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July 13, 2009

VIA FEDERAL EXPRESS STANDARD

Ms. Carolyn d'Almeida
Superfund Project Manager
U.S. ENVIRONMENTAL PROTECTION AGENCY
75 Hawthorn Street (SFD-7-1)
San Francisco, CA 94105-3901

Re: Transmittal of Supplemental Groundwater Sampling and Analysis Results
April 2009, Montrose Superfund Site, Los Angeles, California

Dear Ms. D'Almeida:

Enclosed are 3 hard copies and 3 CD copies of the document titled:

Supplemental Groundwater Sampling and Analysis Results
April 2009
Montrose Superfund Site
Los Angeles, California

If you have any questions, please contact us.

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Senior Engineer

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Hydrogeologist

DMO/RDC/ama

Enclosure

Other Offices:
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cc: Ms. Roberta Blank, EPA (1 CD Copy)
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Mr. Joe Kelly, Montrose Chemical Corporation of California (1 CD Copy)
Mr. Paul Sundberg, Consultant to Montrose Chemical Corporation of California (1 CD Copy)
Karl Lytz, Esq., Latham & Watkins (1 CD Copy)
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Mr. Mark Schultheis, Geosyntec Consultants (1 CD Copy)

JULY 13, 2009

SUPPLEMENTAL GROUNDWATER SAMPLING AND ANALYSIS RESULTS

APRIL 2009

MONTROSE SUPERFUND SITE

LOS ANGELES, CALIFORNIA

PREPARED FOR:
MONTROSE CHEMICAL CORPORATION OF CALIFORNIA

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

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SUPPLEMENTAL GROUNDWATER SAMPLING AND ANALYSIS RESULTS

APRIL 2009

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ACRONYMS AND ABBREVIATIONS

BFS	Bellflower sand
DNAPL	Dense non-aqueous phase liquid
EPA	U.S. Environmental Protection Agency
Gage	Gage aquifer
H+A	Hargis + Associates, Inc.
Montrose	Montrose Chemical Corporation of California
PCBs	Polychlorinated biphenyls
pCBSA	para-Chlorobenzene sulfonic acid
the sampling event	the Supplemental Groundwater Sampling and Analysis program conducted in April 2009
SVOCs	Semivolatile organic compounds
TGRS	Torrance Groundwater Remedial System
UBA	Upper Bellflower aquitard
ug/l	Micrograms per liter
VOCs	Volatile organic compounds
the Workplan	Technical memorandum dated April 2, 2009 detailing the scope of the sampling event

SUPPLEMENTAL GROUNDWATER SAMPLING AND ANALYSIS RESULTS
APRIL 2009
MONTROSE SUPERFUND SITE
LOS ANGELES, CALIFORNIA

1.0 INTRODUCTION

This report presents the groundwater analytical results of the Supplemental Groundwater Sampling and Analysis program (the sampling event) conducted in April 2009 in the vicinity of the former Montrose Chemical Corporation of California (Montrose) facility. Groundwater sampling and analyses were conducted in accordance with the April 2, 2009 technical memorandum that detailed the scope of the sampling event (the Workplan) (Hargis + Associates, Inc. [H+A], 2009). The program consisted of the sampling of selected wells for specific purposes and analytes as outlined in the Workplan.

The results from the sampling program will be used to aid in the design of the Torrance Groundwater Remedial System (TGRS) as well as to provide data for long-term tracking of changes in chlorobenzene and para-chlorobenzene sulfonic acid (pCBSA) concentrations trends at the Site. The overall objectives of the sampling event, identification of data gaps, and the methodology for selection of wells and analytes were presented in the Workplan.

The following provides a summary of field methods employed during the sampling event, a summary of analytical results, a discussion of changes in the distribution of chlorobenzene and pCBSA, and a summary of analytical results as they pertain to the design of the TGRS.

2.0 FIELD ACTIVITIES

In accordance with the Workplan, groundwater samples were collected from a total of 12 monitor wells, 3 observation wells, and 2 extraction wells located as shown on Figure 1. Groundwater samples from each well were analyzed for a specific set of parameters (Table 1). Additionally, included in this report are the results of the November/December 2008 sampling of monitor well G-22, located near existing extraction well G-EW-2, and monitor well G-35, located near potential extraction well G-EW-6. Those wells were sampled to obtain chemical concentration data of interest to the TGRS design at that time and are useful to the data evaluation conducted as part of this report.

For the supplemental sampling event, well purging and groundwater sample collection were conducted in accordance with the Workplan, the U.S. Environmental Protection Agency (EPA)-approved Field Sampling Plan, and the Quality Assurance Project Plan (H+A, 2003a and 2003b). Field sampling procedures for the sampling event are described in Appendix A and copies of field sampling forms are provided in Appendix B.

3.0 ANALYTICAL RESULTS

Groundwater samples taken in April 2009 were collected for analysis of volatile organic compounds (VOCs), pCBSA, CAM 17 metals, selected additional metals, general minerals, field parameters, semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). The analytical results are summarized in Tables 2 through 11. Electronic copies of the laboratory reports for the supplemental sampling event are provided in Appendix C and an electronic data deliverable of the results will be provided to EPA in a separate transmittal.

To illustrate current groundwater chemical concentrations distributions, contour figures were prepared for chlorobenzene and pCBSA in the upper Bellflower aquitard (UBA), Bellflower sand (BFS), and Gage aquifer (Gage) (Figures 2 through 7) using data obtained during this supplemental sampling event and the November/December 2008 sampling event.

Summary of Data Trends and Related Adjustments to Concentration Contours

The extent of the chlorobenzene plumes in the UBA, BFS, and Gage (Figures 2 through 4) does not significantly differ from that previously observed, with the following two exceptions:

- UBA: In monitor well MW-1, located in the southeast corner of the Montrose Property chlorobenzene was detected at a concentration of 150,000 micrograms per liter (ug/l), which represents a historical high for this well. In the previous sampling event in October 2006, the concentration of chlorobenzene in this well was 84,000 ug/l (H+A, 2007). This increase in concentration is consistent with the trend of increasing groundwater concentrations of chlorobenzene since 1985. Monitor well MW-1 is located downgradient of dense non-aqueous phase liquid (DNAPL) present in the UBA, and it is expected that groundwater concentrations in this area would increase as a result due to continuing dissolution of the chlorobenzene component of the DNAPL. To update previously published concentration contours, the 100,000 ug/l concentration contour in Figure 2 has been extended to the southeast.

- Gage: Chlorobenzene was detected at a concentration of 2,200 ug/l in observation well G-OW-4, located south of the Montrose Property. This well was not previously sampled, and therefore, the sampling results from this well contribute new information to the concentration contours. Inclusion of data from this well resulted in an expansion of the 1,000 ug/l contour shown on Figure 4.

Figures 5 through 7 present the current pCBSA concentrations in the UBA, BFS, and Gage using the data generated by this supplemental sampling program. The extent of pCBSA in the UBA, BFS, and Gage does not significantly differ from that previously observed (H+A, 2004 and 2007).

Other detected VOCs are presented in Table 4. A review of these data indicates that concentrations were generally consistent with historic data and/or regional concentration trends. The potential impacts of these data and the other data collected on the treatment system design are further discussed in the subsequent section.

4.0 TREATMENT SYSTEM DESIGN PARAMETERS

As described in the Workplan, sampling was conducted to obtain additional information needed to verify the basis of design for components of the TGRS treatment plant, including the liquid phase granular activated carbon system, the advanced oxidation system, and a potential arsenic treatment system, which is currently being evaluated. Data were also collected to evaluate operation of the injection wells.

A review of the data generated by this sampling program indicates no changes are needed in the basis of design of the TGRS. However, some data, such as the concentrations of 1,2-dichloroethane, chloroform, and methylene chloride, are expected to result in increased carbon usage rates which will be taken into consideration in the development of operations procedures for the TGRS. Additionally, the concentrations of bromide will likely result in modifications to the design of the advanced oxidation system. Details of the impacts of these data on the design of the TGRS will be presented separately in intermediate design documents, rather than within this report.

5.0 REFERENCES

Hargis + Associates, Inc. (H+A), 2003a. Final Field Sampling Plan, Baseline Groundwater Sampling, Montrose Site, Torrance, California. November 13, 2003.

_____, 2003b. Final Quality Assurance Project Plan, Baseline Groundwater Sampling, Montrose Site, Torrance, California. November 13, 2003.

_____, 2004. Baseline Groundwater Sampling Results Report, January 2004, Montrose Site, Torrance, California, DSGWRD 26 – 027, Revision 1.0. November 22, 2004.

_____, 2007. 2006 Groundwater Monitoring Results Report, Montrose Site, Torrance, California. February 28, 2007.

_____, 2009. Technical Memorandum to R. Blank, EPA, Re: Supplemental Groundwater Sampling and Analysis Program, Montrose Chemical Corporation Site, Torrance, California, dated April 2, 2009.

TABLE 1
SYSTEM DESIGN SAMPLING PROGRAM

EXTRACTION WELL	MBFB-EW-1	UBA-EW-1		UBA-EW-2	BF-EW-1	BF-EW-2	BF-EW-3	BF-EW-4	BF-EW-5	BF-EW-6	G-EW-1	G-EW-2	G-EW-3	G-EW-4	G-EW-5	G-EW-6
ANALYTE / SAMPLED WELL	MBFB-EW-1	MW-1	MW-6	MW-13	BF-EW-1	BF-OW-3	BF-15	BF-11	BF-2	BF-6	G-6	G-22[6]	G-OW-4	G-13	G-OW-3	G-35[6]
VOCs[1]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pCBSA												X			X	X
SVOCs[1]		X	X	X	X		X			X				X	X	X
Pesticides[1]						X		X			X			X	X	X
CAM 17 Metals[2] (Dissolved)	X	X	X	X[3]		X	X	X		X		X		X	X	X
PCBs[4]		X	X	X			X	X		X				X	X	X
EDB AND DBCP	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Other Metals																
Aluminum	X	X	X	X	X	X		X	X	X	X				X	X
Boron		X	X	X	X	X		X		X	X	X	X		X	X
Chromium III[5]	X	X	X	X			X	X		X				X	X	
Chromium VI	X	X	X	X			X	X		X				X	X	
Iron	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Iron (Ferrous)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Magnesium	X	X	X	X	X	X		X	X	X	X	X			X	X
Manganese	X	X	X	X	X	X		X	X	X	X	X			X	X
Arsenic (III)	X	X	X	X	X	X	X	X		X		X		X	X	X
Arsenic (V)	X	X	X	X	X	X	X	X		X		X		X	X	X
Mercury	X	X	X			X	X	X		X		X		X	X	X
General Minerals																
Total Alkalinity	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Alkalinity - Carbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Alkalinity - Bicarbonate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Alkalinity - Hydroxide	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bromate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bromide	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cyanide		X	X	X						X		X	X		X	X
Dissolved Nitrogen	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Nitrate as NO_3	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Nitrite as NO_2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nitrate as Nitrogen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nitrite as Nitrogen	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Orthophosphate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Phosphate	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Potassium	X	X	X	X	X	X		X	X	X	X	X			X	X
Hardness as $CaCO_3$	X	X	X	X	X	X		X	X	X	X	X			X	X
Calcium	X	X	X	X	X	X		X	X	X	X	X			X	X

TABLE 1
SYSTEM DESIGN SAMPLING PROGRAM

EXTRACTION WELL	MBFB-EW-1	UBA-EW-1		UBA-EW-2	BF-EW-1	BF-EW-2	BF-EW-3	BF-EW-4	BF-EW-5	BF-EW-6	G-EW-1	G-EW-2	G-EW-3	G-EW-4	G-EW-5	G-EW-6
ANALYTE / SAMPLED WELL	MBFB-EW-1	MW-1	MW-6	MW-13	BF-EW-1	BF-OW-3	BF-15	BF-11	BF-2	BF-6	G-6	G-22	G-OW-4	G-13	G-OW-3	G-35
General Minerals (continued)																
Chloride		X	X	X	X	X		X		X	X	X			X	X
Fluoride	X	X	X	X	X	X		X	X	X	X	X	X		X	X
Sodium	X	X	X	X	X	X		X	X	X	X	X			X	X
Sulfate		X	X	X	X	X		X		X	X	X			X	X
Sulfide (dissolved)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Dissolved Solids		X	X	X	X	X		X		X	X	X			X	X
Total Suspended Solids		X	X	X				X		X		X			X	X
Silica	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Other Analytes																
Ammonia	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hydrogen Sulfide	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Organic Carbon	X	X	X	X	X	X		X	X	X	X	X	X		X	X
Chemical Oxygen Demand	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Gases (CO_2, Ethane, Ethene and Methane)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Radon	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Trihalomethane	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Apparent Color	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Odor Threshold	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Specific Conductance	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

"X" = well sampled for indicated parameter

FOOTNOTES

1. Specific VOCs, SVOCs and pesticides were identified in the Supplemental Sampling Workplan (H+A, 2009a) and are specified in the laboratory data reports (Attachment 3).
2. CAM 17 Metals: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.
3. Sample from MW-13 was analyzed for Chromium only.
4. PCBs analyzed for Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262 and 1268.
5. Chromium III was not analyzed for directly. It is calculated using results for Total Chromium and Chromium VI.
6. Monitor wells G-22 and G-35 were sampled in November/December 2008, prior to the supplemental sampling event.

CO_2 = Carbon dioxide

$CaCO_3$ = Calcium carbonate

CAM 17 Metals = California Assessment Manual 17 Metals

DBCP = 1,2-Dibromo-3-chloropropene

EDB = 1,2-Dibromomethene

NO_2 = Nitrite

NO_3 = Nitrate

VOCs = Volatile organic compounds

SVOCs = Semivolatile organic compounds

PCBs = Polychlorinated biphenyls

pCBSA = para-Chlorobenzene Sulfonic Acid

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TABLE 2
CHLOROBENZENE IN GROUNDWATER

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	CHLOROBENZENE CONCENTRATION (micrograms per liter)		
			MOST RECENT RESULT (DECEMBER 2008 OR APRIL 2009)	PREVIOUS RESULT[1] (DATE)	HISTORICAL RANGE OF SAMPLED WELL
MBFB-EW-1	MBFB-EW-1	04/21/09	1,000	830 (8/24/05)	830
UBA-EW-1	MW-1	04/28/09	150,000	84,000 (10/31/06)	1,400 - 130,000
	MW-1 (Duplicate)	04/28/09	130,000		
	MW-6	04/27/09	210	350 (10/31/06)	130 - 13,000
UBA-EW-2	MW-13	04/23/09	9,000	7,200 (10/30/06)	1,700 - 11,000
BF-EW-1	BF-EW-1	04/22/09	37,000	17,000 (10/06/06)	17,000 - 43,000
BF-EW-2	BF-OW-3	04/22/09	25,000	BF-EW-2: 32,000 (1/25/07)	19,000 - 32,000[2]
BF-EW-3	BF-15	04/27/09	7,200	5,700 (10/27/06)	5,700 - 45,000
BF-EW-4	BF-11	04/21/09	8,200	7,400 (10/23/06)	<10 - 8,800
	BF-11 (Split)	04/21/09	6,900		
BF-EW-5	BF-2	04/28/09	87,000	52,000 (03/28/08)	3,600 - 74,000
BF-EW-6	BF-6	04/23/09	13,000	26,000 (01/26/04)	23,000 - 36,000
G-EW-1	G-6	04/20/09	3,100	3,100 (10/27/06)	1,300 - 4,600[2]
G-EW-2	G-22	12/11/08	640	G-EW-2: 560 (12/15/06)	300 - 560[2]
	G-22 (Replicate)	12/11/08	560		
G-EW-3	G-OW-4	04/23/09	2,200	G-EW-3: 640 (2/28/07)	640-820[2]
G-EW-4	G-13	04/27/09	3,900	4,200 (10/31/06)	1,100 - 4,400
G-EW-5	G-OW-3	04/22/09	280	490 (7/20/05)	490
	G-OW-3 (Split)	04/22/09	210		
	G-OW-3 (Duplicate)	04/22/09	220 MHA		
G-EW-6	G-35	12/11/08	2.5	4.6 (11/24/08)	4.6
	G-35 (Replicate)	12/11/08	3.3		
	G-35 (Split)	12/11/08	3		
	G-35 (Duplicate)	12/11/08	3.4		
Samples Collected for Plume Definition					
--	BF-28	04/24/09	11	58 (10/27/06)	<1 - 58

TABLE 2
CHLOROBENZENE IN GROUNDWATER

FOOTNOTE

1 = Previous result is for the "sampled well", except where indicated otherwise.
2 = Historical range encompasses chlorobenzene concentrations in the existing extraction well and the sampled representative well.
(<) = Less than; the numerical value is the Limit of Detection for that compound.

LABORATORY QUALIFIERS

MHA = Due to high levels of analyte in the sample, the Matrix Spike/Matrix Spike Duplicate calculation does not provide useful spike recovery information.

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TABLE 3
para-CHLOROBENZENE SULFONIC ACID IN GROUNDWATER

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	pCBSA CONCENTRATION (micrograms per liter)		
			MOST RECENT RESULT (DECEMBER 2008 OR APRIL 2009)	PREVIOUS RESULT[1] (DATE)	HISTORICAL RANGE OF SAMPLED WELL
G-EW-5	G-OW-3	04/22/09	8,500	7,700 (07/20/05)	7,700
	G-OW-3 (Split)	04/22/09	8,800		
	G-OW-3 (Duplicate)	04/22/09	8,600		
G-EW-6	G-35	12/11/08	7,400	7,900 (11/24/08)	7,400 - 7,900
	G-35 (Replicate)	12/11/08	7,600		
Samples Collected for Plume Definition					
--	G-25	04/24/09	3,600	14,000 (10/31/06)	4,400 - 14,000
--	G-31	04/24/09	540	390 (10/24/06)	190 - 390

FOOTNOTES

1 = Previous result is for the "sampled well".

pCBSA = para-Chlorobenzene sulfonic acid

TABLE 4

OTHER DETECTED VOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	COMPOUND	CONCENTRATION (ug/l)
MBFB-EW-1	MBFB-EW-1	04/21/09	sec-Butylbenzene	7.0J
			1,2-Dichloroethane	340
			cis-1,2-Dichloroethylene	5.7J
			Ethyl benzene	770
			Isopropyl benzene	35
			Naphthalene	69
			n-Propylbenzene	70
			Tetrachloroethylene	32
			Toluene	25
			Trichloroethylene	100
			1,2,4-Trimethylbenzene	370
			1,3,5-Trimethylbenzene	96
			m,p-Xylenes	340
			o-Xylene	3.0J
			Xylenes, Total	350
			Benzene	9,600
UBA-EW-1	MW-1	04/28/09	Chloroform	18,000
			Total Trihalomethanes	18,000
			Benzene	3,300
			Tetrachloroethylene	2,400
			Trichloroethylene	380J
			1,4-Dioxane	180
	MW-1 (Duplicate)	04/28/09	Acetone	3,400J
			Benzene	3,000
			Chloroform	15,000
			1,4-Dichlorobenzene	190J
			Tetrachloroethylene	2,000
			Trichloroethylene	310J
	MW-6	04/27/09	Chloroform	3,800M1
			Tetrachloroethylene	17,000M1
			Total Trihalomethanes	3,800
			Benzene	46
			Carbon tetrachloride	180
			Chloroform	3,800
			1,2-Dichlorobenzene	26J
			1,4-Dichlorobenzene	36J
			1,1-Dichloroethane	79
			1,2-Dichloroethane	120
			1,1-Dichloroethylene	290
			cis-1,2-Dichloroethylene	61

TABLE 4

OTHER DETECTED VOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	COMPOUND	CONCENTRATION (ug/l)
UBA-EW-1 (cont'd)	MW-6 (cont'd)	04/27/09	Methylene chloride	52J
			1,1,1,2-Tetrachloroethane	9.2J
			1,1,2-Trichloroethane	37J
			Trichloroethylene	1,100
			1,4-Dioxane	380
UBA-EW-2	MW-13	04/23/09	Cyclohexane	310
			Benzene	7,200
			Toluene	1,400
			sec-Butylbenzene	5.8J
			Chloroform	130
			1,4-Dichlorobenzene	18J
			1,2-Dichloroethane	36
			cis-1,2-Dichloroethylene	21J
			Ethyl benzene	680
			Isopropyl benzene	31J
			Naphthalene	260
			n-Propylbenzene	76
			Tetrachloroethylene	390
			Trichloroethylene	480
			1,2,4-Trimethylbenzene	530
			1,3,5-Trimethylbenzene	120
			m,p-Xylenes	560
			o-Xylene	280
			Xylenes, Total	840
			1,2-Dibromoethane (EDB)	3.2
			Chloroform	100
			Trihalomethanes, Total	100
			1,4-Dioxane	2.0
BF-EW-1	BF-EW-1	04/22/09	Benzene	580
			Chloroform	1,800
			Tetrachloroethylene	61J
			Trichloroethylene	51J
			Trihalomethanes, Total	1,100
			1,4-Dioxane	1.2J
BF-EW-2	BF-OW-3	04/22/09	Cyclohexane	44
			Benzene	53
			1,2-Dichlorobenzene	7.0J
			1,4-Dichlorobenzene	51
			1,2-Dichloroethane	14
			Ethyl benzene	18J
			Tetrachloroethylene	6.2J

TABLE 4

OTHER DETECTED VOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	COMPOUND	CONCENTRATION (ug/l)
BF-EW-2 (cont'd)	BF-OW-3 (cont'd)	04/22/09	m,p-Xylenes	8.0J
			Xylenes, Total	9.2J
			Chloroform	1.8
			Trihalomethanes, Total	1.8
BF-EW-3	BF-15	04/27/09	Benzene	17J
			1,4-Dichlorobenzene	27J
			1,2-Dichloroethane	25
			Tetrachloroethylene	93
			Trichloroethylene	6.4J
BF-EW-4	BF-11	04/21/09	1,4-Dichlorobenzene	19J
			Chloroform	0.44J
BF-EW-5	BF-2	04/28/09	Chloroform	970
			Total Trihalomethanes	970
			Trichloroethylene	180J
BF-EW-6	BF-6	04/23/09	Benzene	68
			1,4-Dichlorobenzene	35J
			Trichloroethylene	17J
			Chloroform	0.48J
G-EW-1	G-6	04/20/09	Methylene chloride	26J
			Benzene	2.0J
			1,3-Dichlorobenzene	5.4J
			1,4-Dichlorobenzene	5.2J
G-EW-3	G-OW-4	04/23/09	Benzene	9.9
			1,2-Dichlorobenzene	1.6J
			1,4-Dichlorobenzene	9.9
G-EW-4	G-13	04/27/09	Benzene	3.1J
			Tetrachloroethylene	3.3J
G-EW-5	G-OW-3	04/22/09	Benzene	8.8
			Toluene	1.3J
			o-Xylene	0.61J
	G-OW-3 (Duplicate)	04/22/09	Benzene	8.1
			Toluene	1.2J
			o-Xylene	0.60J
	G-OW-3 (Split)	04/22/09	Benzene	7

TABLE 4

OTHER DETECTED VOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	COMPOUND	CONCENTRATION (ug/l)
Plume Characterization	BF-28	04/24/09	Chloroform	0.33J
	G-22	12/11/08	1,2-Dichloroethane	9.9
			1,2-Dichloroethane	8.2
	G-35	12/11/08	1,2-Dichloroethane	6.2
			1,2-Dichloroethane	5.4
			1,4-Dioxane	2.4
	G-35 (Duplicate)	12/11/08	1,2-Dichloroethane	6.4
	G-35 (Split)	12/11/08	1,2-Dichloroethane	6

FOOTNOTES

In the split sample for wells BF-11 and G-OW-3, acetone was detected in the blank result at a concentration matching that reported for the sample. In the split sample for well G-OW-3, bromomethane was detected in the blank at the same concentration as that reported for the sample. It is likely that these detections are due to laboratory contamination, and therefore are not reported as detected in the sample.

LABORATORY QUALIFIERS

ug/l = Micrograms per liter

J = Estimated value. Analyte detected at a level less than the Reporting Limit and greater than or equal to the Method Detection Limit. The user of this data should be aware that this data is of limited reliability.

M1 = The Matrix Spike and/or Matrix Spike Duplicate were above the acceptance limits due to sample matrix interference.

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TABLE 5
CAM 17 METALS

Extraction Well	Sampled Well	Date Sampled	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MBFB-EW-1	MBFB-EW-1	04/21/09	0.00025J	0.20	0.38	<0.0002 C	<0.00011	<0.00070
UBA-EW-1	MW-1	04/28/09	<0.0010 RL1	0.011	0.11	<0.001 C, RL1	<0.00055 RL1	0.039 M2
	MW-6	04/27/09	<0.0010 RL1	<0.0035 RL1	0.10	<0.001 C, RL1	<0.00055 RL1	<0.0035 C, RL1
UBA-EW-2	MW-13	04/23/09	NA	NA	NA	NA	NA	<0.00070
BF-EW-1	BF-EW-1	04/22/09	NA	NA	NA	NA	NA	NA
BF-EW-2	BF-OW-3	04/22/09	<0.00020	0.043	0.064	<0.0002 C	<0.00011	<0.00070
BF-EW-3	BF-15	04/27/09	<0.00020	<0.00070	0.064	<0.0002 C	<0.00011	<0.00070 C
BF-EW-4	BF-11	04/21/09	<0.00020	0.0021	0.063	<0.0002 C	<0.00011	<0.00070
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	0.00063J	<0.00070	0.056	<0.0002 C	<0.00011	<0.00070
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	<0.002	0.0012	0.069	<0.0005 C	<0.001	<0.002
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.00020	<0.00070 M2	0.036	<0.0002 C	<0.00011	0.0042
G-EW-5	G-OW-3	04/22/09	<0.00020	0.0022	0.023	<0.0002 C	<0.00011	<0.00070
G-EW-6	G-35	12/11/08	<0.002	0.012	0.064	<0.0005 C	<0.001	<0.002

HARGIS + ASSOCIATES, INC.

TABLE 5
CAM 17 METALS

Extraction Well	Sampled Well	Date Sampled	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MBFB-EW-1	MBFB-EW-1	04/21/09	0.0011	0.0012J	<0.00030	<0.00010	0.0046	<0.00090
UBA-EW-1	MW-1	04/28/09	0.0069	0.0068 RL1, J	<0.0015 RL1	<0.00010	0.0032 RL1, J	0.010
	MW-6	04/27/09	0.026	0.017	<0.0015 RL1	0.00012J	0.0034 RL1, J	0.13
UBA-EW-2	MW-13	04/23/09	NA	NA	NA	NA	NA	NA
BF-EW-1	BF-EW-1	04/22/09	NA	NA	NA	NA	NA	NA
BF-EW-2	BF-OW-3	04/22/09	0.00037J	0.0013J	<0.00030	<0.00010	0.0031	<0.00090
BF-EW-3	BF-15	04/27/09	0.0014	0.0027	<0.00030	<0.00010	0.00094 J	<0.00090
BF-EW-4	BF-11	04/21/09	0.00026J	0.0013J	<0.00030	<0.00010	0.0014 J	<0.00090
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	0.00027J	0.0011J	<0.00030	<0.00010	0.0047	<0.00090
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	<0.001	<0.002	<0.001	<0.0002	0.018	<0.002
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.00015	0.00078J	<0.00030	<0.00010	0.0038	0.0028
G-EW-5	G-OW-3	04/22/09	<0.00015	<0.00075	<0.00030	<0.00010	0.0026	<0.00090
G-EW-6	G-35	12/11/08	<0.001	<0.002	<0.001	<0.0002	0.004	0.0022

HARGIS + ASSOCIATES, INC.

TABLE 5
CAM 17 METALS

Extraction Well	Sampled Well	Date Sampled	Selenium	Silver	Thallium	Vanadium	Zinc
			mg/l	mg/l	mg/l	mg/l	mg/l
MBFB-EW-1	MBFB-EW-1	04/21/09	0.0023	<0.0003	<0.0002	<0.0007	0.052
UBA-EW-1	MW-1	04/28/09	0.0038 RL1, J	<0.0015 RL1	<0.001 RL1	<0.0035 C, RL1	0.091 RL1, J
	MW-6	04/27/09	0.0067 RL1, J	<0.0015 RL1	<0.001 RL1	<0.0035 C, RL1	0.18
UBA-EW-2	MW-13	04/23/09	NA	NA	NA	NA	NA
BF-EW-1	BF-EW-1	04/22/09	NA	NA	NA	NA	NA
BF-EW-2	BF-OW-3	04/22/09	0.00037 J	<0.0003	<0.0002	<0.0007	0.023
BF-EW-3	BF-15	04/27/09	0.00090 J	<0.0003	<0.0002	<0.0007	0.092
BF-EW-4	BF-11	04/21/09	0.00094 J	<0.0003	<0.0002	0.00087 J	0.48
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	0.00037 J	<0.0003	<0.0002	<0.0007	0.048
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	<0.002	<0.001	<0.001	<0.002	<0.02
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	0.00040 J	<0.0003	<0.0002	<0.0007 C	0.0036 J
G-EW-5	G-OW-3	04/22/09	<0.00030	<0.0003	<0.0002	<0.0007	0.031
G-EW-6	G-35	12/11/08	<0.002	<0.001	<0.001	<0.002	<0.02

FOOTNOTES

Note: All results presented as concentration in milligrams per liter. Laboratory results reported as micrograms per liter were multiplied by 0.001 to convert the reported concentration to milligrams per liter.

mg/l = milligrams per liter

NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.

LABORATORY QUALIFIERS

C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.

J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

M2 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

MHA = Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).

TABLE 6
OTHER METALS

Extraction Well	Sampled Well	Date Sampled	Aluminum	Arsenic (III)	Arsenic (V)	Boron	Chromium III	Chromium VI	Ferrous Iron[1]	Iron	Magnesium	Manganese
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MBFB-EW-1	MBFB-EW-1	04/21/09	<0.040	0.276	0.049	NA	<0.0027	<0.00025	<0.10	4.4	120 MHA	6.0
UBA-EW-1	MW-1	04/28/09	<0.080 RL1	0.0097	<0.0017 G	0.25	0.039	<0.00025	1	2.2	250	3.6
	MW-6	04/27/09	<0.20 RL1	<0.0011	<0.00085	0.34	<0.00070	0.00067 C, J	<0.10	<0.075 RL1	480	2.0
UBA-EW-2	MW-13	04/23/09	<0.040	0.249	<0.00085 G	0.22	<0.0027	<0.00025	<0.10	13	110	6.3
BF-EW-1	BF-EW-1	04/22/09	<0.040	0.0044	<0.00085	0.13	NA	NA	<0.10	<0.015	45	0.45
BF-EW-2	BF-OW-3	04/22/09	<0.040	0.0414	0.0288	0.14	NA	NA	<0.10	0.038 J	40	0.67
BF-EW-3	BF-15	04/27/09	NA	<0.0011	<0.00085	NA	<0.00070	0.00042 C, J	<0.10	0.027 J	NA	NA
BF-EW-4	BF-11	04/21/09	<0.040	<0.0011	<0.00085	0.18	<0.0027	<0.00025	2.5	<0.015	52	0.024
BF-EW-5	BF-2	04/28/09	<0.040	NA	NA	NA	NA	NA	<0.10	<0.015	53 MHA	2.0
BF-EW-6	BF-6	04/23/09	<0.040	<0.0011	<0.00085	0.13	<0.0027	<0.00025	<0.10	0.017 J	24	0.067
G-EW-1	G-6	04/20/09	<0.040	NA	NA	0.11	NA	NA	<0.10	<0.015	15	0.042
G-EW-2	G-22	12/11/08	NA	<0.002	<0.002	0.11	NA	NA	<0.10	<0.04	15 MHA	<0.02
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	0.10	NA	NA	<0.10	0.025 J	NA	NA
G-EW-4	G-13	04/27/09	NA	<0.0011	<0.00085	NA	0.0042	<0.00025 C	<0.10	0.021 J	NA	NA
G-EW-5	G-OW-3	04/22/09	<0.040	<0.0011	<0.00085	0.11	<0.0027	0.00028 J	<0.10	0.015 J	14	0.045
G-EW-6	G-35	12/11/08	<0.05	<0.004	<0.004	0.16	NA	NA	<0.10	<0.04	32	0.21

FOOTNOTES

Note: All results presented as concentration in milligrams per liter. Laboratory analysis may have been reported as micrograms per liter; these results were multiplied by 0.001 to convert the reported concentration to milligrams per liter.

1. The hold time for analysis of Ferrous Iron is immediate. All sample results were flagged with the laboratory data qualifier "HFT" indicating that the hold time was immediate and that the laboratory analyzed as soon as possible following receipt of samples.

mg/l = milligrams per liter

NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.

LABORATORY QUALIFIERS

C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
G = Elevated reporting limit. The reporting limit is elevated due to matrix interference.
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
MHA = Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
RL1 = Reporting limit raised due to sample matrix effects

TABLE 7
GENERAL MINERALS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Alkalinity (as $CaCO_3$)	Bicarbonate	Carbonate	Hydroxide	Bromate	Bromide	Calcium	Chloride	Cyanide	Fluoride	Hardness (as $CaCO_3$)	Ammonia - N	Nitrate-N	Nitrate-NO_3
			mg/l	*mg/l*	*mg/l*	*mg/l*	*ug/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	750	920	<1.2	<0.70	<40 RL1	2.7	310 MHA	NA	NA	0.40 J	1200	<0.10	<0.060	<0.25
UBA-EW-1	MW-1	04/28/09	680	830	<1.2	<0.70	<100 RL1	0.54 RL1, J	770	1,200	<0.017 P	<0.75 RL1	3000	0.19 J	<0.060	<0.25
	MW-6	04/27/09	700	850	<1.2	<0.70	<40 RL1	1.8	1,300	3,900	<0.017 P	<0.75 RL1	5200	0.55	20	88
UBA-EW-2	MW-13	04/23/09	590	720	<1.2	<0.70	<100 RL1	1.2 RL1, J	280	480	<0.017	0.55	1100	<0.10	<0.060	<0.25
BF-EW-1	BF-EW-1	04/22/09	220	270	<1.2	<0.70	<100 RL1	0.32	180	250	NA	0.21 J	640	<0.10	<0.060	<0.25
BF-EW-2	BF-OW-3	04/22/09	220	270	<1.2	<0.70	<40 RL1	0.39 RL1, J	130	160	NA	0.25 J	450	0.18 J	<0.060	<0.25
BF-EW-3	BF-15	04/27/09	590	720	<1.2	<0.70	<100 RL1	0.79	NA	NA	NA	NA	NA	<0.10	<0.060	<0.25
BF-EW-4	BF-11	04/21/09	360	440	<1.2	<0.70	<20 M2, RL1	0.69 RL1, J	150	200	NA	0.23 J	570	0.10 J	<0.060	<0.25
BF-EW-5	BF-2	04/28/09	330	400	<1.2	<0.70	<40 RL1	0.85	230 MHA	NA	NA	0.30 J	770	0.12	<0.060	<0.25
BF-EW-6	BF-6	04/23/09	180	220	<1.2	<0.70	<40 RL1	0.21 RL1, J	100	88	<0.017	0.33 J	350	<0.10	<0.060	<0.25
G-EW-1	G-6	04/20/09	160	200	<1.2	<0.70	<4.0 RL1	0.19	57	62	NA	0.38 J	200	NA	<0.060	<0.25
G-EW-2	G-22	12/11/08	NA	160	<2	<2[2]	<5	<0.5	76 MHA	69	<0.025	<0.5	250	<0.50	<0.5	NA
G-EW-3	G-OW-4	04/23/09	190	230	<1.2	<0.70	<100 RL1	0.47	NA	NA	<0.017	0.35 J	NA	<0.10	<0.060	<0.25
G-EW-4	G-13	04/27/09	190	230	<1.2	<0.70	<4.0 RL1	0.16	NA	NA	NA	NA	NA	0.19	<0.060	<0.25
G-EW-5	G-OW-3	04/22/09	160	200	<1.2	<0.70	<20 M2, RL1	0.13 M1, RL1, J	51 MHA	49	<0.017	0.35 J	170	0.22 J	<0.060	<0.25
G-EW-6	G-35	12/11/08	NA	280	<2	<2[2]	<25 RL1	0.5	120	94	<0.025	0.58	420	<0.50	<0.11	NA

TABLE 7
GENERAL MINERALS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Nitrite-N	Nitrite-NO_2	Orthophosphate as Phosphorous	Phosphate	Phosphorus	Potassium	Silica[1]	Sodium	Sulfate	Dissolved Sulfide[3]	Hyrogen Sulfide	Total Kjeldahl Nitrogen	Total Dissolved Solids	Total Suspended Solids
			mg/l	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	<1.8 RL3	<6.0 RL3	0.018 J	0.46	0.15	8.1	48 B-1, MHA	300 MHA	NA	0.089 J	0.04 J	1.1 P2, P7	NA	NA
UBA-EW-1	MW-1	04/28/09	<1.8 RL1	<6.0 RL1	0.12	0.54	0.18	16	36	500	770	<0.040	<0.1	1.7	6100	26
	MW-6	04/27/09	3.7	12	0.028	0.22	0.072	20	36	1500	1900	<0.040	<0.1	3.9	10000	14
UBA-EW-2	MW-13	04/23/09	<1.8 RL1	<6.0 RL1	0.11	0.60	0.20	6.7	43 B-1	190	170	<0.040	<0.1	1.4 P2, P7	1800	31
BF-EW-1	BF-EW-1	04/22/09	<1.8 RL1	<6.0 RL1	0.016 J	<0.060	<0.020	8.9	26	110	290	0.061 J	0.03 J	1.1 P2, P7	1200	NA
BF-EW-2	BF-OW-3	04/22/09	<0.090	<0.30	0.11	0.19	0.061	6.5	26	95	200	0.087 J	<0.1	0.84 P2, P7	920	NA
BF-EW-3	BF-15	04/27/09	<1.8 RL1	<6.0 RL1	<0.010	0.080	0.026 J	NA	34	NA	NA	0.053 J	0.03 J	1.1	NA	NA
BF-EW-4	BF-11	04/21/09	<1.8 RL1	<6.0 RL1	<0.010	<0.060	<0.020	7.5	29	130	210	0.093 J	<0.1	1.1 P2, P7	1100	<1.0
BF-EW-5	BF-2	04/28/09	<0.45 RL3	<1.5 RL3	<0.010	0.20	0.066	8.6	27	120 MHA	NA	0.058 J	<0.1	1.4	NA	NA
BF-EW-6	BF-6	04/23/09	<0.090	<0.30	0.017 J	0.080	0.026 J	6.8	23 B-1	65	150	0.065 J	<0.1	1.1 P2, P7	640	4.0 J
G-EW-1	G-6	04/20/09	<0.090	<0.30	0.039	<0.060	<0.020	4.4	27 B-1	47	48	0.048 J	<0.1	1.1 P2, P7	380	NA
G-EW-2	G-22	12/11/08	NA	<0.15	<0.025	<0.50	<0.5 M2	5.4	22	56 MHA	120	<0.10	<0.1	NA	520	10
G-EW-3	G-OW-4	04/23/09	<0.090	<0.30	0.036	0.10	0.034 J	NA	24 B-1	NA	NA	0.041 J	<0.1	0.84 P2, P7	NA	NA
G-EW-4	G-13	04/27/09	<0.090	<0.30	0.065	0.20	0.066	NA	26	NA	NA	<0.040	<0.1	1.7	NA	NA
G-EW-5	G-OW-3	04/22/09	<0.090	<0.30	0.058	0.20	0.065	4.9	24	55 MHA	40	0.090 J	<0.1	0.84 P2, P7	350	<1.0
G-EW-6	G-35	12/11/08	NA	<0.15	0.04	<0.50	<0.50	6.5	24	80	210	<0.10	<0.1	NA	770	<10

FOOTNOTES

1. Silica is listed on the laboratory report as Silicon, but is reported in units as "mg/l as Silica" and therefore the resulting values are for Silica
2. Reported as hydroxide as $CaCO_3$. Conversion not performed because result was non-detect.

3. The hold time for analysis of Sulfide is immediate. All sample results were flagged with the laboratory data qualifier "HFT" indicating that the hold time was immediate and that the laboratory analyzed as soon as possible following receipt of samples.

Note 1: Samples collected from G-25 and G-31 were not analyzed for anything other than VOCs and pCBSA per workplan.
Note 2: Results for iron, manganese, and magnesium are reported in Table 4, Metals in Groundwater.
MCL = Maximum Contaminant Level; defined as the lower of either the California or Federal promulgated standard as of November 2008.
mg/l = milligrams per liter
NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.

LABORATORY QUALIFIERS

B-1 = Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
G = Elevated reporting limit. The reporting limit is elevated due to matrix interference.
HFT = The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
M2 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
MHA = Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
P = The sample, as received, was not preserved in accordance to the referenced analytical method.
(Note: all sample bottles contained the appropriate preservative; per the laboratory, water chemistry of the sample may have had a buffering effect such that the sample appears "unpreserved".)
P2, P7 = Sample received without chemical preservation, but preserved by the laboratory. Sample filtered in lab.
RL1 = Reporting limit raised due to sample matrix effects
RL3 = The RPD exceeded the acceptance limit due to sample matrix effects.

TABLE 8
FIELD PARAMETERS AND GENERAL CHEMISTRY

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	COD	Specific Conductance	TOC	DO	EC	RedOx Potential	pH	Temperature	Turbidity	Methane	Ethane
			mg/l	*umhos/cm @ 25C*	*mg/l*	*mg/l*	*uS/cm*	*mV*	*pH units*	*°C*	*NTU*	*ug/L*	*ug/L*
MBFB-EW-1	MBFB-EW-1	04/21/09	100	3,600	17	0.08	3,567	-91.9	6.65	24.48	1.7	11	<0.50
UBA-EW-1	MW-1	04/28/09	1,200	6,300	410	0.91	5,848	-24.0	6.49	23.90	7.0	5.7	<0.50
	MW-6	04/27/09	220	15,000	36	0.74	10,751	94.5	6.48	23.17	1.1	<0.50	<0.50
UBA-EW-2	MW-13	04/23/09	130	2,800	16 B-1	0.3	2,795	-93.5	6.53	22.27	0.8	0.010 B	<0.50
BF-EW-1	BF-EW-1	04/22/09	250	1,700	58	0.45	1,250	32.8	7.04	23.6	8.68	4.1	<0.50
BF-EW-2	BF-OW-3	04/22/09	170	1,300	44	1.7	1,189	-90.1	7.29	22.31	85	2.8	<0.50
BF-EW-3	BF-15	04/27/09	87	2,300	NA	0.3	1,914	19.9	6.66	22.01	1.6	32	<0.50
BF-EW-4	BF-11	04/21/09	51	1,700	11	0.11	1,458	-95.1	6.92	21.12	0.85	0.71J	<0.50
BF-EW-5	BF-2	04/28/09	260	2,000	47	1.7	1,686	-9.6	6.97	22.50	0.65	1.4 B	<0.50
BF-EW-6	BF-6	04/23/09	110	960	18 B-1	0.17	830	-56.2	7.32	22.87	0.10	1.4 B	<0.50
G-EW-1	G-6	04/20/09	31	620	6.4	0.14	615	-181.2	7.63	23.82	-2.19	110	<0.50
G-EW-2	G-22	12/11/08	25	790	6.6	1.3	663	-254	8.11	21.44	6.1	2.1	<0.50
G-EW-3	G-OW-4	04/23/09	48	1,000	6.8 B	0.31	836	-109.4	7.50	21.89	1.3	1.1	<0.50
G-EW-4	G-13	04/27/09	53	650	NA	0.43	511	-131.8	7.93	22.04	0.55	94	<0.50
G-EW-5	G-OW-3	04/22/09	19 J	600	4.6 B	0.8	544	-96	7.99	21.83	2.0	12	<0.50
G-EW-6	G-35	12/11/08	20	1,200	3.9	0.23	981	-122.4	7.22	21.50	6.1	1.3	<0.50

TABLE 8
FIELD PARAMETERS AND GENERAL CHEMISTRY

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Ethene	Carbon Dioxide	Dissolved Nitrogen	Radon-222	Color[1]	Odor
			uglL	*uglL*	*mglL*	*pCi/L*	*Color Units*	*T.O.N.*
MBFB-EW-1	MBFB-EW-1	04/21/09	<0.53	220,000	<3.1	131.0+/-35.0	150	1300
UBA-EW-1	MW-1	04/28/09	<0.53	230,000	<3.1	139.0+/-34.0	180	350
	MW-6	04/27/09	<0.53	210,000	23	81.9+/-30.0	25	44
UBA-EW-2	MW-13	04/23/09	<0.53	160,000	<3.1	87.1+/-31.0	100	390
BF-EW-1	BF-EW-1	04/22/09	<0.53	29,000	<3.1	224.0+/-42.0	10	180
BF-EW-2	BF-OW-3	04/22/09	<0.53	14,000	<0.26	267.0+/-46.0	5	140
BF-EW-3	BF-15	04/27/09	<0.53	170,000	<3.1	205.0+/-39.0	<1.0	39
BF-EW-4	BF-11	04/21/09	<0.53	64,000	<3.1	162.0+/-37.0	<1.0	21
BF-EW-5	BF-2	04/28/09	<0.53	49,000	<0.86	236.0+/-43.0	5	310
BF-EW-6	BF-6	04/23/09	<0.53	10,000	<0.26	279.0+/-47.0	<1.0	94
G-EW-1	G-6	04/20/09	<0.53	4,800	<0.26	149.0+/-22.0	<1.0	15
G-EW-2	G-22	12/11/08	<0.33	2,100	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	<0.53	6,600	<0.26	327.0+/-51.0	<1.0	19
G-EW-4	G-13	04/27/09	<0.53	3,700	<0.26	164.0+/-36.0	<1.0	50
G-EW-5	G-OW-3	04/22/09	<0.53	2,400	<0.26	380.0+/-57.0	<1.0	8
G-EW-6	G-35	12/11/08	<0.33	18,000	NA	NA	NA	NA

FOOTNOTES

1. Results for laboratory analysis of Color are qualified. Refer to Attachment 3 for details.

°C = degrees centigrade
COD = Chemical Oxygen Demand
TOC = Total Organic Carbon
DO = Dissolved Oxygen
EC = Electrical Conductivity
mg/l = milligrams per liter
mV = millivolts
NA = Not analyzed
NTU = nephelometric turbidity units
pCi/L = picocuries per liter
RedOx Potential = Reduction - Oxidation Potential
T.O.N. = Threshold Odor Number
umhos/cm @ 25C = microohms per centimeter at 25 degrees centigrade
ug/L = micrograms per liter
uS/cm = microseimens per centimeter

LABORATORY QUALIFIERS

B = Analyte was detected in the associated method blank.
B-1 = Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10 times the concentration found in the method blank.
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

TABLE 9
SEMIVOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,2-Diphenylhydrazine*	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol
			ug/l	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UBA-EW-1	MW-1	04/28/09	42	27	<1.9 C	2.3 J	93	6.5 J	<1.9	10 J	<5.8	<17	<3.8	<1.9	<1.9	140	<1.9	<1.9
	MW-6	04/27/09	4.5 J	18	<0.48 C	1.0 J	26	13	1.5 J	<0.95	<1.4	<4.3	<0.95	<0.48	<0.48	1.8 J	<0.48	<0.48
UBA-EW-2	MW-13	04/23/09	2.7 J	<1.9	<1.9	<1.9	10	<3.8	<1.9	<3.8	<5.7	<17	<3.8	<1.9	<1.9	6.1 J	26	<1.9
BF-EW-1	BF-EW-1	04/22/09	3.7 J	7.1	<0.48	0.48 J	41	1.3 J	<0.48	2.2 J	<1.4	<4.3	<0.95	<0.48	<0.48	13	<0.48	<0.48
BF-EW-2	BF-OW-3	04/22/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-3	BF-15	04/27/09	1.9 J	3.0	<0.48 C	<0.48	17	<0.95	<0.48	<0.95	<1.4	<4.3	<0.95	<0.48	<0.48	<0.95	<0.48	<0.48
BF-EW-4	BF-11	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	0.29 J	3.3	<0.095	0.19 J	23	<0.19	<0.095	<0.19	<0.29	<0.86	<0.19	<0.095	<0.095	<0.19	<0.095	<0.095
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.095	0.42 J	<0.095 C	<0.095	2.6	<0.19	<0.095	<0.19	<0.29	<0.86	<0.19	<0.095	<0.095	0.61 J	<0.095	<0.095
G-EW-5	G-OW-3	04/22/09	<0.095	<0.095	<0.095	<0.095	0.19 J	<0.19	<0.095	<0.19	<0.29	<0.86	<0.19	<0.095	<0.095	<0.19	<0.095	<0.095
G-EW-6	G-35	12/11/08	<9.5	<9.5	<19	<9.5	<9.5	<19	<19	<9.5	<19	<19	<9.5	<9.5	<9.5	<9.5	<9.5	<9.5

TABLE 9
SEMIVOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Aniline	Anthracene
			ug/l	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UBA-EW-1	MW-1	04/28/09	<1.9	<1.9	<7.7	<3.8	<3.8	<1.9	<3.8	<1.9	<1.9	<3.8	<9.6	<48	<1.9	<1.9	<5.8	<1.9
	MW-6	04/27/09	<0.48	<0.48	<1.9	<0.95	<0.95	<0.48	<0.95	<0.48	<0.48	<0.95	<2.4	<12	<0.48	<0.48	<1.4	<0.48
UBA-EW-2	MW-13	04/23/09	<1.9	<1.9	<7.6	<3.8	<3.8	<1.9	<3.8	<1.9	<1.9	<3.8	<9.5	<48	<1.9	<1.9	<5.7	<1.9
BF-EW-1	BF-EW-1	04/22/09	<0.48	<0.48	<1.9	<0.95	<0.95	<0.48	<0.95	<0.48	<0.48	<0.95	<2.4	<12	<0.48	<0.48	<1.4	<0.48
BF-EW-2	BF-OW-3	04/22/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-3	BF-15	04/27/09	<0.48	<0.48	<1.9	<0.95	<0.95	<0.48	<0.95	<0.48	<0.48	<0.95	<2.4	<12	<0.48	<0.48	<1.4	<0.48
BF-EW-4	BF-11	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	<0.095	<0.095	<0.38	<0.19	<0.19	<0.095	<0.19	<0.095	<0.095	<0.19	<0.48	<2.4	<0.095	<0.095	<0.29	<0.095
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.095	<0.095	<0.38	<0.19	<0.19	<0.095	<0.19	<0.095	<0.095	<0.19	<0.48	<2.4	<0.095	<0.095	<0.29	<0.095
G-EW-5	G-OW-3	04/22/09	<0.095	<0.095	<0.38	<0.19	<0.19	<0.095	<0.19	<0.095	<0.095	<0.19	<0.48	<2.4	<0.095	<0.095	<0.29	<0.095
G-EW-6	G-35	12/11/08	<19	<9.5	<19	<19	<19	<9.5	<19	<9.5	<9.5	<9.5	<19	<19	<9.5	<9.5	<9.5	<9.5

TABLE 9
SEMIVOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Benzidine	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl)ether	Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Diethyl phthalate
			ug/l	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UBA-EW-1	MW-1	04/28/09	<19	<1.9	<1.9	<1.9	<1.9	<1.9	58 J	<1.9	<1.9	<1.9	<1.9	<33	17 J	<1.9	<1.9	<1.9	<1.9
	MW-6	04/27/09	<4.8	<0.48	<0.48	<0.48	<0.48	<0.48	<14	<0.48	<0.48	<0.48	<0.48	<8.1	4.4 B, J	<0.48	<0.48	<0.48	<0.48
UBA-EW-2	MW-13	04/23/09	<19	<1.9	<1.9	<1.9	<1.9	<1.9	<57	<1.9	<1.9	<1.9	<1.9	<32	16 B, J	<1.9	<1.9	<1.9	<1.9
BF-EW-1	BF-EW-1	04/22/09	<4.8	<0.48	<0.48	<0.48	<0.48	<0.48	<14	<0.48	<0.48	<0.48	<0.48	9.5 J	4.2 B, J	<0.48	<0.48	<0.48	<0.48
BF-EW-2	BF-OW-3	04/22/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-3	BF-15	04/27/09	<4.8	<0.48	<0.48	<0.48	<0.48	<0.48	<14	<0.48	<0.48	<0.48	<0.48	<8.1	4.3 B, J	<0.48	<0.48	<0.48	<0.48
BF-EW-4	BF-11	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	<0.95	<0.095	<0.095	<0.095	<0.095	<0.095	<2.9	<0.095	<0.095	<0.095	<0.095	<1.6	1.0 B, J	<0.095	<0.095	<0.095	<0.095
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.95	<0.095	<0.095	<0.095	<0.095	<0.095	<2.9	<0.095	<0.095	<0.095	<0.095	1.9 J	1.2 B, J	<0.095	<0.095	<0.095	<0.095
G-EW-5	G-OW-3	04/22/09	<0.95	<0.095	<0.095	<0.095	<0.095	<0.095	<2.9	<0.095	<0.095	<0.095	<0.095	3.5 J	0.88 B, J	<0.095	<0.095	<0.095	<0.095
G-EW-6	G-35	12/11/08	<19	<9.5	<9.5	<9.5	<9.5	<9.5	<19	<19	<9.5	<9.5	<9.5	<48	<19	<9.5	<19	<9.5	<9.5

TABLE 9
SEMIVOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitrosodimethylamine	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine
			ug/l	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UBA-EW-1	MW-1	04/28/09	<1.9	4.2 J	<1.9	<1.9	<1.9	<1.9	<3.8	<1.9	<3.8	<1.9	4.2 J	85	<1.9	<1.9	<1.9	<1.9
	MW-6	04/27/09	<0.48	<0.95	<0.48	<0.48	<0.48	<0.48	1.0 J	<0.48	1.1 J	<0.48	1.3 B, J	2.8 J	<0.48	<0.48	<0.48	<0.48
UBA-EW-2	MW-13	04/23/09	<1.9	<3.8	<1.9	<1.9	<1.9	<1.9	<3.8	<1.9	<3.8	<1.9	4.6 J	180	<1.9	<1.9	<1.9	<1.9
BF-EW-1	BF-EW-1	04/22/09	<0.48	<0.95	<0.48	<0.48	<0.48	<0.48	<0.95	<0.48	<0.95	<0.48	0.95 B, J	8.0	<0.48	<0.48	<0.48	<0.48
BF-EW-2	BF-OW-3	04/22/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-3	BF-15	04/27/09	<0.48	<0.95	<0.48	<0.48	<0.48	<0.48	<0.95	<0.48	<0.95	<0.48	1.1 B, J	1.1 J	<0.48	<0.48	<0.48	<0.48
BF-EW-4	BF-11	04/21/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	<0.095	<0.19	<0.095	<0.095	<0.095	<0.095	<0.19	<0.095	<0.19	<0.095	0.19 J	0.15 J	<0.095	<0.095	<0.095	<0.095
G-EW-1	G-6	04/20/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.095	5.3	1.1 J	<0.095	<0.095	<0.095	<0.19	<0.095	<0.19	<0.095	0.21 B, J	0.38 J	<0.095	<0.095	<0.095	<0.095
G-EW-5	G-OW-3	04/22/09	<0.095	<0.19	<0.095	<0.095	<0.095	<0.095	<0.19	<0.095	<0.19	<0.095	0.21 B, J	<0.095	<0.095	<0.095	<0.095	<0.095
G-EW-6	G-35	12/11/08	<9.5	<19	<19	<9.5	<9.5	<9.5	<9.5	<19	<9.5	<19	<9.5	<9.5	<19	<19	<9.5	<9.5

TABLE 9
SEMIVOLATILE ORGANIC COMPOUNDS

EXTRACTION WELL	SAMPLED WELL	DATE SAMPLED	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
			ug/l	*ug/l*	*ug/l*	*ug/l*
MBFB-EW-1	MBFB-EW-1	04/21/09	NA	NA	NA	NA
UBA-EW-1	MW-1	04/28/09	<1.9	<1.9	15 J	<1.9
	MW-6	04/27/09	0.48 J	<0.48	<1.4	<0.48
UBA-EW-2	MW-13	04/23/09	<1.9	<1.9	15 J	<1.9
BF-EW-1	BF-EW-1	04/22/09	0.48 J	<0.48	<1.4	<0.48
BF-EW-2	BF-OW-3	04/22/09	NA	NA	NA	NA
BF-EW-3	BF-15	04/27/09	<0.48	<0.48	<1.4	<0.48
BF-EW-4	BF-11	04/21/09	NA	NA	NA	NA
BF-EW-5	BF-2	04/28/09	NA	NA	NA	NA
BF-EW-6	BF-6	04/23/09	<0.095	<0.095	<0.29	<0.095
G-EW-1	G-6	04/20/09	NA	NA	NA	NA
G-EW-2	G-22	12/11/08	NA	NA	NA	NA
G-EW-3	G-OW-4	04/23/09	NA	NA	NA	NA
G-EW-4	G-13	04/27/09	<0.095	<0.095	<0.29	<0.095
G-EW-5	G-OW-3	04/22/09	<0.095	<0.095	<0.29	<0.095
G-EW-6	G-35	12/11/08	<19	<9.5	51	<9.5

FOOTNOTES
* Also known as Azobenzene
< = Less than; Analyte not detected below the Method Detection Limit. Concentration is less than the indicated detection limit.
NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.
ug/L = micrograms per liter

LABORATORY QUALIFIERS
B = Analyte was detected in the associated Method Blank.
C = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.

TABLE 10
PESTICIDES

EXTRACTION WELL	MBFB-EW-1	UBA-EW-1		UBA-EW-2	BF-EW-1	BF-EW-2	BF-EW-3	BF-EW-4	BF-EW-5	BF-EW-6	G-EW-1	G-EW-2	G-EW-3	G-EW-4	G-EW-5	G-EW-6
SAMPLED WELL	MBFB-EW-1	MW-01	MW-06	MW-13	BF-EW-1	BF-OW-3	BF-15	BF-11	BF-2	BF-06	G-06	G-22	G-OW-4	G-13	G-OW-3	G-35
DATE SAMPLED	04/21/09	04/28/09	04/27/09	04/23/09	04/22/09	04/22/09	04/27/09	04/21/09	04/28/09	04/23/09	04/20/09	12/11/08	04/23/09	04/27/09	04/22/09	12/11/08
UNITS	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
2,4'-DDD	NA	NA	NA	NA	NA	<0.02	NA	<0.020	NA	NA	<0.020	NA	NA	<0.02	<0.02	<0.094
2,4'-DDE	NA	NA	NA	NA	NA	<0.02	NA	<0.020	NA	NA	<0.020	NA	NA	<0.02	<0.02	<0.094
2,4'-DDT	NA	NA	NA	NA	NA	<0.02	NA	<0.020	NA	NA	<0.020	NA	NA	<0.02	<0.02	<0.094
4,4'-DDD	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
4,4'-DDE	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
4,4'-DDT	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Aldrin	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
alpha-BHC	NA	NA	NA	NA	NA	<0.020	NA	0.022 J	NA	NA	<0.020	NA	NA	<0.02	<0.02	<0.094
beta-BHC	NA	NA	NA	NA	NA	<0.039	NA	<0.040	NA	NA	<0.040	NA	NA	<0.041	<0.04	<0.094
beta-Endosulfan	NA	NA	NA	NA	NA	<0.039	NA	<0.040	NA	NA	<0.040	NA	NA	<0.041	<0.04	<0.094
Chlordane	NA	NA	NA	NA	NA	<0.29	NA	<0.30	NA	NA	<0.30	NA	NA	<0.3	<0.3	<0.094
delta-BHC	NA	NA	NA	NA	NA	<0.020	NA	<0.020	NA	NA	<0.020	NA	NA	<0.02	<0.02	<0.19
Dieldrin	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Endosulfan 1	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Endosulfan sulfate	NA	NA	NA	NA	NA	<0.049	NA	<0.050	NA	NA	<0.050	NA	NA	<0.051	<0.05	<0.19
Endrin	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Endrin aldehyde	NA	NA	NA	NA	NA	<0.049	NA	<0.050	NA	NA	<0.050	NA	NA	<0.051	<0.05	<0.094
Endrin Ketone	NA	NA	NA	NA	NA	<0.039	NA	<0.040	NA	NA	<0.040	NA	NA	<0.041	<0.04	<0.094
gamma-BHC	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Heptachlor	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Heptachlor epoxide	NA	NA	NA	NA	NA	<0.029	NA	<0.030	NA	NA	<0.030	NA	NA	<0.03	<0.03	<0.094
Methoxychlor	NA	NA	NA	NA	NA	<0.039	NA	<0.040	NA	NA	<0.040	NA	NA	<0.041	<0.04	<0.094
Toxaphene	NA	NA	NA	NA	NA	<0.78	NA	<0.80	NA	NA	<0.80	NA	NA	<0.81	<0.8	<4.7

FOOTNOTES

NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.
< = Less than; Analyte not detected below the Method Detection Limit. Concentration is less than the indicated detection limit.
2,4'-DDD = 2,4'-Dichlorodiphenyldichloroethane
2,4'-DDE = 2,4'-Dichlorodiphenyldichloroethylene
2,4'-DDT = 2,4'-Dichlorodiphenyltrichloroethane
4,4'-DDD = 4,4'-Dichlorodiphenyldichloroethane
4,4'-DDE = 4,4'-Dichlorodiphenyldichloroethylene
4,4'-DDT = 4,4'-Dichlorodiphenyltrichloroethane
beta-Endosulfan is also known as Endosulfan II
BHC = Benzene Hexachloride
ug/l = micrograms per liter

LABORATORY QUALIFIERS

J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL).
The user of this data should be aware that this data is of limited reliability.

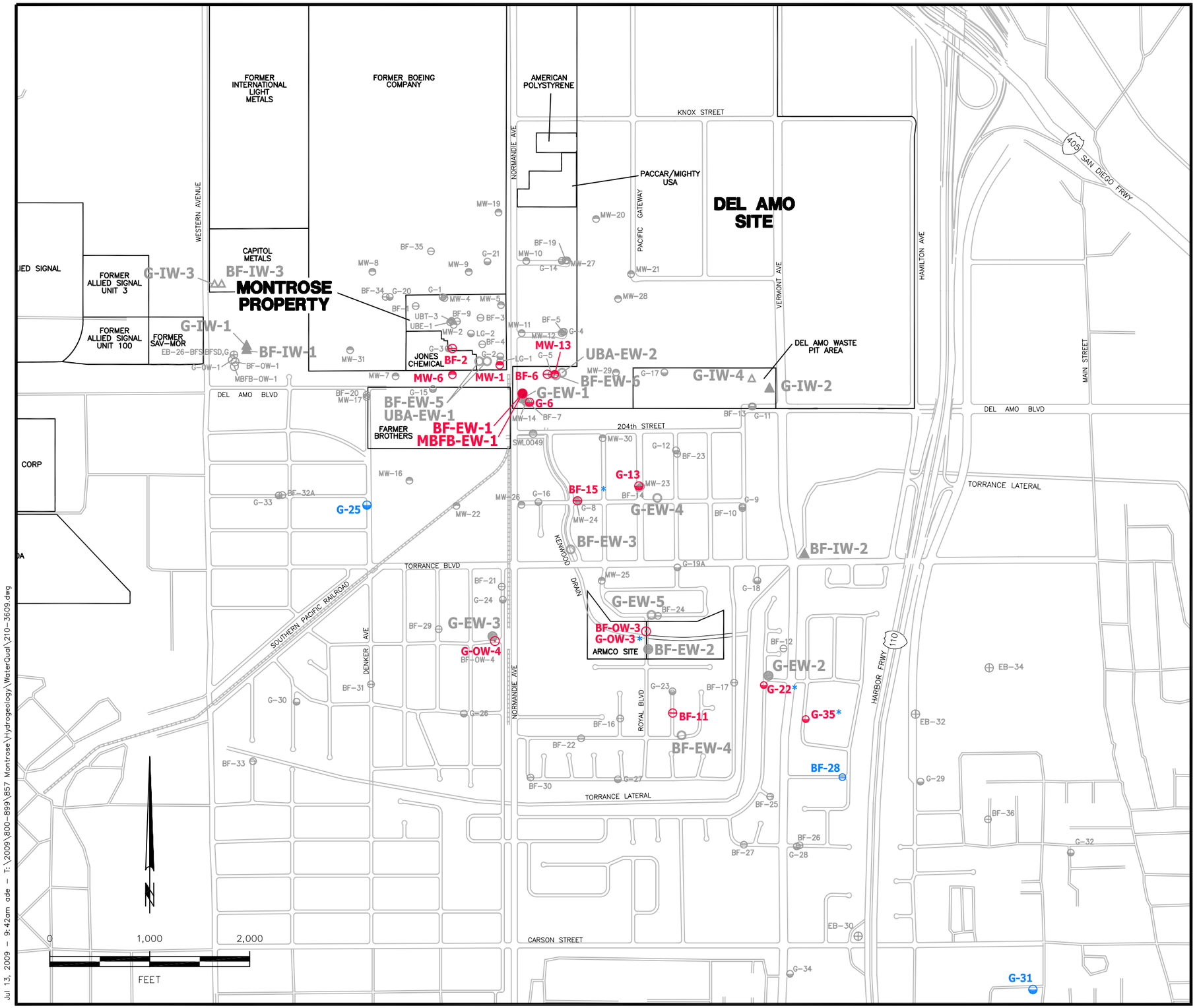
HARGIS + ASSOCIATES, INC.

TABLE 11
POLYCHLORINATED BIPHENYLS

EXTRACTION WELL	MBFB-EW-1	UBA-EW-1		UBA-EW-2	BF-EW-1	BF-EW-2	BF-EW-3	BF-EW-4	BF-EW-6	G-EW-1	G-EW-2	G-EW-3	G-EW-4	G-EW-5	G-EW-6
SAMPLED WELL	MBFB-EW-1	MW-01	MW-06	MW-13	BF-EW-1	BF-OW-3	BF-15	BF-11	BF-06	G-06	G-22	G-OW-4	G-13	G-OW-3	G-35
DATE SAMPLED	04/21/09	04/28/09	04/27/09	04/23/09	04/22/09	04/22/09	04/27/09	04/21/09	04/23/09	04/20/09	12/11/08	04/23/09	04/27/09	04/22/09	12/11/08
UNITS	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*	*ug/l*
PCB 1016	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1221	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1232	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1242	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1248	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1254	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1260	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1262	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA
PCB 1268	NA	<0.26	<0.25	<0.25	NA	NA	<0.26	<0.25	<0.25	NA	NA	NA	<0.25	<0.25	NA

FOOTNOTES

NA = Sample not analyzed for this compound; previous analyses will be used for assessment of treatment design.
< = Less than; analyte not detected below the Method Detection Limit. Concentration is less than the indicated detection limit.
PCB = Polychlorinated Biphenyl
ug/l = Micrograms per liter



EXPLANATION

MBFB-EW-1 ●	EXISTING EXTRACTION WELL
UBA-EW-1 ○	PROPOSED EXTRACTION WELL
BF-IW-1 ▲	EXISTING INJECTION WELL
BF-IW-3 △	PROPOSED INJECTION WELL
MW-17	UPPER BELLFLOWER AQUITARD MONITOR WELL
BF-28	BELLFLOWER SAND MONITOR WELL
G-08	GAGE AQUIFER MONITOR WELL
LG-2	LOWER GAGE AQUIFER MONITOR WELL
EB-34	EXPLORATORY BORING AND TEMPORARY MONITOR WELL LOCATION
⊙	OBSERVATION WELL OR CLUSTER WELL

RED INDICATES WELL SAMPLED FOR TREATMENT SYSTEM DESIGN PARAMETERS

BLUE INDICATES WELL SAMPLED FOR PLUME DEFINITION

GREY INDICATES WELL NOT SAMPLED

* INDICATES WELL SAMPLED FOR BOTH TREATMENT SYSTEM DESIGN PARAMETERS AND FOR PLUME DEFINITION

WELL IDENTIFIER NOTES:
BF, G, LG, MW, UBA = MONTROSE MONITOR WELLS
SWL = DEL AMO MONITOR WELLS

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

GROUNDWATER SAMPLE LOCATIONS

HARGIS + ASSOCIATES, INC.
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FIGURE 1

PREP BY GLW REV BY DMO RPT NO. 857.50C 210-3609 A

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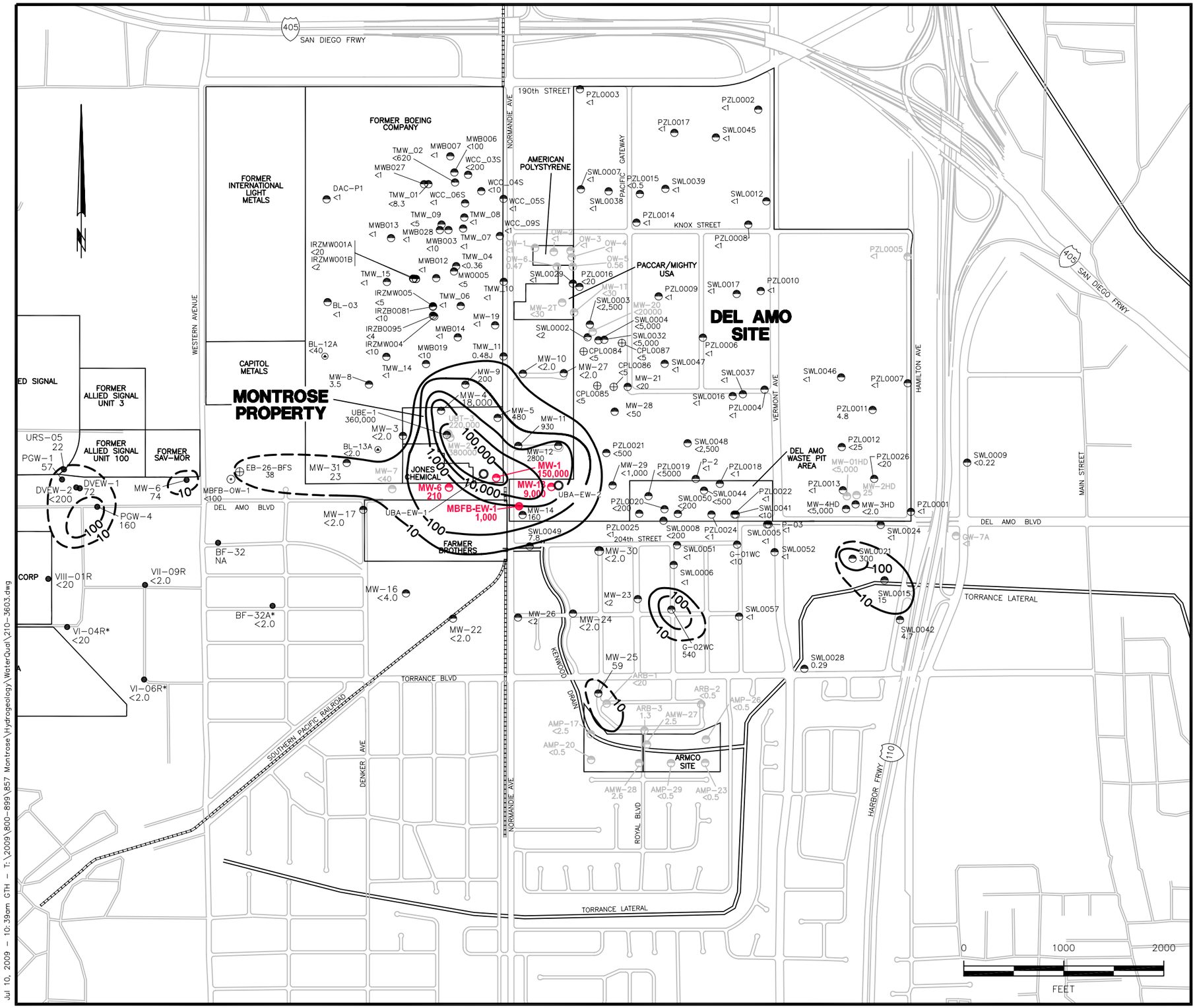

EXPLANATION

MW-13 9,000	UPPER BELLFLOWER AQUITARD MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED APRIL 2009
MW-6 350	UPPER BELLFLOWER AQUITARD MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2008
MW-21 <30	UPPER BELLFLOWER AQUITARD MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED PRIOR TO 2004
MBFB-EW-1	MIDDLE BELLFLOWER "B" EXTRACTION WELL
UBA-EW-1	PROPOSED UPPER BELLFLOWER AQUITARD EXTRACTION WELL
EB-26-BFS	EXPLORATORY BORING AND TEMPORARY UPPER BELLFLOWER AQUITARD MONITORING WELL
MBFB-OW-1	MIDDLE BELLFLOWER "B" OBSERVATION WELL
CPL0084	DEL AMO TEMPORARY BELLFLOWER SAND MONITOR WELL LOCATION

?————1,000– – – – –?

CONTOUR LINE OF EQUAL CONCENTRATION OF CHLOROBENZENE IN MICROGRAMS PER LITER DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED; BASED ON MOST RECENT SAMPLING RESULTS.

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS ANALYSIS.

WELL IDENTIFIER NOTES:

MW = MONTROSE MONITOR WELLS
G, SWL, PZL, GW, P, MW-2T, MW-HD AND UBA = DEL AMO MONITOR WELLS
OW = AMERICAN POLYSTYRENE MONITOR WELLS
AMW, AMP, ARB = ARMCO MONITOR WELLS
DAC, TMW, WCC, MWB = BOEING MONITOR WELLS
BL = INDUSTRIAL LIGHT METALS MONITOR WELLS
IRZB, IRZMW = BOEING BIOREMEDIATION WELLS

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

CHLOROBENZENE
UPPER BELLFLOWER AQUITARD/ WATER TABLE, APRIL 2009

HARGIS + ASSOCIATES, INC.
Hydrogeology/Engineering

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FIGURE 2

PREP BY GLW REV BY DMO RPT NO. 857.50C | 210-3603 | B

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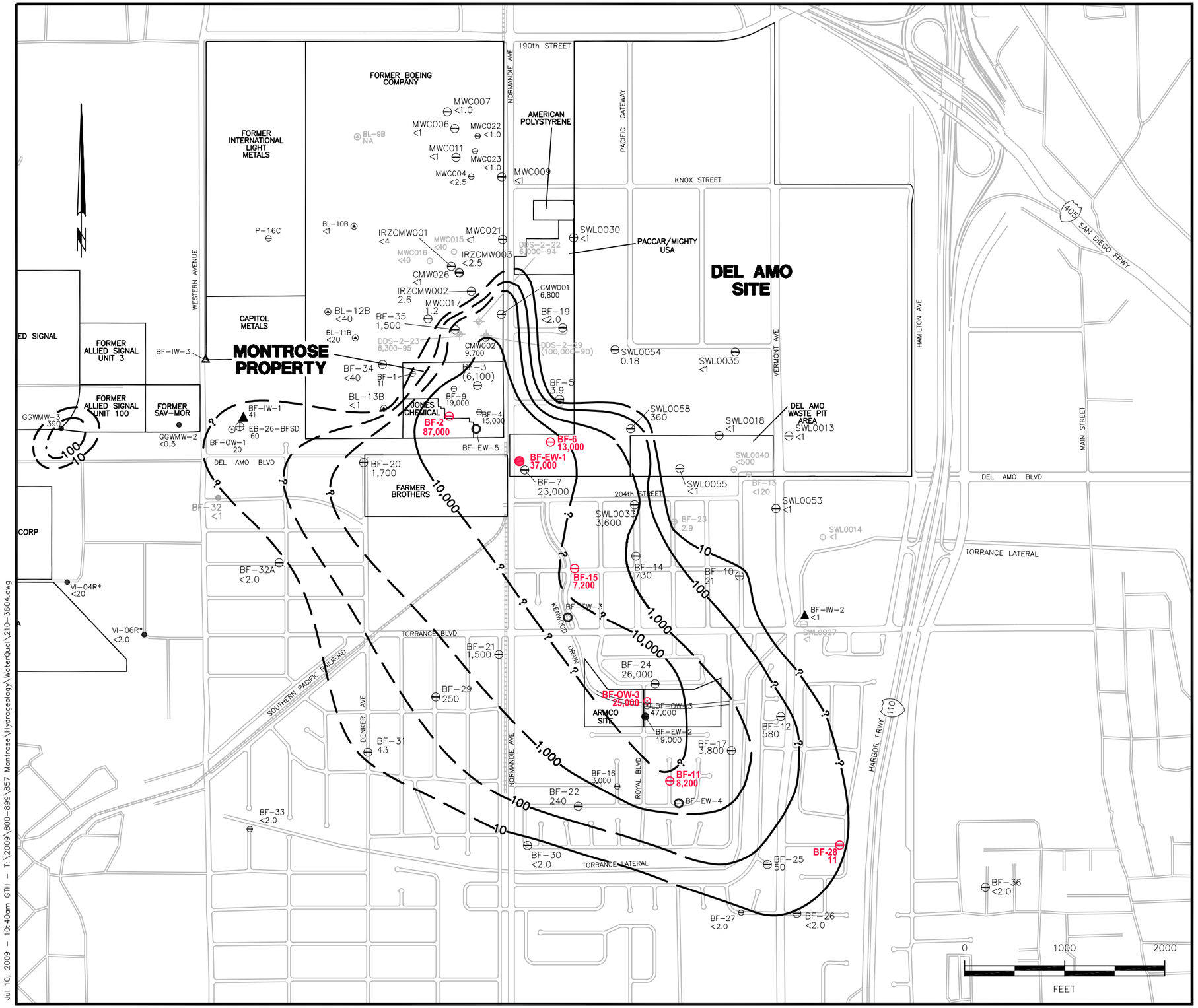

EXPLANATION

BF-6 ⊖ 13,000	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED APRIL 2009
BF-28 ⊖ 58	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2008
BF-13 ⊖ <120	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED PRIOR TO 2004
BF-EW-2 ●	BELLFLOWER SAND EXTRACTION WELL
BF-IW-1 ▲	BELLFLOWER SAND INJECTION WELL
BF-EW-3 ○	PROPOSED BELLFLOWER SAND EXTRACTION WELL
BF-IW-3 △	PROPOSED BELLFLOWER SAND INJECTION WELL
BF-OW-3 ⊙	BELLFLOWER SAND OBSERVATION WELL
DDS-2-22 ⌖	BOEING HYDROPUNCH SAMPLE LOCATION
6,000-94 BL-10B ⊙	CONCENTRATION IN MICROGRAMS PER LITER SAMPLE COLLECTION DEPTH AND YEAR COLLECTED. CLUSTER WELL
EB-26-BFSD ⊕	EXPLORATORY BORING AND TEMPORARY BELLFLOWER SAND MONITORING WELL
BF-32 ●	DESTROYED MONITOR WELL
NA	NOT ANALYZED
(100,000)	CONCENTRATION NOT CONTOURED

?——100—— —— ——?

CONTOUR LINE OF EQUAL CONCENTRATION OF CHLOROBENZENE IN MICROGRAMS PER LITER DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED; BASED ON MOST RECENT SAMPLING RESULTS.

* = WELL SCREENED FROM THE WATER TABLE ZONE INTO THE MIDDLE BELLFLOWER "C" SAND.

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS ANALYSIS.

WELL IDENTIFIER NOTES:

BF = MONTROSE MONITOR WELLS
SWL = DEL AMO MONITOR WELLS
WCC, MWC, CMW = BOEING MONITOR WELLS
IRZCMW = BOEING BIOREMEDIATION WELLS
BL = INDUSTRIAL LIGHT METAL MONITOR WELLS

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

CHLOROBENZENE BELLFLOWER SAND, APRIL 2009

HARGIS + ASSOCIATES, INC.
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FIGURE 3

PREP BY GLW REV BY DMO RPT NO. 857.50C | 210-3604 | B

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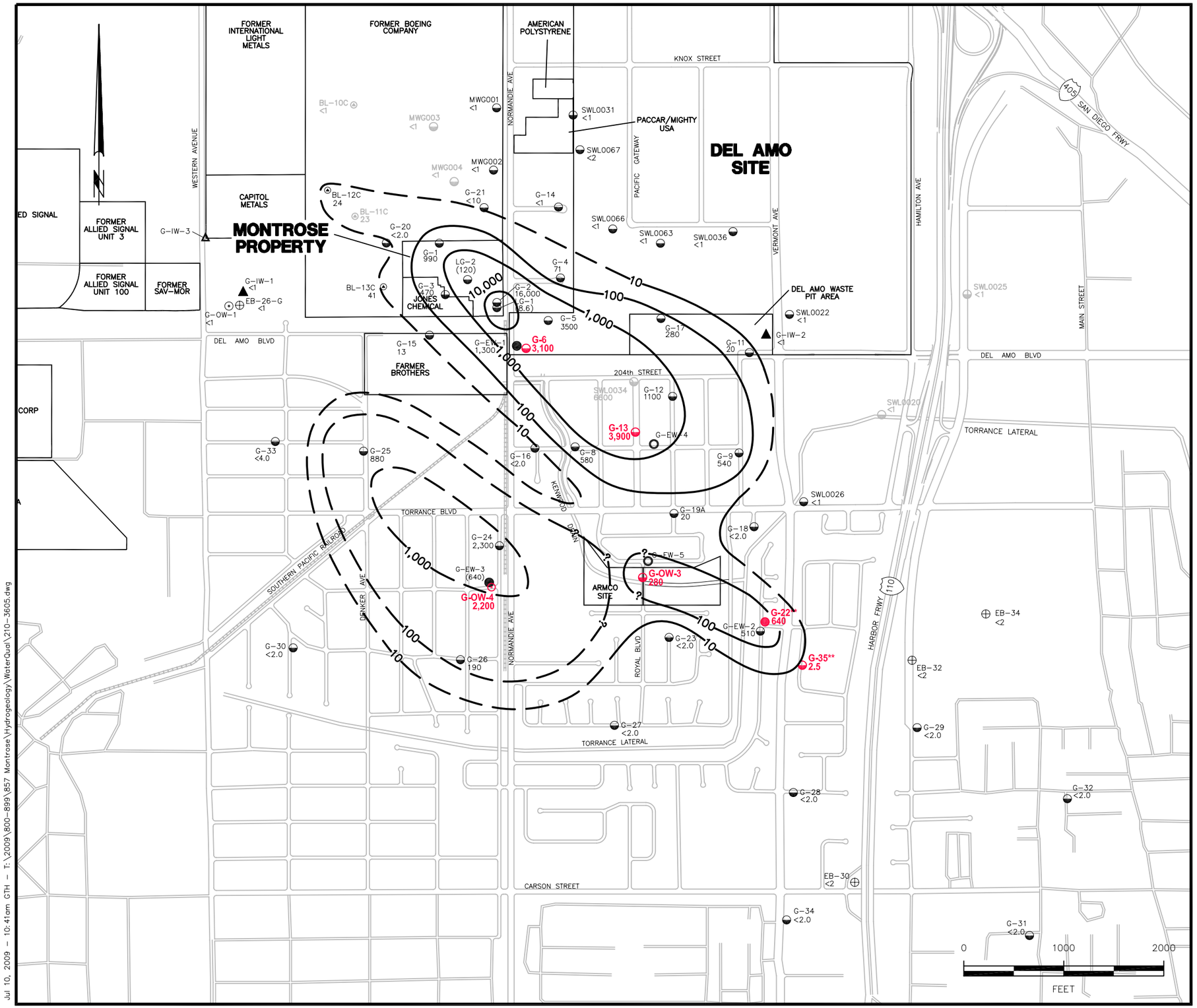

EXPLANATION

G-13 3,900	GAGE AQUIFER MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED APRIL 2009
**	SAMPLED DECEMBER 2008
G-08 690	GAGE AQUIFER MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2008
SWL0020 <1	GAGE AQUIFER MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED PRIOR TO 2004
EB-34	EXPLORATORY BORING AND TEMPORARY GAGE AQUIFER MONITOR WELL LOCATION
G-EW-1	GAGE AQUIFER EXTRACTION WELL
G-EW-4	PROPOSED GAGE AQUIFER EXTRACTION WELL
G-OW-3	GAGE AQUIFER OBSERVATION WELL
G-IW-2	GAGE AQUIFER INJECTION WELL
G-IW-3	PROPOSED GAGE AQUIFER INJECTION WELL
LG-2	LOWER GAGE AQUIFER MONITOR WELL
EB-26-G	EXPLORATORY BORING AND TEMPORARY GAGE AQUIFER MONITORING WELL
(53,000)	CONCENTRATION NOT CONTOURED

?——100— — —?

CONTOUR LINE OF EQUAL CONCENTRATION OF CHLOROBENZENE IN MICROGRAMS PER LITER DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED; BASED ON MOST RECENT SAMPLING RESULTS

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS ANALYSIS.

WELL IDENTIFIER NOTES:
G AND LG = MONTROSE MONITOR WELLS
DA AND SWL = DEL AMO MONITOR WELLS
MWG = BOEING MONITOR WELLS
BL = INDUSTRIAL LIGHT METALS MONITOR WELLS

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

CHLOROBENZENE GAGE AQUIFER, APRIL 2009

HARGIS + ASSOCIATES, INC.
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FIGURE 4

PREP BY GLW REV BY DMO RPT NO. 857.50C | 210-3605 | B

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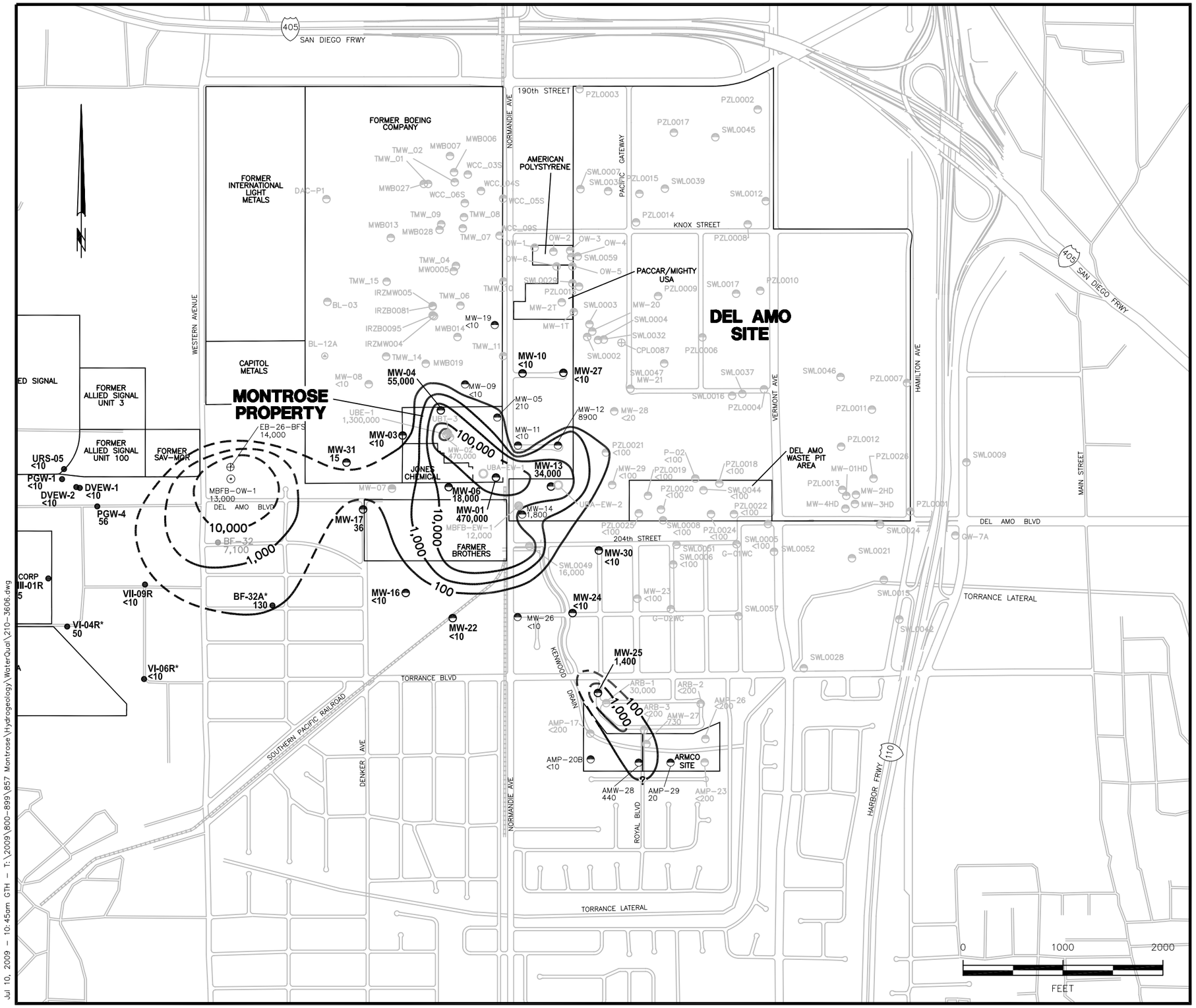

EXPLANATION

MW-25	UPPER BELLFLOWER AQUITARD MONITOR WELL
1,400	CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN OCTOBER 2006 AND DECEMBER 2008
MW-11	UPPER BELLFLOWER AQUITARD MONITOR WELL
<10	CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2006
MW-26	UPPER BELLFLOWER AQUITARD MONITOR WELL
<10	CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED PRIOR TO 2004
MBFB-EW-1	MIDDLE BELLFLOWER "B" EXTRACTION WELL
UBA-EW-1	PROPOSED UPPER BELLFLOWER AQUITARD EXTRACTION WELL
EB-26-BFS	EXPLORATORY BORING AND TEMPORARY UPPER BELLFLOWER AQUITARD MONITOR WELL
MBFB-OW-1	MIDDLE BELLFLOWER "B" OBSERVATION WELL
BF-32	DESTROYED MONITOR WELL

?——100—— ——?

CONTOUR LINE OF EQUAL CONCENTRATION OF pCBSA IN MICROGRAMS PER LITER
DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED
BASED ON MOST RECENT SAMPLING RESULT

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS CONSTITUENT.

WELL IDENTIFIER NOTES:

MW, UBA = MONTROSE MONITOR WELLS
AMW, AMP, AND ARB = ARMCO MONITOR WELLS
G, GW, MW-HD, SWL, PZL, P AND MW-2T = DEL AMO MONITOR WELLS
DAC, TMW, WCC, MWB = BOEING MONITOR WELLS
BL = INTERNATIONAL LIGHT METALS MONITOR WELLS
OW = AMERICAN POLYSTYRENE MONITOR WELLS
IRZB, IRZMW = BOEING BIOREMEDIATION WELLS

* = WELL SCREENED FROM THE WATER TABLE ZONE INTO THE MIDDLE BELLFLOWER "C" SAND.

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

pCBSA
UPPER BELLFLOWER AQUITARD/ WATER TABLE, 2008

HARGIS + ASSOCIATES, INC.
Hydrogeology/Engineering

06/09

FIGURE 5

PREP BY GLW REV BY DMO RPT NO. 857.50C | 210-3606 | B

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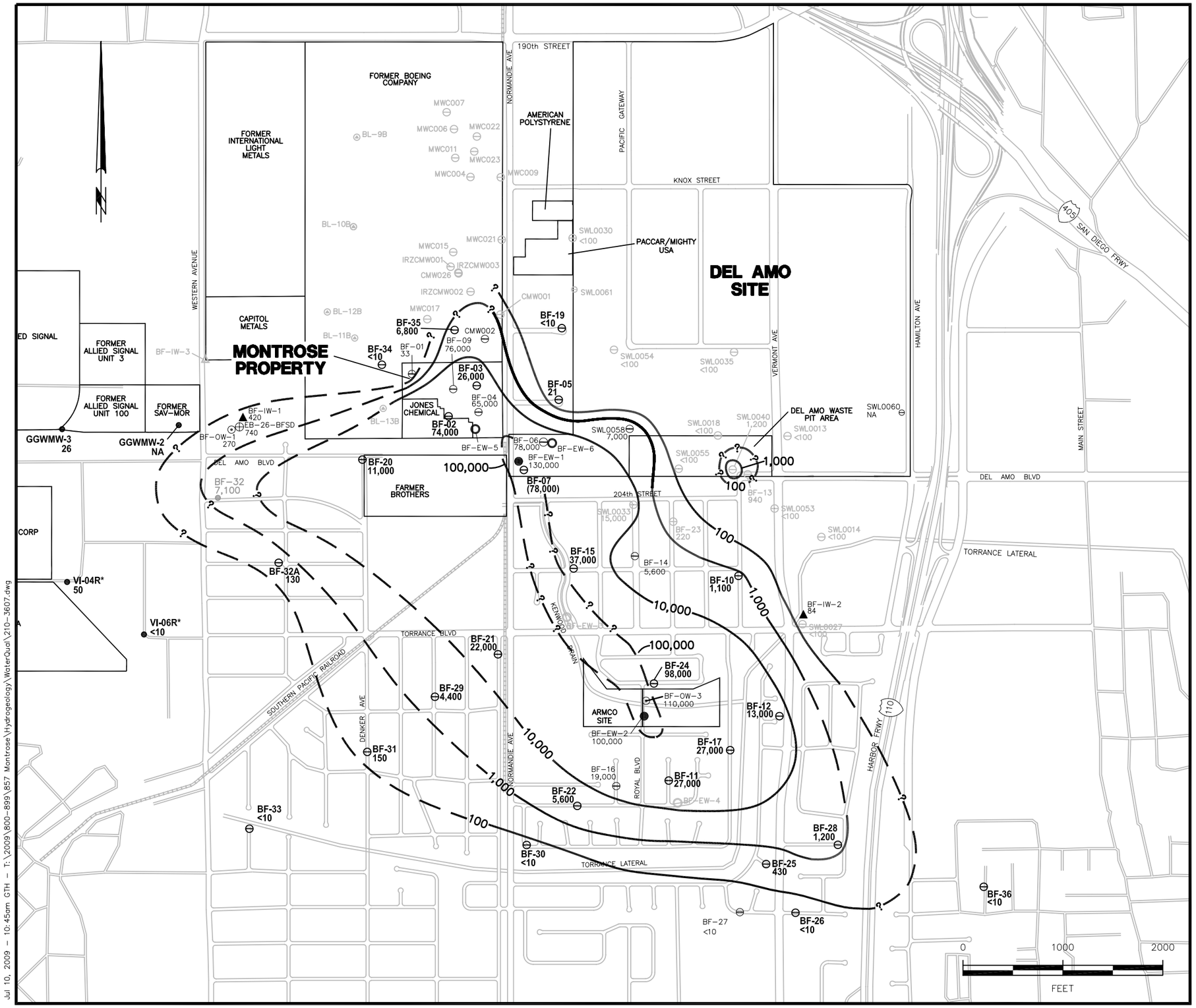

EXPLANATION

BF-20 ⊖ 11,000	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN OCTOBER 2006 AND DECEMBER 2008
BF-14 ⊖ 5,600	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2006
BF-05 ⊖ 18	BELLFLOWER SAND MONITOR WELL CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED PRIOR TO 2004
BF-EW-1 ●	BELLFLOWER SAND EXTRACTION WELL
BF-IW-1 ▲	BELLFLOWER SAND INJECTION WELL
BF-EW-3 ○	PROPOSED BELLFLOWER SAND EXTRACTION WELL
BF-IW-3 △	PROPOSED BELLFLOWER SAND INJECTION WELL
BF-OW-3 ⊙	BELLFLOWER SAND OBSERVATION WELL
EB-26-BFSD ⊕	EXPLORATORY BORING AND TEMPORARY GAGE AQUIFER MONITOR WELL
BL-10B ⊛	CLUSTER WELL
BF-32 ●	DESTROYED MONITOR WELL
(78,000)	CONCENTRATION NOT CONTOURED
NA	NOT ANALYZED

?——100——?

CONTOUR LINE OF EQUAL CONCENTRATION OF pCBSA IN MICROGRAMS PER LITER
DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED; BASED ON MOST RECENT SAMPLING RESULTS

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS ANALYSIS.

* = WELL SCREENED FROM THE WATER TABLE ZONE INTO THE MIDDLE BELLFLOWER "C" SAND.

WELL IDENTIFIER NOTES:
BF = MONTROSE MONITOR WELLS
SWL = DEL AMO MONITOR WELLS
WCC, MWC, CMW = BOEING MONITOR WELLS
IRZCMW = BOEING BIOREMEDIATION WELLS
BL = INTERNATIONAL LIGHT METAL MONITOR WELLS

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

pCBSA
BELLFLOWER SAND, 2008

HARGIS + ASSOCIATES, INC.
Hydrogeology/Engineering

07/09

FIGURE 6

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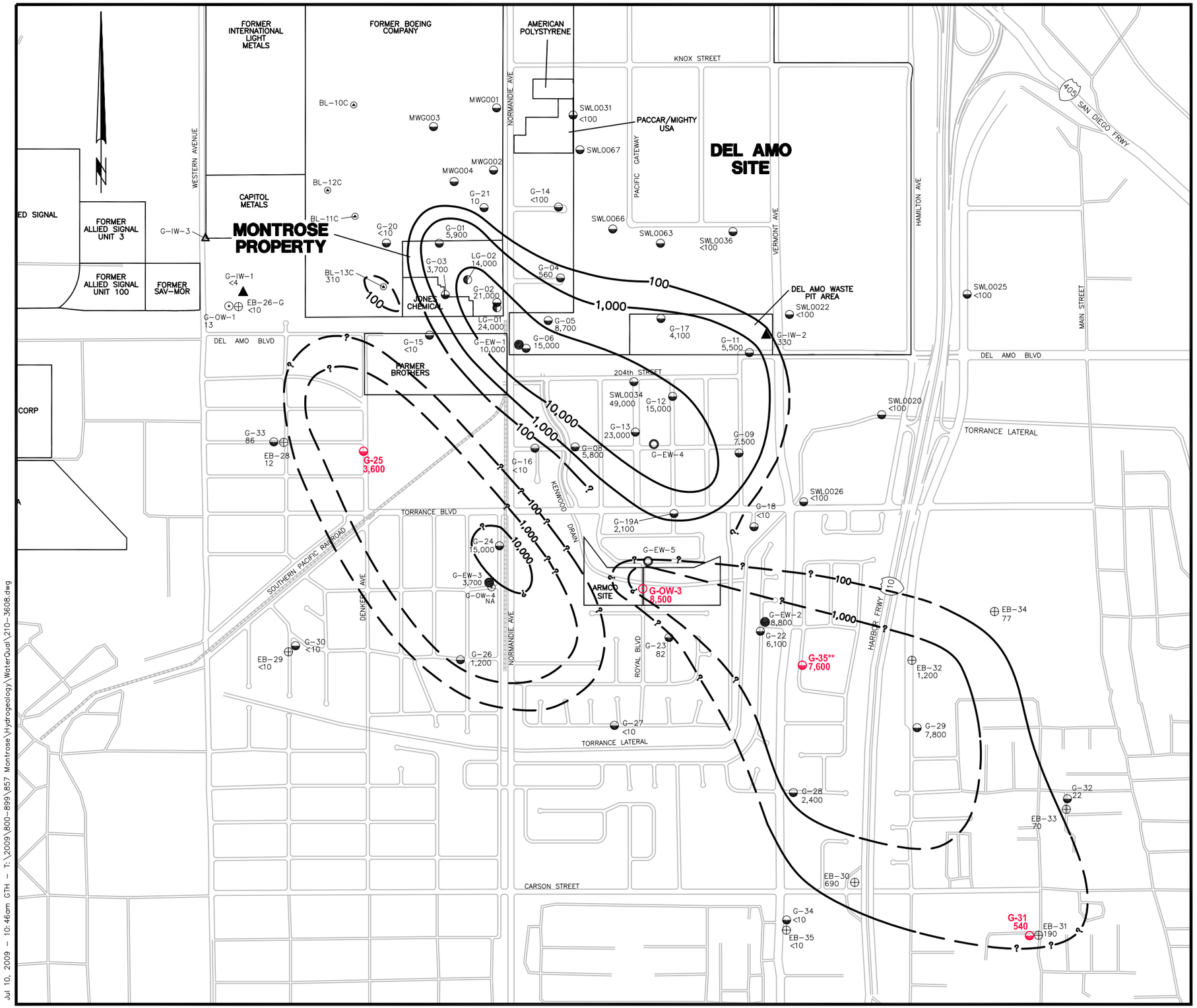

EXPLANATION

G-08	GAGE AQUIFER MONITOR WELL
5,800	CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED APRIL 2009.
**	SAMPLED DECEMBER 2008
G-30	GAGE AQUIFER MONITOR WELL
<10	CONCENTRATION IN MICROGRAMS PER LITER, SAMPLED BETWEEN 2004 AND 2006
EB-26-G	EXPLORATORY BORING AND TEMPORARY GAGE AQUIFER MONITOR WELL
G-EW-1	GAGE AQUIFER EXTRACTION WELL
G-IW-2	GAGE AQUIFER INJECTION WELL
G-EW-4	PROPOSED GAGE AQUIFER EXTRACTION WELL
G-IW-3	PROPOSED GAGE AQUIFER INJECTION WELL
G-OW-3	GAGE AQUIFER OBSERVATION WELL
LG-02	LOWER GAGE AQUIFER MONITOR WELL
(53,000)	CONCENTRATION NOT CONTOURED
*	WELL DESTROYED
NA	NOT ANALYZED

?————100– – – – –?

CONTOUR LINE OF EQUAL CONCENTRATION OF pCBSA IN MICROGRAMS PER LITER
DASHED WHERE APPROXIMATE, QUERIED WHERE INFERRED
BASED ON MOST RECENT SAMPLING RESULTS

< = LESS THAN; NUMERICAL VALUE IS THE LIMIT OF DETECTION FOR THIS ANALYSIS.

WELL IDENTIFIER NOTES:

G AND LG = MONTROSE MONITOR WELLS
DA AND SWL = DEL AMO MONITOR WELLS
MWG = BOEING MONITOR WELLS
BL = INTERNATIONAL LIGHT METALS MONITOR WELLS

NOTE: IN THE AREA WEST OF WESTERN AVENUE NOT ALL HISTORICAL DATA ARE SHOWN. DETAILS ARE PROVIDED IN: H+A TECHNICAL MEMORANDUM RESULTS OF WEST OF WESTERN AVENUE GROUNDWATER ASSESMENT MONTROSE SITE TORRANCE, CALIFORNIA, APRIL 24, 2009

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MONTROSE CHEMICAL CORPORATION OF CALIFORNIA
TORRANCE, CALIFORNIA

pCBSA
GAGE AQUIFER, APRIL 2009

HARGIS + ASSOCIATES, INC.
Hydrogeology/Engineering

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FIGURE 7

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APPENDIX A

SUMMARY OF FIELD ACTIVITIES

APPENDIX A

SUMMARY OF FIELD ACTIVITIES

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ACRONYMS AND ABBREVIATIONS

COC	Chain of Custody
EPA	U.S. Environmental Protection Agency
FSP	Field Sampling Plan
gpm	Gallons per minute
QAPP	Quality Assurance Project Plan
H+A	Hargis + Associates, Inc.
VOCs	Volatile organic compounds

APPENDIX A

SUMMARY OF FIELD ACTIVITIES

1.0 INTRODUCTION

The following discussion summarizes the result of groundwater monitoring activities completed in April 2009. Groundwater sampling completed in November/December 2008 was previously discussed in the technical memorandum "Results of the Evaluation of the Need for Extraction Well G-EW-6, Montrose Chemical Corporation Superfund Site, Torrance, California" dated April 2, 2009 (H+A, 2009a).

Groundwater sampling was conducted in accordance with the technical memorandum regarding the Supplemental Groundwater Sampling and Analysis Program, Montrose Chemical Corporation Site, Torrance, California, dated April 2, 2009 (the Supplemental Sampling Plan). The supplemental sampling round was conducted from April 20, 2009 through April 28, 2009. A total of 12 monitor wells, 3 observation wells, and 2 extraction wells were purged and sampled during the sampling event.

Groundwater samples were collected, handled, stored, and transported to the laboratory in accordance with standard operating procedures detailed in the U.S. Environmental Protection Agency (EPA)-approved Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) (Hargis + Associates, Inc. [H+A], 2003a and 2003b). Field work was conducted in accordance with the project Health and Safety Plan (H+A, 2003c).

1.1 MONITOR AND OBSERVATION WELL SAMPLING

Groundwater monitor wells were purged and sampled using either dedicated pumps or a decontaminated portable pump and dedicated tubing. If a dedicated pump was found to be inoperable, the pump, drop pipe, and pump cable were removed and the well was purged and sampled using a decontaminated portable pump and dedicated tubing.

Prior to initiating well purging, the depth to water at each well was measured to calculate the required three-casing purge volume. Field parameters were measured and recorded during well purging, including temperature, pH, electrical conductivity, dissolved oxygen, and oxidation-reduction potential using a continuous flow cell and a multi-parameter meter. Grab samples for turbidity measurements were also collected and recorded during well purging. Field meters were calibrated each day prior to the initiation of field sampling activities. Field data sheets are provided (Appendix B).

Groundwater samples were collected after observed field parameters were stable and three casing volumes were evacuated from the well; these observations were recorded on the appropriate field data sheet for each well. Groundwater samples were collected at the wellhead from the pump discharge. Sample containers were immediately labeled with sample identifier; date and time of collection; and specified analysis and then placed on ice within a sample cooler. Following collection of all samples at a given sampling location, the samples were logged onto a chain of custody (COC) form.

1.2 EXTRACTION WELL SAMPLING

Extraction wells MBFB-EW-1 and BF-EW-1 were sampled in accordance with the Supplemental Sampling Plan. Extraction well MBFB-EW-1 was purged and sampled using a decontaminated 2-inch Grundfos Redi-Flow® portable pump and dedicated tubing. The well was purged and sampled at the design rate of approximately 4 gallons per minute (gpm) (CH2M Hill, 2008).

Extraction well BF-EW-1 was purged and sampled with a decontaminated nominal 4-inch Grundfos® pump and decontaminated drop pipe supplied and installed by a well development contractor. The well was purged and sampled at the design rate of approximately 35 gpm (CH2M Hill, 2008).

Field measurements were collected in a manner consistent with monitor well purging and sampling methodology described above (Appendix B). Groundwater samples were collected

once field parameters appeared stable and the required three casing volumes had been evacuated. Sample containers were immediately labeled with sample identifier; date and time of collection; and specified analysis and then placed on ice within a sample cooler. Following collection of all samples at a given sampling location, the samples were logged onto a COC form.

1.3 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control included the collection, preparation, and analysis of trip blanks, field blanks, field duplicates, and laboratory split samples in accordance with the supplemental sampling plan (H+A, 2009b) and the FSP and QAPP (H+A, 2003a and 2003b).

Original and duplicate groundwater samples were analyzed for specific parameters identified in the Supplemental Sampling Plan using appropriate analytical methods (Table 1). Original and field duplicate sample analyses were conducted by TestAmerica Inc., Irvine, California (Appendix C). Laboratory split sample analyses were conducted by Bodycote Inc., Santa Fe Springs, California. Split samples, field blanks, and trip blanks were analyzed for volatile organic compounds (VOCs) only using EPA Method 8260B (Appendix C).

1.4 INVESTIGATION DERIVED WASTE

Well purge water was contained at each sampling location and transported to the Montrose Property for temporary storage. Purge water was characterized, then transported and disposed of by a licensed waste handler.

2.0 REFERENCES

CH2M Hill, 2008. Overall Operational Design Report, Based On Remedial Wellfield Optimization, Dual Site Groundwater Operable Unit Remedial Design, Montrose Chemical And Del Amo Superfund Sites, Los Angeles County, California. April 2008.

Hargis + Associates, Inc. (H+A), 2003a. Final Field Sampling Plan, Baseline Groundwater Sampling, Montrose Site, Torrance, California. November 13, 2003.

_____, 2003b. Final Quality Assurance Project Plan, Baseline Groundwater Sampling, Montrose Site, Torrance, California. November 13, 2003.

_____, 2003c. Final Site Specific Health And Safety Plan For Remedial Design Work, Montrose Site, Torrance, California. November 17, 2003.

_____, H+A, 2009a. Technical Memorandum Re: Results of the Evaluation of the Need for Extraction Well G-EW-6, Montrose Chemical Corporation Superfund Site, Torrance, California

_____, H+A, 2009b. Technical Memorandum Re: Supplemental Groundwater Sampling And Analysis Program, Montrose Chemical Corporation Site, Torrance. April 2, 2009.

APPENDIX B

GROUNDWATER SAMPLING FIELD FORMS

(PROVIDED ON CD)

APPENDIX C

LABORATORY ANALYTICAL REPORTS

(PROVIDED ON CD)