D	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: 07/11/2003
Date Received: 07/11/2003

Volatile Organic Compounds

Sample Name: MW-2
Lab Code: L2301476-006

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	30	20	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	10	20	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	20	20	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	40	20	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	200	20	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	96	78-126	07/16/03	Acceptable
Toluene-d8	96	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	95	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: LWG0301719-7

Units: ug/L
Basis: NA

Extraction Method: EPA 5030B
Analysis Method: 8260B

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Chloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromomethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chloroethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Trichlorofluoromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Disulfide	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Methylene Chloride	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
trans-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
2,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,2-Dichloroethene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Chloroform	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromochloromethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Carbon Tetrachloride	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Benzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Trichloroethene (TCE)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromodichloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Dibromomethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
cis-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Toluene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
trans-1,3-Dichloropropene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Tetrachloroethene (PCE)	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Dibromochloromethane	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromoethane (EDB)	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Chlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Brown & Caldwell Consulting	**Service Request:**	L2301476
Project:	22946-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	LWG0301719-7	**Basis:**	NA
Extraction Method:	EPA 5030B	**Level:**	Low
Analysis Method:	8260B		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Ethylbenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Total Xylenes	ND	U	1.5	1	07/16/03	07/16/03	LWG0301719	
Bromoform	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Isopropylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichloropropane	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
Bromobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
n-Propylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
2-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
4-Chlorotoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3,5-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
tert-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trimethylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
sec-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,3-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
4-Isopropyltoluene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,4-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
n-Butylbenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2-Dichlorobenzene	ND	U	0.50	1	07/16/03	07/16/03	LWG0301719	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
1,2,4-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,2,3-Trichlorobenzene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Naphthalene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
Hexachlorobutadiene	ND	U	1.0	1	07/16/03	07/16/03	LWG0301719	
1,1,2-Trichlorotrifluoroethane	ND	U	2.0	1	07/16/03	07/16/03	LWG0301719	
Vinyl Acetate	ND	U	10	1	07/16/03	07/16/03	LWG0301719	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	101	78-126	07/16/03	Acceptable
Toluene-d8	96	83-118	07/16/03	Acceptable
4-Bromofluorobenzene	93	73-115	07/16/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MW-4	L2301476-001	91	97	93
TRIP BLANK	L2301476-002	101	98	96
MW-5	L2301476-003	100	96	93
MW-1	L2301476-004	101	96	92
MW-3	L2301476-005	98	97	93
MW-2	L2301476-006	96	96	95
Method Blank	LWG0301719-7	101	96	93
Lab Control Sample	LWG0301719-5	102	98	99
Duplicate Lab Control Sample	LWG0301719-6	103	97	97

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	78-126
Sur2 =	Toluene-d8	83-118
Sur3 =	4-Bromofluorobenzene	73-115

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Brown & Caldwell Consulting
Project: 22946-100
Sample Matrix: Water

Service Request: L2301476
Date Extracted: 07/16/2003
Date Analyzed: 07/16/2003

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260B

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: LWG0301719

	Lab Control Sample LWG0301719-5 Lab Control Spike			Duplicate Lab Control Sample LWG0301719-6 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dichlorodifluoromethane	13.6	10.0	136	13.3	10.0	133	68-164	2	25
Chloromethane	12.8	10.0	128	12.9	10.0	129	71-140	1	25
Vinyl Chloride	12.6	10.0	126	12.8	10.0	128 *	75-126	2	25
Bromomethane	10.5	10.0	105	11.3	10.0	113	54-151	7	25
Chloroethane	10.7	10.0	107	11.1	10.0	111	78-129	4	25
Trichlorofluoromethane	11.1	10.0	111	11.1	10.0	111	64-143	0	25
1,1-Dichloroethene	10.3	10.0	103	10.5	10.0	105	70-119	2	25
Carbon Disulfide	15.3	20.0	77	16.1	20.0	81	73-127	5	25
Methylene Chloride	10.3	10.0	103	11.0	10.0	110	65-127	7	25
trans-1,2-Dichloroethene	10.6	10.0	106	11.3	10.0	113	81-123	6	25
1,1-Dichloroethane	11.6	10.0	116	12.1	10.0	121	85-128	4	25
2,2-Dichloropropane	11.3	10.0	113	11.5	10.0	115	75-140	2	25
cis-1,2-Dichloroethene	10.7	10.0	107	11.2	10.0	112	82-121	5	25
Chloroform	11.0	10.0	110	11.5	10.0	115	82-123	4	25
Bromochloromethane	10.5	10.0	105	11.1	10.0	111	77-129	5	25
1,1,1-Trichloroethane (TCA)	10.7	10.0	107	10.9	10.0	109	72-127	2	25
1,1-Dichloropropene	10.9	10.0	109	11.1	10.0	111	77-123	2	25
Carbon Tetrachloride	11.1	10.0	111	11.3	10.0	113	66-145	2	25
1,2-Dichloroethane (EDC)	10.7	10.0	107	11.2	10.0	112	69-131	5	25
Benzene	10.4	10.0	104	10.8	10.0	108	78-120	4	25
Trichloroethene (TCE)	10.1	10.0	101	10.6	10.0	106	80-113	5	25
1,2-Dichloropropane	10.8	10.0	108	11.3	10.0	113	81-117	4	25
Bromodichloromethane	11.2	10.0	112	11.4	10.0	114	78-130	2	25
Dibromomethane	10.6	10.0	106	11.2	10.0	112	79-121	5	25
cis-1,3-Dichloropropene	11.2	10.0	112	11.6	10.0	116 *	82-112	3	25
Toluene	10.2	10.0	102	10.6	10.0	106	83-117	4	25
trans-1,3-Dichloropropene	10.8	10.0	108	11.0	10.0	110	75-129	2	25
1,1,2-Trichloroethane	10.4	10.0	104	11.0	10.0	110	75-120	5	25
1,3-Dichloropropane	10.4	10.0	104	11.1	10.0	111	76-117	6	25
Tetrachloroethene (PCE)	9.87	10.0	99	10.1	10.0	101	75-126	3	25
Dibromochloromethane	10.5	10.0	105	10.7	10.0	107	70-130	3	25
1,2-Dibromoethane (EDB)	10.2	10.0	102	10.7	10.0	107	73-122	6	25
Chlorobenzene	9.97	10.0	100	10.3	10.0	103	84-112	4	25
1,1,1,2-Tetrachloroethane	10.6	10.0	106	10.8	10.0	108	80-127	2	25
Ethylbenzene	10.2	10.0	102	10.5	10.0	105	85-117	3	25
Total Xylenes	30.1	30.0	100	30.9	30.0	103	83-118	3	25

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Brown & Caldwell Consulting	**Service Request:**	L2301476
Project:	22946-100	**Date Extracted:**	07/16/2003
Sample Matrix:	Water	**Date Analyzed:**	07/16/2003

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030B	**Units:**	ug/L
Analysis Method:	8260B	**Basis:**	NA
		Level:	Low
		Extraction Lot:	LWG0301719

	Lab Control Sample LWG0301719-5 Lab Control Spike			Duplicate Lab Control Sample LWG0301719-6 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Bromoform	10.5	10.0	105	10.5	10.0	105	65-138	0	25
Isopropylbenzene	9.96	10.0	100	10.3	10.0	103	80-117	4	25
1,1,2,2-Tetrachloroethane	10.8	10.0	108	11.6	10.0	116	66-129	7	25
1,2,3-Trichloropropane	10.2	10.0	102	10.9	10.0	109	69-121	7	25
Bromobenzene	9.84	10.0	98	10.1	10.0	101	86-114	2	25
n-Propylbenzene	10.3	10.0	103	10.8	10.0	108	74-125	5	25
2-Chlorotoluene	10.1	10.0	101	10.7	10.0	107	75-117	5	25
4-Chlorotoluene	10.0	10.0	100	10.6	10.0	106	75-120	5	25
1,3,5-Trimethylbenzene	10.0	10.0	100	10.5	10.0	105	76-122	5	25
tert-Butylbenzene	10.0	10.0	100	10.6	10.0	106	72-122	5	25
1,2,4-Trimethylbenzene	9.86	10.0	99	10.4	10.0	104	74-119	5	25
sec-Butylbenzene	9.96	10.0	100	10.5	10.0	105	66-126	5	25
1,3-Dichlorobenzene	9.75	10.0	98	10.3	10.0	103	85-110	5	25
4-Isopropyltoluene	9.98	10.0	100	10.5	10.0	105	71-125	5	25
1,4-Dichlorobenzene	9.78	10.0	98	10.4	10.0	104	86-109	6	25
n-Butylbenzene	10.1	10.0	101	10.5	10.0	105	61-132	4	25
1,2-Dichlorobenzene	9.62	10.0	96	10.3	10.0	103	87-111	7	25
1,2-Dibromo-3-chloropropane	20.0	20.0	100	21.1	20.0	106	58-128	5	25
1,2,4-Trichlorobenzene	9.55	10.0	96	9.98	10.0	100	80-114	4	25
1,2,3-Trichlorobenzene	9.50	10.0	95	10.0	10.0	100	80-113	6	25
Naphthalene	9.79	10.0	98	10.5	10.0	105	62-122	7	25
Hexachlorobutadiene	9.46	10.0	95	9.80	10.0	98	68-122	4	25
1,1,2-Trichlorotrifluoroethane	11.0	10.0	110	11.0	10.0	110	67-134	1	25
Vinyl Acetate	28.8	20.0	144	29.6	20.0	148	74-168	3	25

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

CHAIN OF CUSTODY RECORD

C&E LAB ID

~~CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.~~
~~14148 E. Firestone Blvd., Santa Fe Springs, CA 90670~~ ~~Tel: (562) 921-8123~~ ~~Fax: (562) 921-7974~~

Company Name: Brown & Caldwell
Project Manager: M. Crews
Project No./Name: 22946-100
Tel: (714) 689-4840 Fax: (714) 734-0240
Site Address:
Sampled By: Gabe Prince

Page 1 of 1

Sample Conditions
__ Chilled __ Seals Intact

Turn Around Time Desired
Normal / Same Day / 24hr / 48hr

SAMPLE ID	SAMPLING DATE	SAMPLING TIME	SAMPLE MATRIX (air/soil/water)	NO. OF CONTAINERS/ TYPE	8015M TPH-G	8015M TPH-D	8021B BTEX MTBE	418.1 TRPH	8260B BTEX OXY.	8260B VOC	CAM METALS	8270C SVOC	6010B LEAD		
MW-4	7/11/03	1015	H_2O	3/VOA						X					
Triplicate	7/11/03	1000		2/VOA						X					
MW-5	7/11/03	1135		3/VOA						X					
MW-8A	7/11/03	1230		3/VOA						X					
MW-3	7/11/03	1300		3/VOA						X					
MW-2	7/11/03	1400		3/VOA						X					

Relinquished By:	Date/Time:	Received By:	Date/Time:	EDF Required: (circle) Yes No
[signature]	7/11/03 1410	[signature]		EDF Global ID No.: T_____
Relinquished By:	Date/Time:	Received By:	Date/Time:	Comments:

001477

CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

— EPA 8260B —

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/11/03
Date Reported: 07/23/03

C&E ID		30711E-2	30711E-3	30711E-4	30711E-5	30711E-6
SAMPLE ID		MW-4	MW-1	MW-1 DUP	MW-3	MW-2
DF		1	10	10	5	5
COMPOUND	Detection Limit (ug/L)	RESULT (ug/L or ppb)				
Acetone	2	ND	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND	ND
Bromodichloromethane	1	ND	ND	ND	ND	ND
Bromoform	1	ND	ND	ND	ND	ND
Bromomethane	1	ND	ND	ND	ND	ND
2-Butanone (MEK)	2	ND	ND	ND	ND	ND
tert-Butylmethyl ether(MTBE)	2	ND	ND	ND	ND	ND
Carbon Disulfide	1	ND	ND	ND	ND	ND
Carbon Tetrachloride	0.5	ND	ND	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND	ND	ND
Chloroethane	1	ND	ND	ND	ND	ND
Chloroform	1	ND	ND	ND	ND	ND
Chloromethane	1	ND	ND	ND	ND	ND
Cyclohexane	0.5	ND	ND	ND	ND	ND
Dibromochloromethane	1	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	1	ND	ND	ND	ND	ND
1,2-Dibromoethane	1	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND	ND	ND
Dichlorodifluoromethane	1	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.5	ND	57.9	59.6	5.1	ND
1,2-Dichloroethane	0.5	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.5	ND	72.2	72.7	38.5	26.0
cis-1,2-Dichloroethene	0.5	3.4	133.7	132.9	154.5	42.7
trans-1,2-Dichloroethene	0.5	ND	59.3	54.0	8.2	ND

To be continued on page 2

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

--- EPA 8260B ---

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/11/03
Date Reported: 07/23/03

C&E ID		30711E-2	30711E-3	30711E-4	30711E-5	30711E-6
SAMPLE ID		MW-4	MW-1	MW-1 DUP	MW-3	MW-2
COMPOUND	Detection Limit (ug/L)	RESULT (ug/L or ppb)				
1,2-Dichloropropane	0.5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
2-Hexanone	0.5	ND	ND	ND	ND	ND
Methyl Acetate	0.5	ND	ND	ND	ND	ND
Methylcyclohexane	0.5	ND	ND	ND	ND	ND
Methylene Chloride	0.5	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	0.5	ND	ND	ND	ND	ND
Styrene	0.5	ND	ND	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	ND	ND	ND
4-Isopropyltoluene	0.5	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.5	ND	ND	ND	ND	ND
Tetrachloroethene	0.5	ND	48.5	48.9	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND	ND	ND
Trichloroethene	0.5	34.4	15526.9	14253.3	902.1	1051.4
Trichlorofluoromethane	0.5	ND	ND	ND	ND	ND
1,1,2-Trichlorotrifluoroethane	0.5	ND	ND	ND	ND	ND
Vinyl Chloride	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND	ND

ND = Not detected at the indicated detection limit.
DF = Dilution Factor
Reporting Limit = DF x Detection Limit

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

-- EPA 8260B --

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/11/03
Date Reported: 07/23/03

C&E ID		30711E-7
SAMPLE ID		MW-5
DF		5
COMPOUND	Detection Limit (ug/L)	RESULT (ug/L or ppb)
Acetone	2	ND
Benzene	0.5	ND
Bromodichloromethane	1	ND
Bromoform	1	ND
Bromomethane	1	ND
2-Butanone (MEK)	2	ND
tert-Butylmethyl ether(MTBE)	2	ND
Carbon Disulfide	1	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	1	ND
Chloroform	1	ND
Chloromethane	1	ND
Cyclohexane	0.5	ND
Dibromochloromethane	1	ND
1,2-Dibromo-3-Chloropropane	1	ND
1,2-Dibromoethane	1	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	1	ND
1,1-Dichloroethane	0.5	6.3
1,2-Dichloroethane	0.5	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	53.6
trans-1,2-Dichloroethene	0.5	7.2

To be continued on page 2

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

--- EPA 8260B ---

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/11/03
Date Reported: 07/23/03

C&E ID		30711E-7
SAMPLE ID		MW-5
COMPOUND	Detection Limit (ug/L)	RESULT (ug/L or ppb)
1,2-Dichloropropane	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
Ethylbenzene	0.5	ND
2-Hexanone	0.5	ND
Methyl Acetate	0.5	ND
Methylcyclohexane	0.5	ND
Methylene Chloride	0.5	ND
4-Methyl-2-Pentanone	0.5	ND
Styrene	0.5	ND
Isopropylbenzene	0.5	ND
4-Isopropyltoluene	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Toluene	0.5	ND
1,2,4-Trichlorobenzene	0.5	ND
1,1,1-Trichloroethane	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene	0.5	1819.2
Trichlorofluoromethane	0.5	ND
1,1,2-Trichlorotrifluoroethane	0.5	ND
Vinyl Chloride	0.5	ND
Total Xylenes	0.5	ND

ND = Not detected at the indicated detection limit.
DF = Dilution Factor
Reporting Limit = DF x Detection Limit

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

— CAM Metals —

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/15/03
Date Reported: 07/23/03

C&E ID			30711E-2	30711E-3	30711E-4	30711E-5	30711E-6
SAMPLE ID			MW-4	MW-1	MW-1 DUP	MW-3	MW-2
ELEMENT	METHOD	Detection Limit (mg/L)	RESULT (mg/L or ppm)				
Arsenic (As)	6010	0.010	0.016	0.192	0.214	0.077	0.090
Barium (Ba)	6010	0.010	ND	0.019	0.021	0.019	ND
Chromium (Cr)	6010	0.005	ND	ND	ND	ND	ND
Molybdenum (Mo)	6010	0.005	ND	0.343	0.428	0.754	0.945
Zinc (Zn)	6010	0.010	0.223	ND	ND	ND	ND

ND = Not detected at the indicated detection limit.

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

— CAM Metals —

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/15/03
Date Reported: 07/23/03

C&E ID			30711E-7
SAMPLE ID			MW-5
ELEMENT	METHOD	Detection Limit (mg/L)	RESULT (mg/L or ppm)
Arsenic (As)	6010	0.010	0.019
Barium (Ba)	6010	0.010	0.023
Chromium (Cr)	6010	0.005	ND
Molybdenum (Mo)	6010	0.005	0.158
Zinc (Zn)	6010	0.010	ND

ND = Not detected at the indicated detection limit.

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CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL REPORT

--- EPA 7196(Hexavalent Chromium) ---

Client Name: Brown and Caldwell
Project Manager: Mike Crews
Project Name: J.B. Webb
Sample Matrix: Water

Date Sampled: 07/11/03
Date Analyzed: 07/14/03
Date Reported: 07/23/03

SAMPLE IDENTIFICATION		RESULT
C&E ID	Sample ID	(mg/L or ppm)
30711E-2	MW-4	ND
30711E-3	MW-1	ND
30711E-4	MW-1 DUP	ND
30711E-5	MW-3	ND
30711E-6	MW-2	ND
30711E-7	MW-5	ND
	Detection Limit:	0.02

ND = Not detected at the indicated detection limit.

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CHAIN OF CUSTODY RECORD

CHEMICAL & ENVIRONMENTAL LABORATORIES, INC.
14148 E. Firestone Blvd., Santa Fe Springs, CA 90670 Tel: (562) 921-8123 Fax: (562) 921-7974

C&E LAB ID: 30711E

Company Name: Brown & Caldwell
Project Manager: Mike Crews
Project No./Name: J.B. Webb
Tel: (714) 689-4440 Fax: (714) 734-0940

Site Address: 5030 Firestone Blvd, South Gate, CA
Sampled By: Gabe / Pruney

Page 1 of 1

Sample Conditions: __ Chilled __ Seals Intact

Turn Around Time Desired: Normal / Same Day / 24hr / 48hr

	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	SAMPLE MATRIX (air/soil/water)	NO. OF CONTAINERS/ TYPE	8015M TPH-G	8015M TPH-D	8021B BTEX MTBE	418.1 TRPH	8260B BTEX OXY.	8260B VOC	CAM METALS	8270C SVOC	6010B *	7199 Cr+6
1	Triplicate	7/11/03		H_2O											
2	MW-4		1130		3 VOA						X				
					1 Poly									X	
					1 Amber										X
3	MW-1		1330		3 VOA						X				
					1 Poly									X	
					1 Amber										X
3A	MW-1 DUP		1345		3 VOA						X				
					1 Poly									X	
					1 Amber										X
4	MW-3		1530		3 VOA						X				
					1 Poly									X	
					1 Amber										X
5	MW-2		1650		3 VOA						X				
					1 Poly									X	
					1 Amber										X
6	MW-5		1750		3 VOA						X				
					1 Poly									X	
					1 Amber										X

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	7/11/03 1850	[signature]	7/11/03 1850
Relinquished By:	Date/Time:	Received By:	Date/Time:

EDF Required: (circle) Yes No
EDF Global ID No.: T

Comments: * Arsenic, Barium, Zinc, Chromium, molybdenum

APPENDIX B

WELL MONITORING AND PURGING DATA FORMS

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION

Project Number: 22946
Client: Webb
Project Location: Southgate
Sampling Event: July 2003 Semi-Annual GW Monitoring

Date: 7-11-03
Personnel: Prince/Gober
Weather: Hot! Clear, calm

Well ID: MW-2
Air Monitoring Equip: NA
Well Head Vapor Measurement (ppm) NA
Breathing Zone Measurement (ppm) NA
H&S Equip: First Aid Kit

2 PURGE DATA

Purge Method: Micropurge
Materials: Pump/Bailer: Grundfos pump
Materials: Rope/Tubing: polyvinyl tubing
Was well purged dry? ☐ Yes ☒ No

Initial Water Level: 47.08 Start Time: 1630
Final water Level: 47.18 End Time: 1645
Pumping Rate: 100 ml/min (gal/min)
Total Gallons Removed: <1

PURGE VOLUME: NA
(NA for micropurge method)
DW - Depth of Well (ft btoc): NA
WL - Water Level (ft btoc): NA
WC - Water Column Height (ft): NA WC=DW-WL
WV - Well Casing Volume (gal): NA WV=F*(WC)
3*WV (gal) = NA

Well Diameter (in.)	(F)
1.0	0.041
2.0	0.163
3.0	0.367
4.0	0.653
6.0	1.469

Time	Cum. Gallons Removed	Pump rate	Depth to Water (ft boc)	pH	Temp (C)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Comments
1630	<1	100ml/min	47.08	8.02	29.3	3200	NR	3.87	10	0.13	Start purging
1635	<1		47.18	7.93	28.5	2830		3.63	10	0.13	
1640	<1			7.92	29.1	2910		3.60	10	0.13	
1645	<1			7.92	29.0	2910		3.60	10	0.13	collect sample

3 SAMPLING DATA

Method (s): Micropurge
Field Filtered? ☑ Yes ☐ No
Depth to Water at Time of Sampling: 47.18

Sample ID: MW-2 Sample Time: 1650 # of Containers: 5
Duplicate ID: NA Sample Time: NA # of Containers: NA
MS/MSD ID: NA Sample Time: NA # of Containers: NA

Signature

001487

WN[illegible] [illegible]AL [illegible]

GROUNDWATER PURGE AND [illegible]MPLING FIELD DATA SHEET

1. PROJECT INF[illegible]RMATION

Project Number: 22946
Client: Webb
Project Location: Southgate
Sampling Event: July 2003 Semi-Annual GW Monitoring

Date: 7-11-03
Personnel: Gober/Prince
Weather: Hot, clear, calm

Well ID: MW-3
Air Monitoring Equip: NA
Well Head Vapor Measurement (ppm) NA
Breathing Zone Measurement (ppm) NA
H&S Equip: First Aid Kit

2 PURGE DATA

Purge Method: Micropurge
Materials: Pump/Bailer: grunfos pump
Materials: Rope/Tubing: polyvinyl tubing
Was well purged dry? ☐ Yes ☒ No

Initial Water Level: 48.12
Final water Level: 48.25
Pumping Rate: 100 ml/min ~~(gal/min)~~
Total Gallons Removed: <1

Start Time: 1505
End Time: 1525

PURGE VOLUME: NA
(NA for micropurge method)

			Well Diameter (in.)	(F)
DW - Depth of Well (ft btoc):	NA		1.0	0.041
WL - Water Level (ft btoc):	NA		2.0	0.163
WC - Water Column Height (ft):	NA	WC=DW-WL	3.0	0.367
WV - Well Casing Volume (gal):	NA	WV=F*(WC)	4.0	0.653
3*WV (gal) =	NA		6.0	1.469

Time	Cum. Gallons Removed	Pump rate	Depth to Water (ft boc)	pH	Temp (C)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Comments
1506	<1	100ml/min	48.12	8.22	35.1	1310	NR	5.34	10	0.06	ORP NOT RECORDED
1510	<1		48.25	8.25	32.9	1340		4.73	9	0.06	
1515	<1			8.25	28.3	1310		4.31	10	0.06	
1520	<1			8.24	25.9	1310		4.34	10	0.06	
1520	<1			8.22	25.8	1310		4.33	10	0.06	
1525	<1			8.21	26.2	1310		4.34	10	0.06	collect Sample

3 SAMPLING DATA

Method (s): Micropurge
Depth to Water at Time of Sampling: 48.25
Field Filtered? ☒ Yes ☐ No

Sample ID: MW-3 Sample Time: 1530 # of Containers: 5
Duplicate ID: NA Sample Time: NA # of Containers: NA
MS/MSD ID: NA Sample Time: NA # of Containers: NA

[signature]
Signature

001488

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION

Project Number: 22946
Client: Webb
Project Location: Southgate
Sampling Event: July 2003 Semi Annual GW Monitoring

Date: 7-11-03
Personnel: Gober/Prince
Weather: Hot, calm, clear

Well ID: MW-1
Air Monitoring Equip: NA
Well Head Vapor Measurement (ppm) NA
Breathing Zone Measurement (ppm) NA
H&S Equip: First Aid Kit

2 PURGE DATA

Purge Method: Micropurge
Materials: Pump/Bailer: grundfos pump
Materials: Rope/Tubing: poly vinyl tubing
Was well purged dry? ☐ Yes ☒ No

Initial Water Level: 48.43 Start Time: 1300
Final water Level: 48.50 End Time: 1325
Pumping Rate: 100 ~~(gal/min)~~ ml/min
Total Gallons Removed: ~1

PURGE VOLUME: NA
(NA for micropurge method)

DW - Depth of Well (ft btoc): NA
WL - Water Level (ft btoc): NA
WC - Water Column Height (ft): NA WC=DW-WL
WV - Well Casing Volume (gal): NA WV=F*(WC)
3*WV (gal) = NA

Well Diameter (in.)	(F)
1.0	0.041
2.0	0.163
3.0	0.367
4.0	0.653
6.0	1.469

Time	Cum. Gallons Removed	Pump rate	Depth to Water (ft boc)	pH	Temp (C)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Comments
1300	<1	100ml/min	48.43	8.04	33.3	1520	NR	4.99		0.09	ORP NOT RECORDED
1305	<1		48.50	8.04	33.2	1520		4.89	10	0.09	
1310	<1			8.05	27.5	1510		4.32	10	0.07	
1315	<1			8.07	24.3	1550		4.70	10	0.07	
1320	<1			8.06	24.6	1530		4.67	10	0.07	
1325	~1		48.50	8.06	25.0	1530		4.69	10	0.07	collect sample

3 SAMPLING DATA

Method (s): Micropurge
Field Filtered? ☑ Yes ☐ No
Depth to Water at Time of Sampling: 48.50

Sample ID: MW-1 Sample Time: 1330 # of Containers: 5
Duplicate ID: MW-1 Sample Time: 1345 # of Containers: 5
MS/MSD ID: NA Sample Time: NA # of Containers: NA

Signature

001489

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

Well ID: MW-4

1. PROJECT INFORMATION

Project Number: 22946
Client: Webb
Project Location: Southgate
Sampling Event: July 2003 Semi-Annual GW Monitoring

Date: 7/11/03
Personnel: Gober/Brown
Weather: clear, hot, calm

Air Monitoring Equip: NA
Well Head Vapor Measurement (ppm) NA
Breathing Zone Measurement (ppm) NA
H&S Equip: First Aid Kit

2 PURGE DATA

Purge Method: Micropurge
Materials: Pump/Bailer: grundfos submersible
Materials: Rope/Tubing: polyvinyl tubing
Was well purged dry? ☐ Yes ☒ No

Initial Water Level: 48.16
Final water Level: 48.21
Pumping Rate: 100 ~~(gal/min)~~ ml/min
Total Gallons Removed: <1

Start Time: 1050
End Time: 1125

PURGE VOLUME: NA
(NA for micropurge method)

DW - Depth of Well (ft btoc): NA
WL - Water Level (ft btoc): NA
WC - Water Column Height (ft): NA WC=DW-WL
WV - Well Casing Volume (gal): NA WV=F*(WC)
3*WV (gal) = NA

Well Diameter (in.)	(F)
1.0	0.041
2.0	0.163
3.0	0.367
4.0	0.653
6.0	1.469

Time	Cum. Gallons Removed	Pump rate	Depth to Water (ft boc)	pH	Temp (C)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Comments
1050	Ø	100ml/min	48.16	7.50	25.7	4100	NR	1.65	29	0.21	ORP NOT RECORDED (No probe)
1055	<1		48.21	7.49	24.1	4230		1.78	16	0.21	
1100	<1			7.50	23.8	4240		2.71	6	0.21	
1105	<1			7.45	24.8	4200		1.32	5	0.21	
1110	<1			7.46	24.6	4210		0.59	4	0.21	
1115	<1			7.43	25.5	4200		0.40	3	0.21	
1120	~1			7.42	26.0	4200		0.36	2	0.21	COLLECT SAMPLE
1125	~1		48.21	7.43	26.1	4210		0.35	2	0.21	

3 SAMPLING DATA

Method (s): Micropurge
Field Filtered? ☑ Yes ☐ No
Depth to Water at Time of Sampling: 48.21

Sample ID: MW-4 Sample Time: 1130 # of Containers: 5
Duplicate ID: ~~MW-1~~ NA Sample Time: ~~1345~~ NA # of Containers: NA
MS/MSD ID: ~~NA~~ NA Sample Time: NA # of Containers: NA

Signature

001490

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION

Project Number: 22946
Client: Webb
Project Location: Southgate
Sampling Event: July 2003 Semi-Annual GW Monitoring

Date: 7-11-03
Personnel: Prince/Gode
Weather: Sunny, Hot!!/Calm

Well ID: MW-5
Air Monitoring Equip: NA
Well Head Vapor Measurement (ppm) NA
Breathing Zone Measurement (ppm) NA
H&S Equip: First Aid Kit

2 PURGE DATA

Purge Method: micropurge
Materials: Pump/Bailer: grundfos pump
Materials: Rope/Tubing: polyvinyl/tubing
Was well purged dry? ☐ Yes ☒ No

Initial Water Level: 48.85
Final water Level: 49.00
Pumping Rate: 100 ml/min (~~L/min~~)
Total Gallons Removed: <1

Start Time: 1730
End Time: 1750

PURGE VOLUME: NA
(NA for micropurge method)

DW - Depth of Well (ft btoc): NA
WL - Water Level (ft btoc): NA
WC - Water Column Height (ft): NA WC=DW-WL
WV - Well Casing Volume (gal): NA WV=F*(WC)
3*WV (gal) = NA

Well Diameter (in.)	(F)
1.0	0.041
2.0	0.163
3.0	0.367
4.0	0.653
6.0	1.469

Time	Cum. Gallons Removed	Pump rate	Depth to Water (ft boc)	pH	Temp (C)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Salinity (ppt)	Comments
1730	<1	100ml/min	48.85	7.92	27.2	5250		8.56	9	0.28	purge on
1735	<1			7.90	26.7	5530		5.20	10	0.29	
1740	<1			7.76	24.2	6530		10.04	10	0.35	
1745	<1			7.75	23.9	6570		10.06	10	0.35	
1750	<1			7.75	23.8	6580		10.07	10	0.35	collect sample

3 SAMPLING DATA

Method (s): Micropurge
Field Filtered? ☒ Yes ☐ No
Depth to Water at Time of Sampling: _____

Sample ID: MW-5 Sample Time: 1750 # of Containers: 5
Duplicate ID: NA Sample Time: NA # of Containers: NA
MS/MSD ID: NA Sample Time: NA # of Containers: NA

Signature

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