

March 16, 2010

Mr. Jeffery Hu, Water Resources Control Engineer

and

Mr. Paul Cho, PG, Site Cleanup Unit IV

California Environmental Protection Agency
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: 2010 First Quarter Sentry Groundwater Monitoring Results
DFSP Norwalk Facility, Norwalk
NPDES No. CAC834001
File No. 90-02

Dear Mr. Hu:

Parsons is transmitting the groundwater monitoring results for the 2010 first quarter sentry event at the DFSP Norwalk Facility in Norwalk, California.

Blaine Tech gauged 32 wells for depth to water and the presence of product on January 11 through 13, 2010. No wells that were gauged contained free product. Data is summarized in Table 1. Following gauging, nineteen wells, EXP-1, EXP-2, EXP-3, GMW-47, GMW-57 through GMW-65, GW-2, GW-13, GW-14, GW-16, MW-14, and MW-22 MID were purged and sampled between January 11 through 13, 2010.

Groundwater monitoring, sample collection, and laboratory analyses were performed in accordance with the sampling plan. Field activities included measuring water levels and free product thicknesses and purging and sampling of the designated wells. Wells sampled by Blaine Tech were purged and sampled using low-flow methods in general conformance with ASTM D6771-02. All purged groundwater was transferred to the onsite groundwater treatment system.

All groundwater samples were labeled, entered onto a chain-of-custody form, and delivered to Calscience Environmental Laboratories, Inc., a State-certified analytical laboratory in Garden Grove, California. Groundwater samples were analyzed using U.S. Environmental Protection Agency (EPA) Method 8015 modified for total petroleum hydrocarbons (TPH) as jet propellant 5 (TPH at JP5). Groundwater samples were also analyzed for volatile organic compounds (VOCs) using EPA Method 8260B, which includes methyl-t-butyl ether (MTBE) and oxygenates. Some selected samples were also analyzed for TPH as gasoline (TPHg). Table 2 presents a

2010 First Quarter Sentry Groundwater Monitoring Results

summary of the analytes detected in the sampled wells. Table 3 presents a summary of miscellaneous compounds detected in groundwater.

VOCs and TPH were not detected in groundwater samples collected from the Exposition aquifer monitoring wells, EXP-1, EXP-2, or EXP-3.

TPH as JP5 was detected in seven of the sampled wells (GMW-47, GMW -58, GMW -59, GMW-62, GW-2, GW-14, and GW-16), with GMW-62 indicating the highest concentration at 2,200 micrograms per liter ($\mu\text{g/L}$). At GMW-62, the concentration is the highest TPH as JP-5 concentration detected since October 2008, but appears to be in-line with seasonal fluctuations (Figure 1). Out of the seven wells with detected TPH as JP-5 concentrations, 5 showed decreasing concentrations from the October 2009 results where three of these decreased to non-detect (GMW-60, GMW-61, and MW-22 MID). At GMW-58, the concentration was 190 $\mu\text{g/L}$ where in October 2009 it was 16,000 $\mu\text{g/L}$, which confirms that the October result was an anomaly. At GMW-59, the concentration was 1900 $\mu\text{g/L}$ (4200 $\mu\text{g/L}$ in October) which is the lowest reported TPH concentration since sampling began from this well. TPHg was analyzed from nine wells and was detected in only one, GW-16, with a concentration of 950 J $\mu\text{g/L}$.

Benzene was detected in eight wells sampled, with the highest concentration present in GMW-62 (3,900 $\mu\text{g/L}$) which is more than double from the previous quarter (October 2009). GMW-62 also contained the highest concentrations of ethylbenzene (22 $\mu\text{g/L}$) and xylenes (30.4 $\mu\text{g/L}$). Toluene was only detected in one well, GW-14 at a concentration of 0.35 $\mu\text{g/L}$. MTBE was detected in seven wells (GMW-58, GMW-59, GW-2, GW-13, GW-14, MW-14, and MW-22 MID) at concentrations ranging from 1.6 $\mu\text{g/L}$ to 17 $\mu\text{g/L}$. TBA was detected in eight wells (GMW-47, GMW-58, GW-2, GW-13, GW-14, GW-16, MW-14, and MW-22 MID) at concentrations ranging from 3.8 $\mu\text{g/L}$ to 24 $\mu\text{g/L}$.

Figure 1 presents a graph showing the concentration of benzene and TPH as JP-5 along with groundwater elevation over time. The increase in concentrations at GWM-62, could be on account of the extraction system and its effect on pulling back the migrated plume. In addition, water level has dropped about $\frac{3}{4}$ foot over the past quarter and it is not uncommon to see concentrations increase with falling water levels. Figure 1 shows that relationship at GMW-62. The water level has been generally trending downward for the past three years, and with the pumping at GW-15 and GW-16, it looks like that will continue. The groundwater gradient is toward GW-15 and away from the property boundary – so unless there was a source to the east (or under the north-south pipeline along the eastern boundary), concentrations should eventually decrease. Benzene, which showed a significant increase, is not a big constituent in jet fuel, which may indicate a gasoline source. KMEP has reported no leaks and none have been suspected. It is important to note that the pumping at GW-15 and GW-16 is pulling groundwater from the east (Holifield Park) past GMW-62 towards the site and the pumping wells.

The information presented in this letter-report will also be included in the 2010 first semiannual groundwater monitoring report for the site. If you have any questions, please call me at 602-734-1083 or Mary Lucas at 626-440-6032.



Sincerely,

PARSONS



Redwan Hassan, PG
Project Manager

Attachments: Table 1 – Groundwater Elevations
Table 2 – Summary of Groundwater Analytical Data
Table 3 – Summary of Miscellaneous Compounds Detected in Groundwater

Figure 1 – Groundwater Elevation and Concentrations Over Time at GMW-62

Distribution:

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RAB Members:

Ms. Mary Jane McIntosh
Dr. Eugene Garcia
Mr. Bob Hoskins
Mr. William Miller
Ms. Tracy Winkler



Table 1

**Groundwater Elevations
First Quarter 2010 Sentry Event**

Defense Fuel Support Point, Norwalk
Norwalk, California

Well	Sample Date	Casing Elevation (ft msl) ¹	Depth to Product (feet) ²	Depth to Water (feet) ²	Apparent Product Thickness (feet) ²	Groundwater Elevation (ft msl) ¹
EXP-1	1/11/2010	78.44	--	55.80	--	22.64
EXP-2	1/11/2010	79.43	--	55.93	--	23.50
EXP-3	1/11/2010	77.58	--	54.51	--	23.07
GMW-47	1/11/2010	75.98	--	29.10	--	46.88
GMW-57	1/11/2010	76.66	--	29.93	--	46.73
GMW-58	1/11/2010	75.48	--	27.43	--	48.05
GMW-59	1/11/2010	75.28	--	27.20	--	48.08
GMW-60	1/11/2010	76.24	--	29.53	--	46.71
GMW-61	1/12/2010	75.60	--	28.81	--	46.79
GMW-62	1/12/2010	76.34	--	29.51	--	46.83
GMW-63	1/12/2010	77.32	--	30.12	--	47.20
GMW-64	1/12/2010	75.84	--	28.53	--	47.31
GMW-65	1/12/2010	76.78	--	29.80	--	46.98
GW-2	1/12/2010	76.39	--	29.26	--	47.13
GW-13	1/12/2010	77	--	30.24	--	46.76
GW-14	1/13/2010	76.54	--	29.82	--	46.72
GW-16	1/13/2010	76.55	--	29.94	--	46.61
MW-14	1/12/2010	78.60	--	31.94	--	46.66
MW-22 (MID)	1/13/2010	79.57	--	34.14	--	45.43
WCW-1	1/12/2010	72.86	--	25.91	--	46.95
WCW-2	1/12/2010	75.34	--	28.11	--	47.23
WCW-3	1/12/2010	76.16	--	30.40	--	45.76
WCW-4	1/12/2010	78.05	--	31.40	--	46.65
WCW-5	1/12/2010	73.49	--	26.53	--	46.96
WCW-6	1/12/2010	75.52	--	28.24	--	47.28
WCW-7	1/12/2010	76.44	--	29.94	--	46.50
WCW-8	1/12/2010	77.34	--	31.30	--	46.04
WCW-10	1/12/2010	74.06	--	26.40	--	47.66
WCW-11	1/12/2010	75.29	--	27.83	--	47.46
WCW-12	1/12/2010	76.27	--	29.04	--	47.23
WCW-13	1/12/2010	77.70	--	31.56	--	46.14
WCW-14	1/12/2010	78.81	--	32.24	--	46.57

Notes:

¹Feet above mean sea level (MSL), based on Los Angeles County Datum, 1980.

²Below top of casing.

Table 2
Summary of Groundwater Analytical Data
First Quarter 2010 Sentry Event
 Defense Fuel Support Point, Norwalk
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Well	Sample Date	TPH as JP5 ¹	TPHg ²	Benzene	Toluene	Ethyl-benzene	Xylenes ³	1,2-DCA ⁴	MTBE ⁵	TBA ⁶
EXP-1	11-Jan-10	< 100 ⁷	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
EXP-2	11-Jan-10	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
EXP-3	11-Jan-10	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
GMW-47	11-Jan-10	1300	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	17
GMW-47 Dup ⁸	11-Jan-10	1200	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	15
GMW-57	11-Jan-10	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
GMW-58	11-Jan-10	190	--	9.7	< 0.50	< 0.50	< 0.50	< 0.50	1.7	3.8
GMW-58 Dup	11-Jan-10	170	--	9.5	< 0.50	< 0.50	< 0.50	< 0.50	1.6	< 10
GMW-59	11-Jan-10	1900	--	2200	< 10	< 10	< 10	< 10	17	< 200
GMW-60	11-Jan-10	< 100	--	940	< 5.0	12	< 5.0	< 5.0	< 1.0	< 100
GMW-61	11-Jan-10	< 100	--	190	< 1.0	0.99	< 1.0	< 1.0	< 1.0	< 20
GMW-62	12-Jan-10	2200	--	3900	< 10	22	30.4	100	< 1.0	< 200
GMW-63	12-Jan-10	< 100	--	0.39	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
GMW-64	12-Jan-10	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
GMW-65	12-Jan-10	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10
GW-2	12-Jan-10	120	< 100	3.6	< 0.50	< 0.50	< 0.50	23	1.8	8.8
GW-13	12-Jan-10	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	21	4.8	5.2
GW-14	13-Jan-10	2100 J	950 J	62	0.35	1	1.45	< 0.50	17	18
GW-16	13-Jan-10	460 J	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	6.4
MW-14	12-Jan-10	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	13	2.7	4.2
MW-22 MID	13-Jan-10	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	9.7	13	24

Notes:

¹TPH as JP5 = total petroleum hydrocarbons against a jet propellant 5 standard.

²TPHg = total petroleum hydrocarbons against a gasoline standard.

³Xylenes = total of m,p-xylene and o-xylene when detected.

⁴1,2-DCA = 1,2-Dichloroethane.

⁵MTBE = Methyl tert-butyl ether.

⁶TBA = Tert-butyl alcohol.

⁷< 100 = compound not detected at or above the indicated reporting limit.

⁸Dup = duplicate.

Table 3
Summary of Miscellaneous Compounds Detected in Groundwater
First Quarter 2010 Sentry Event
 Defense Fuel Support Point, Norwalk
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Well	Sample Date	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Bis(2-Ethylhexyl) Phthalate	c-1,2-Dichloroethene	Chloromethane	Diisopropyl Ether (DIPE)	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene	Trichloroethene
GMW-47	11-Jan-10	< 1.0 ¹	< 1.0	< 1.0	--	< 1.0	< 5.0	< 2.0	6.9	< 10	< 1.0	< 1.0	0.93	0.62	< 1.0
GMW-47 Dup	11-Jan-10	< 1.0	< 1.0	< 1.0	--	< 1.0	< 5.0	< 2.0	6.5	< 10	< 1.0	< 1.0	0.9	0.57	< 1.0
GMW-57	11-Jan-10	< 1.0	< 1.0	< 1.0	--	< 1.0	< 5.0	< 2.0	0.58	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GMW-58	11-Jan-10	1.1	< 1.0	< 1.0	--	< 1.0	< 5.0	< 2.0	2.2	< 10	< 1.0	< 1.0	0.24	< 1.0	< 1.0
GMW-58 Dup	11-Jan-10	1.2	< 1.0	< 1.0	--	< 1.0	< 5.0	< 2.0	2.1	< 10	< 1.0	< 1.0	0.25	< 1.0	< 1.0
GMW-59	11-Jan-10	< 20	< 20	< 20	--	< 20	< 100	< 40	22	< 200	< 20	< 20	< 20	< 20	< 20
GMW-60	11-Jan-10	< 10	< 10	< 10	--	< 10	< 50	< 20	80	110	4	84	10	< 10	< 10
GMW-61	11-Jan-10	< 2.0	< 2.0	< 2.0	--	< 2.0	< 10	< 4.0	41	< 20	1.8	27	6.9	1	< 2.0
GMW-62	12-Jan-10	< 20	19	< 20	--	< 20	< 100	< 40	26	< 200	< 20	< 20	< 20	< 20	< 20
GMW-65	12-Jan-10	< 1.0	< 1.0	< 1.0	--	< 1.0	0.63	< 2.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GW-2	12-Jan-10	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 5.0	2.6	0.32	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GW-13	12-Jan-10	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 5.0	3.7	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
GW-14	13-Jan-10	< 1.0	0.48	0.39	< 10	0.5	< 5.0	< 2.0	15	15	0.55	12	2.3	0.92	0.56
GW-16	13-Jan-10	< 1.0	< 1.0	< 1.0	30	< 1.0	< 5.0	< 2.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-14	12-Jan-10	< 1.0	< 1.0	< 1.0	--	< 1.0	< 5.0	3.2	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-22 MID	13-Jan-10	< 1.0	< 1.0	< 1.0	--	< 1.0	< 5.0	2.1	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

¹<1.0 = compound not detected at or above the indicated reporting limit.

Figure 1

Groundwater Elevation and Concentrations Over Time at GMW-62

