



**Transmittal**

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**Date:** June 27, 2011

**From:** Dan Jablonski

**To:** Mr. Paul Cho, PG  
California Regional Water Quality  
Control Board – Los Angeles  
Region (RWQCB)  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

CH2M HILL  
1000 Wilshire Blvd., 21<sup>st</sup> Floor  
Los Angeles, CA 90017

**Subject:** April 2011 Monthly Groundwater Monitoring Submittal

**Project Name:** Defense Fuel Support Point (DFSP) Norwalk

**Item Description**

- 1 Table 1 - Summary of Groundwater Elevations, Monthly Monitoring Events
- 2 Table 2 - Summary of Groundwater Analytical Data, April 2011 Monthly Monitoring Event
- 3 Table 3 - Summary of Miscellaneous Compounds Detected in Groundwater Samples, April 2011 Monthly Monitoring Event
- 4 Table 4 - Summary of Total Fluids and Groundwater Extraction Pump Operation, April 2011 Monthly Monitoring Event

**Remarks**

On behalf of SFPP, L.P., an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), CH2M HILL is transmitting the groundwater monitoring results for the April 2011 monthly monitoring event conducted at the DFSP Norwalk site. The April 2011 monthly monitoring event was conducted concurrently with the first semiannual 2011 groundwater monitoring event. The total fluids extraction (TFE)/groundwater extraction (GWE) and soil vapor extraction (SVE) systems were shut down between April 4 and April 15, 2011 to allow water levels to be collected under static conditions. Groundwater elevations and analytical data for wells monitored during this monthly monitoring event are summarized in Tables 1 through 3, and are briefly discussed below. The operation of SFPP's extraction wells at the end of April 2011 is summarized in Table 4.

- 1) During this monthly monitoring event, Blaine Tech Services, Inc. (Blaine Tech) sampled wells GMW-36, GMW-O-15, GMW-O-16, GMW-O-18, GMW-O-19, and PZ-5 located in the southeastern area. Blaine Tech gauged these well prior to sampling, except for wells GMW-36, GMW-O-15, and GMW-O-18 due to the presence of the extraction pumps. KMEP technicians were able to gauge wells GMW-O-15 and GMW-O-36 during a supplemental gauging event in April. Samples were collected from wells GMW-36, GMW-O-15, and GMW-O-18 through the wellhead sampling ports.
- 2) The TFE pumps in wells GMW-36, GMW-O-15, and GMW-O-18 are currently on and will continue to extract groundwater in the area for treatment. Monthly groundwater monitoring in the southeastern area will continue and groundwater conditions will continue to be evaluated

as additional groundwater monitoring and remediation system operation data are obtained.

- 3) Groundwater elevations were generally higher (0.54 to 1.33 feet) in the southeastern area since the March 2011 monitoring event. Free product was detected in wells GMW-36 (1.93 feet thickness) and GMW-O-15 (0.02 feet thickness).
- 4) Wells GMW-36 and GMW-O-15 are used for TFE but also have been used to monitor groundwater conditions within the extent of free product in the southeastern area. Free product has historically been detected in both of these wells. Reported concentrations of some volatile organic compounds (VOCs) (benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl alcohol [MTBE], and tertiary butyl alcohol [TBA]), and total petroleum hydrocarbons (TPH) quantified as gasoline (TPH-g) in well GMW-36 during April 2011 were lower than concentrations reported during March 2011. An increase in TPH quantified as fuel product (TPH-fp) was reported in well GMW-36 relative to the concentration reported during March 2011. A decrease in TPH-g, TPH-fp, toluene, ethylbenzene, total xylenes, and tertiary amyl methyl ether (TAME) was reported in well GMW-O-15 during April 2011. Benzene, MTBE, and TBA concentrations increased during April 2011. Fluctuation in concentrations of fuel constituents in wells with a historical presence of free product is expected depending on various factors such as water level fluctuation, groundwater extraction, and sampling methods.
- 5) Wells GMW-O-16, GMW-O-18, and GMW-O-19, and PZ-5 are located outside the extent of free product and used to monitor the extent of dissolved-phase fuel constituents in groundwater in the southeastern area. Similar to the previous monthly monitoring events, VOCs, TPH-g, and TPH-fp were not detected in well GMW-O-19 during April 2011. MTBE (1.3 µg/L) was detected in well GMW-O-16 during April 2011; TPH-g, TPH-fp and remaining VOCs were non-detect. TPH-fp, benzene, total xylenes, and TBA concentrations reported in well GMW-O-18 during April 2011 were lower than the concentrations reported during March 2011. TPH-g and remaining VOCs were not detected above the laboratory reporting limit. The TBA concentration in well GMW-O-18 decreased from 3,300 µg/L during March 2011 to 780 µg/L during April 2011. TPH-g, TPH-fp, benzene, MTBE, and TBA concentrations reporting in well PZ-5 during April 2011 were lower than the concentrations reported during March 2011. The remaining VOCs in well PZ-5 were not detected above the laboratory reporting limit. To address the dissolved-phase constituents in the southeastern area, TFE was expanded to include well GMW-O-18 in April 2010. In addition, an additional groundwater assessment near well GMW-O-18 was completed in late January 2011. The results of this investigation will be presented in a separate transmittal.
- 6) Eight equipment blanks and seven trip blank samples were collected during the first semiannual sampling event. No VOCs, TPH-g, or TPH-fp were detected at or above laboratory reporting limits in the equipment or trip blank samples.

Please contact Dan Jablonski at 213.228.8271 if you have any questions.

**Distribution List**

Mr. Steve Defibaugh, KMEP  
LTC Tam Gaffney, DLA Energy  
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Mr. Redwan Hassan, Parsons  
Ms. Mary Lucas, Parsons  
Ms. Mary Jane McIntosh, RAB  
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Ms. Nancy Matsumoto, WRD  
Ms. Minxia Dong, Norwalk Regional Library  
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Office of Congresswoman Grace F. Napolitano  
Mr. Tim Whyte, URS  
Mr. Mark Wuttig, CH2M HILL

TABLE 1

**SUMMARY OF GROUNDWATER ELEVATIONS  
MONTHLY MONITORING EVENTS**  
Defense Fuel Support Point Norwalk  
Norwalk, California

Well	Date	Top of Casing Elevation (feet msl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (feet msl)
GMW-36	03/15/10	74.53	---	26.80	---	47.73
	04/16/10	74.53	---	26.90	---	47.63
	05/24/10	74.53	25.90	25.96	0.06	NC
	05/28/10	74.53	25.88	25.94	0.06	NC
	06/22/10	74.53	25.91	25.94	0.03	NC
	07/12/10	74.53	NM	NM	NC	NC
	08/12/10	74.53	NM	NM	NC	NC
	09/20/10	74.53	NM	NM	NC	NC
	10/04/10	74.53	---	26.90	---	47.63
	11/23/10	74.53	27.1	27.35	0.25	NC
	12/22/10	74.53	26.84	28.35	1.51	NC
	01/10/11	74.53	27.70	29.10	1.40	NC
	02/24/11	74.53	NM	NM	NC	NC
03/23/11	74.53	NM	NM	NC	NC	
04/12/11	74.53	25.05	26.98	1.93	NC	
GMW-O-15	03/15/10	74.23	---	NM	---	NC
	04/16/10	74.23	---	23.10	---	51.13
	05/24/10	74.23	---	25.67	---	48.56
	05/28/10	74.23	---	25.35	---	48.88
	06/22/10	74.23	---	25.81	---	48.42
	07/12/10	74.23	NM	NM	NC	NC
	08/12/10	74.23	NM	NM	NC	NC
	09/20/10	74.23	NM	NM	NC	NC
	10/04/10	74.23	25.80	25.85	0.05	NC
	11/23/10	74.23	NM	NM	NC	NC
	12/22/10	74.23	---	26.31	---	47.92
	01/10/11	74.23	---	25.97	---	48.26
	02/24/11	74.23	NM	NM	NC	NC
03/23/11	74.23	NM	NM	NC	NC	
04/12/11	74.23	22.53	22.55	0.02	NC	
GMW-O-16	03/15/10	74.10	---	26.30	---	47.80
	04/16/10	74.10	---	25.20	---	48.90
	05/24/10	74.10	---	25.14	---	48.96
	05/28/10	74.10	---	25.13	---	48.97
	06/22/10	74.10	---	25.55	---	48.55
	07/12/10	74.10	---	26.28	---	47.82
	08/12/10	74.10	---	26.43	---	47.67
	09/20/10	74.10	---	26.95	---	47.15
	10/04/10	74.10	---	26.10	---	48.00
	11/16/10	74.10	---	26.58	---	47.52
	12/22/10	74.10	---	27.00	---	47.10
	01/10/11	74.10	---	26.42	---	47.68
	02/24/11	74.10	---	26.02	---	48.08
03/23/11	74.10	---	25.99	---	48.11	
04/11/11	74.10	---	24.66	---	49.44	
GMW-O-18	03/15/10	74.36	---	26.54	---	47.82
	04/16/10	74.36	---	24.25	---	50.11
	05/24/10	74.36	---	26.26	---	48.10
	05/28/10	74.36	---	26.03	---	48.33
	06/22/10	74.36	---	26.41	---	47.95
	07/12/10	74.36	NM	NM	NC	NC
	08/12/10	74.36	NM	NM	NC	NC
	09/20/10	74.36	NM	NM	NC	NC
10/04/10	74.36	---	29.95	---	44.41	

TABLE 1

**SUMMARY OF GROUNDWATER ELEVATIONS  
MONTHLY MONITORING EVENTS**  
Defense Fuel Support Point Norwalk  
Norwalk, California

Well	Date	Top of Casing Elevation (feet msl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Groundwater Elevation (feet msl)
GMW-O-18 (Cont'd)	11/16/10	74.36	NM	NM	NC	NC
	12/22/10	74.36	NM	NM	NC	NC
	01/10/11	74.36	NM	NM	NC	NC
	02/24/11	74.36	NM	NM	NC	NC
	03/23/11	74.36	NM	NM	NC	NC
	04/12/11	74.36	NM	NM	NC	NC
GMW-O-19	03/15/10	74.46	---	26.16	---	48.30
	04/16/10	74.46	---	25.30	---	49.16
	05/24/10	74.46	---	25.53	---	48.93
	05/28/10	74.46	---	25.47	---	48.99
	06/22/10	74.46	---	25.64	---	48.82
	07/12/10	74.46	---	26.04	---	48.42
	08/12/10	74.46	---	26.23	---	48.23
	09/20/10	74.46	---	26.52	---	47.94
	10/04/10	74.46	---	26.31	---	48.15
	11/16/10	74.46	---	26.67	---	47.79
	12/22/10	74.46	---	26.70	---	47.76
	01/10/11	74.46	---	26.37	---	48.09
	02/24/11	74.46	---	25.55	---	48.91
	03/23/11	74.46	---	25.29	---	49.17
	04/11/11	74.46	---	24.75	---	49.71
PZ-5	03/15/10	73.97	---	25.99	---	47.98
	04/16/10	73.97	---	25.12	---	48.85
	05/24/10	73.97	---	25.71	---	48.26
	05/28/10	73.97	---	25.68	---	48.29
	06/22/10	73.97	---	25.54	---	48.43
	07/12/10	73.97	---	26.09	---	47.88
	08/12/10	73.97	---	26.16	---	47.81
	09/20/10	73.97	---	26.52	---	47.45
	10/04/10	73.97	---	25.98	---	47.99
	11/16/10	73.97	---	26.46	---	47.51
	12/22/10	73.97	---	25.12	---	48.85
	01/10/11	73.97	---	26.54	---	47.43
	02/24/11	73.97	---	25.55	---	48.42
	03/23/11	73.97	---	25.28	---	48.69
	04/11/11	73.97	---	24.70	---	49.27

**Notes**

--- = not detected or not applicable.

feet btoc = feet below top of casing.

feet msl = feet above mean sea level based on the National Geodetic Vertical Datum of 1929.

NC = not calculated.

NM = not measured since extraction pump was in operation.

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-36	07/10/97	430	---	---	---	---	---	---	---	---	---	---	---
	01/09/98	4,000	---	22	21	6.1	100	<5	7,700	---	---	---	---
	05/20/98	1,400	---	<0.3	<0.3	<10	<20	<0.5	19,600	---	---	---	---
	11/17/98	7,900	6,650	2,100	1,370	70	650	<50	34,800	---	---	---	---
	05/07/99	2,800	---	<10	<10	<10	<10	<25	14,000	---	---	---	---
	11/18/99	51,000	22,000	8,100	5,600	<250	1,770	<250	47,000	---	---	---	---
	05/17/00	59,000	53,000	14,000	6,700	480	4,100	<130	45,000	---	---	---	---
	11/30/00	110,000	66,000	20,000	19,000	1,600	8,100	<0.5	13,000	---	---	---	---
	02/06/01	75,000	55,000	18,000	13,000	1,400	6,100	<50	9,100	---	---	---	---
	05/10/01	12,000	5,100	3,700	2,500	420	1,730	<0.5	1,600	---	---	---	---
	09/19/01	21,000	37,000	5,800	3,600	580	2,080	<13	1,000	---	---	---	---
	11/06/01	63,000	40,000	16,000	13,000	1,600	7,700	<25	3,200	---	---	---	---
	01/30/02	130,000	68,000	21,000	20,000	1,700	9,000	<125	42,000	---	---	---	---
	04/10/02	150,000	49,000	25,000	22,000	1,800	10,000	<50	67,000	---	---	---	---
	07/30/02	81,000	110,000	28,000	29,000	2,200	11,800	<50	37,000	---	---	---	---
	12/06/06	32,000	10,000	5,300	4,300	480	4,300	<50	1,600	---	---	---	---
	03/13/07	54,000	7,200	9,400	12,000	1,100	8,200	<200	3,800	---	---	---	---
	05/05/07	69,000	11,000	9,800	11,000	1,200	8,000	<200	3,900	---	---	---	---
	08/29/07	30,000	9,800	4,100	4,200	420	4,500	120	890	---	---	---	---
	02/20/08	34,000	9,100	3,900	6,000	750	4,600	<50	43	---	---	---	---
	04/16/08	42,000	11,000	5,200	8,300	940	6,200	<200	<100	---	---	---	---
	10/16/08	17,000	32,000	2,100	2,000	160	2,300	<20	26	---	---	---	---
	07/22/09	24,000	15,000	3,800	5,400	720	3,380	<50	28	<500	<50	<50	<50
	03/16/10	8,000	22,000	830	1,100	140	700	<10	16	690	<10	<10	<10
	04/16/10	4,200	25,000	850	150	89	200	<5.0	11	3,700	<5.0	<5.0	<5.0
	05/24/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	06/25/10 <sup>2,3</sup>	14,000	43,000	1,100	1,500	160	1,260	<20	11	2,700	<20	<20	<20
07/13/10 <sup>2</sup>	500	4,500	49	51	5	68	<0.5	0.91	340	<1.0	<1.0	<1.0	
08/12/10 <sup>2</sup>	9,200	2,200	1,400	1,100	52	1,580	<10	18	1,600	<10	<10	<10	
09/20/10 <sup>2</sup>	3,300	5,200	130	18	36	260	<1.0	130	13,000	<1.0	<1.0	1.6	
10/5/2010 <sup>2</sup>	15,000	3,100	2,500	1,300	390	1,790	<20	30	1,300	<20	<20	<20	
11/23/10	31,000	21,000	5,100	3,400	890	3,900	<40	51	470	<40	<40	<40	
12/22/10	63,000	73,000	6,700	9,600	1,700	8,300	<50	28	<500	<50	<50	<50	
01/12/11	320,000	130,000	4,600	2,900	1,400	13,300	<200	<100	<2000	<200	<200	<200	
2/24/2011 <sup>2</sup>	1,600	3,900	110	77	19	188	<1.0	3	2,200	<1.0	<1.0	<1.0	
3/23/2011 <sup>2</sup>	3,200	2,900	360	340	28	360	<3.0	7.6	2,400	<3.0	<3.0	<3.0	
4/29/2011 <sup>2</sup>	1,500	10,000	75	67	7	113	<0.5	3.3	1,700	<1.0	<1.0	<1.0	
GMW-O-15	10/16/08	1,700	2,800	550	3	37	34.1	<5	110	---	---	---	---
	03/16/10 <sup>2</sup>	530	8,900	10	1.1	0.64	2.7	<0.50	400	<10	<1.0	<1.0	1.9
	04/16/10	6,700	62,000	1,700	54	120	176	<10	1,300	1,800	<10	<10	11

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-15 (Cont'd)	05/25/10	650	5,600	82	16	8.4	44	<2.0	180	1,500	<2.0	<2.0	<2.0
	06/25/10 <sup>2</sup>	490	900	96	9.7	9.6	33.4	<1.0	240	2,900	<1.0	<1.0	1.1
	07/13/10 <sup>2</sup>	580	250	110	7.5	11	33.7	<1.0	300	5,100	<1.0	<1.0	1.5
	08/12/10 <sup>2</sup>	710	370	120	4.1	10	43	<1.0	260	5,300	<1.0	<1.0	1.5
	09/20/10 <sup>2</sup>	620	500	120	3.3	13	29.4	<1.0	230	6,000	<1.0	<1.0	1.4
	10/5/2010 <sup>2</sup>	14,000	6,000	1,800	280	92	1,120	<20	3,200	3,000	<20	<20	35
	11/23/10	---	---	---	---	---	---	---	---	---	---	---	---
	12/22/10	28,000	19,000	3,900	610	850	4,200	<40	1,900	1,300	<40	<40	<40
	01/12/11	12,000	15,000	1,300	49	280	1,030	<20	430	12,000	<20	<20	<20
	2/24/2011 <sup>2</sup>	12,000	10,000	700	450	310	1,770	<1.0	970	4,100	<1.0	<1.0	20
3/23/2011 <sup>2</sup>	2,400	4,300	210	47	39	250	<2.0	310	3,600	<2.0	<2.0	5.2	
4/29/2011 <sup>2</sup>	1,200	1,500	250	27	27	154	<2.0	350	3,900	<2.0	<2.0	2.4	
GMW-O-16	11/27/96	---	---	570	67	14	360	<5	120	---	---	---	---
	07/17/97	<100	---	<0.5	<0.5	<0.5	<1	<0.5	310	---	---	---	---
	01/06/98	<100	---	<0.5	<0.5	<0.5	<1.5	<0.5	<5	---	---	---	---
	01/09/98	4,600	---	---	---	---	---	---	---	---	---	---	---
	05/20/98	<300	---	<0.5	<0.5	<0.5	<1	<0.5	76	---	---	---	---
	11/13/98	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	---	---	---	---
	05/07/99	<500	---	0.66	<0.5	<0.5	0.72	<1	7.6	---	---	---	---
	11/18/99	<416	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/17/00	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	---	---	---	---
	11/30/00	<300	<100	0.8	<0.5	<0.5	<0.5	<0.5	0.6	---	---	---	---
	05/10/01	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/10/02	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	10/22/02	<300	<100	1.6	0.98	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/09/03	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	10/07/03	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/22/04	<50	3,600	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	07/20/04	---	<100	---	---	---	---	---	---	---	---	---	---
	11/02/04	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/05/05	92	<100	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	110	---	---	---
	08/02/05	57	<100	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	93	---	---	---
	11/02/05	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	57	---	---	---
	02/28/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.3	---	---	---
05/04/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.3	---	---	---	
09/19/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.57	---	---	---	
12/05/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
05/05/07	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
11/14/07	<50	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
02/07/08	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	---	---	---	

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-16 (Cont'd)	04/16/08	<50	<100	<0.5	1.2	0.59	5.5	<0.5	0.63	---	---	---	---
	10/14/08	<50	<100	<0.5	<0.5	<0.5	0.6	<0.5	0.65	---	---	---	---
	04/23/09	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	<10	<1	<1	<1
	10/21/09	<50	250	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	03/16/10	<50	140	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	04/16/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	05/26/10	<50	120	<0.50	<0.50	<0.50	<0.50	<0.50	0.88	<10	<1.0	<1.0	<1.0
	06/22/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<10	<1.0	<1.0	<1.0
	07/13/10	<50	<100	0.73	<0.5	<0.5	<0.5	<0.5	1.9	<10	<1.0	<1.0	<1.0
	08/12/10	<50	<100	0.50	<0.5	<0.5	<0.5	<0.5	2.3	<10	<1.0	<1.0	<1.0
	09/20/10	<50	170	0.69	<0.5	<0.5	<0.5	<0.5	3.1	<10	<1.0	<1.0	<1.0
	10/06/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<10	<1.0	<1.0	<1.0
	11/16/10	<50	160	<0.5	<0.5	<0.5	<0.5	<0.5	4	<10	<1.0	<1.0	<1.0
	12/22/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	2	<10	<1.0	<1.0	<1.0
	01/11/11	<50	<100	1	<0.5	<0.5	<0.5	<0.5	1	<10	<1.0	<1.0	<1.0
02/24/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1	<10	<1.0	<1.0	<1.0	
03/23/11	<50	100	<0.5	<0.5	<0.5	<0.5	<0.5	2	<10	<1.0	<1.0	<1.0	
04/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<10	<1.0	<1.0	<1.0	
GMW-O-18	11/26/96	---	---	<10	<10	<10	<30	<10	10,000	---	---	---	---
	11/27/96	---	---	<10	66	<10	<30	<5	120	---	---	---	---
	07/11/97	<100	---	<3	<3	<3	<3	<3	3,000	---	---	---	---
	01/07/98	<100	---	<5	<5	<5	<15	<5	3,200	---	---	---	---
	05/21/98	2,000	---	<100	<100	<100	<200	<100	5,600	---	---	---	---
	11/17/98	543	<100	<0.5	1	<0.5	2.6	<0.5	1,420	---	---	---	---
	05/06/99	2,700	---	<5	<5	<5	<5	<13	15,000	---	---	---	---
	11/18/99	2,900	<100	<13	<12.5	<12.5	<12.5	<13	6,700	---	---	---	---
	05/19/00	3,500	<100	<25	<25	<25	<25	<25	10,000	---	---	---	---
	11/02/05	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	---	---	---	---
	05/09/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	2.1	---	---	---	---
	12/07/06	<100	<100	<0.5	<0.5	<0.5	<0.5	<1	0.65	---	---	---	---
	05/04/07	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	---	---	---	---
	11/15/07	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	---	---	---	---
	04/15/08	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	10/15/08	<200	<100	<1	<1	<1	<1	<2	<1	---	---	---	---
	04/23/09	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1	140	<1.0	<1.0	<1.0
	10/21/09	2,400	680	170	440	17	410	<5	490	480	<5	<5	<5
	03/16/10	<50	<100	0.60	1.3	<0.50	1.77	<0.50	4.5	550	<1.0	<1.0	<1.0
04/16/10	1,300	6,600	0.67	<0.50	3.1	12.9	<0.50	1.2	2,400	<1.0	<1.0	<1.0	
05/25/10	110	540	<0.50	<0.50	<0.50	<0.50	<1.0	2.9	6,500	<1.0	<1.0	<1.0	
06/25/10 <sup>2</sup>	74	140	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8,300	<1.0	<1.0	<1.0	
07/14/10 <sup>2</sup>	110	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.85	11,000	<1.0	<1.0	<1.0	



TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-18 (Cont'd)	08/12/10 <sup>2</sup>	220	<100	1	<0.5	<0.5	<0.5	<1.0	0.93	15,000	<1.0	<1.0	<1.0
	09/20/10 <sup>2</sup>	290	<100	1	<0.5	<0.5	0.55	<1.0	1.2	23,000	<1.0	<1.0	<1.0
	10/5/10 <sup>2</sup>	4,000	1,100	1,200	420	23	231	<10	670	2,600	<10	<10	<10
	11/16/10 <sup>2</sup>	2,000	120	<0.5	<0.5	<0.5	<0.5	<1.0	1	21,000	<1.0	<1.0	<1.0
	12/22/10	---	---	---	---	---	---	---	---	---	---	---	---
	1/12/2011 <sup>2</sup>	3,000	130	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	29,000	<2.0	<2.0	<2.0
	2/24/2011 <sup>2</sup>	1,400	2,100	60	31	19	123	<0.5	380	1,600	<1.0	<1.0	3.9
	3/23/2011 <sup>2</sup>	110	230	6	1	1	8	<0.5	3	3,300	<1.0	<1.0	<1.0
4/29/2011 <sup>2</sup>	<50	120	3.7	<0.5	<0.5	1.7	<0.5	7.5	780	<1.0	<1.0	<1.0	
GMW-O-19	11/25/96	---	---	<0.5	<0.87	2.8	5.1	<0.5	<5	---	---	---	---
	07/16/97	<100	---	<0.5	<0.5	<0.5	<1	<0.5	<5	---	---	---	---
	01/06/98	<100	---	<0.5	<0.5	<0.5	<1.5	<0.5	<5	---	---	---	---
	05/20/98	<300	---	<0.5	<0.5	<0.5	<1	<0.5	2	---	---	---	---
	11/12/98	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/06/99	<500	---	<0.5	<0.5	<0.5	<0.5	<1	0.51	---	---	---	---
	11/18/99	<416	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	---	---	---	---
	05/17/00	<300	180	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	09/19/01	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	11/07/01	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	01/30/02	<300	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/09/03	<50	500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	08/01/03	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	10/07/03	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/22/04	<50	1,400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	07/20/04	---	<100	---	---	---	---	---	---	---	---	---	---
	11/02/04	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/05/05	510	110	110	<0.5	17	24.5	<1	150	---	---	---	---
	08/02/05	160	<100	2.1	<0.5	1.2	<0.5	<0.5	19	---	---	---	---
	11/02/05	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	02/28/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/04/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	12/05/06	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	05/05/07	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
11/15/07	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
04/16/08	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
10/14/08	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
04/23/09	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1	
10/20/09	<50	<200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1	
03/15/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	
04/16/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-19 (Cont'd)	05/26/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	06/22/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0
	07/13/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	08/12/10	<50	<100	0.52	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	09/20/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	10/06/10	<50	340	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	11/16/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	12/22/10	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
	02/24/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0
03/23/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0	
04/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0	
PZ-5	10/07/03	6,900	<100	11	<10	<10	<10	<20	9,100	---	---	---	---
	05/05/05	<50	<100	0.87	<0.5	<0.5	<0.5	<0.5	43	---	---	---	---
	11/02/05	1,200	<100	<2.5	<2.5	<2.5	<2.5	<5.0	2,100	---	---	---	---
	02/28/06	160	<100	<0.5	<0.5	<0.5	<0.5	<1	380	---	---	---	---
	05/04/06	1,200	<100	<2	<2	<2	<2	<4	1,900	---	---	---	---
	09/19/06	480	<100	<1	<1	<1	<1	<2	1,200	---	---	---	---
	12/07/06	480	<100	<1.5	<1.5	<1.5	<1.5	<3	960	---	---	---	---
	03/13/07	320	<100	<1	<1	<1	<1	<2	690	---	---	---	---
	05/04/07	400	<100	<0.5	<0.5	<0.5	<0.5	<1	610	---	---	---	---
	08/29/07	380	<100	<1	<1	<1	<1	<2	480	---	---	---	---
	11/15/07	370	<100	<0.5	<0.5	<0.5	<0.5	<1	470	---	---	---	---
	02/20/08	940	560	<1	<1	<1	<1	<2	750	---	---	---	---
	04/15/08	750	330	<1	<1	<1	<1	<2	740	---	---	---	---
	08/12/08	1,500	370	<2	<2	<2	<2	<4	2,000	---	---	---	---
	10/16/08	<3,000	210	22	<15	<15	<15	<30	1,900	---	---	---	---
	02/24/09	1,000	440	61	<1	<1	<1	<2	1,200	37,000	---	---	---
	02/24/09 <sup>4</sup>	2,400	1,000	71	<100	<100	<100	<50	1,400	47,000	<200	<200	<200
	04/23/09	1,200	760	250	<2	5.7	<2	<4	1,200	35,000	<4	<4	<4
	07/22/09	3,800	1,800	2,000	20	98	77	<5	800	54,000	<5	<5	<5
	10/23/09	2,900	1,300	1,100	18	53	69	<10	500	50,000	<10	<10	<10
03/16/10	1,700	890	370	2.1	33	9.4	<4.0	350	58,000	<4.0	<4.0	<4.0	
04/16/10	1,600	1,100	110	<2.5	9.7	4.6	<5.0	340	91,000	<5.0	<5.0	<5.0	
05/27/10	3,200 J	1,300	1,100	<25	66	<25	<50	360	69,000	<50	<50	<50	
06/22/10	3,600	900	1,500	<10	96	<10	<20	450	73,000	<20	<20	<20	
07/14/10	4,600	1,300	1,900	<10	180	<10	<20	530	82,000	<20	<20	<20	
08/12/10	9,100	1,600	4,400	<5.0	340	50.6	<10	490	64,000	<10	<10	<10	
09/20/10	8,500	1,800	4,200	2.8	110	16.8	<4.0	370	43,000	<4.0	<4.0	<4.0	
10/07/10	6,300	1,000	3,100	<20	56	<20	<40	150	40,000	<40	<40	<40	
11/16/10	3,400	1,600	1,600	<10	10	15	<20	130	20,000	<20	<20	<20	

**TABLE 2**

**SUMMARY OF GROUNDWATER ANALYTICAL DATA  
APRIL 2011 MONTHLY MONITORING EVENT  
Defense Fuel Support Point Norwalk  
Norwalk, California**

Results reported in micrograms per liter (µg/L)

Sample ID	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
PZ-5 (Cont'd)	12/22/10	3,400	1,700	1,600	<10	<10	<10	<20	100	22,000	<20	<20	<20
	01/12/11	4,000	1,200	1,500	<5.0	<5.0	<5.0	<10	130	38,000	<10	<10	<10
	02/24/11	1,400	400	390	<2.0	<2.0	3.8	<4.0	84	27,000	<4.0	<4.0	<4.0
	03/23/11	1,100	820	210	<1.0	<1.0	2.4	<2.0	140	29,000	<2.0	<2.0	<2.0
	04/13/11	830	520	59	<1.0	<1.0	<1.0	<2.0	120	28,000	<2.0	<2.0	<2.0

Notes

1. The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.
2. Groundwater sample collected through a sampling port.
3. Free product was present.
4. Split groundwater sample analyzed by Calscience Environmental Laboratories, Inc. Results were evaluated to laboratory method detection limits.

Abbreviations

--- = not analyzed or not applicable.

<5.0 = not detected at or above the laboratory reporting limit shown.

NS = well not sampled due to presence of free product.

J = The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.

1,2-DCA = 1,2-dichloroethane.

DIPE = di-isopropyl ether.

ETBE = ethyl tertiary butyl ether.

MTBE = methyl tertiary butyl ether.

TAME = tertiary amyl methyl ether.

TBA = tertiary butyl alcohol.

TPH-fp = total extractable petroleum hydrocarbons quantified using a site fuel product standard.

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C13).

**TABLE 3**

**SUMMARY OF MISCELLANEOUS COMPOUNDS DETECTED IN GROUNDWATER SAMPLES  
APRIL 2011 MONTHLY MONITORING EVENT**  
Defense Fuel Support Point Norwalk  
Norwalk, California

Results reported in micrograms per liter ( $\mu\text{g/L}$ )

<b>Sample ID</b>	<b>Date</b>	<b>1,2,4- Trimethylbenzene</b>	<b>1,3,5- Trimethylbenzene</b>	<b>Isopropylbenzene</b>	<b>Naphthalene</b>	<b>n-Butylbenzene</b>	<b>n-Propylbenzene</b>	<b>sec-Butylbenzene</b>
GMW-36	04/29/11	62	34	1.2	39	9.3	1.7	1.1
GMW-O-15	04/29/11	33	11	<2.0	20	<2.0	3.2	<2.0

**TABLE 4**  
**SUMMARY OF TOTAL FLUIDS AND GROUNDWATER EXTRACTION PUMP OPERATION**  
**APRIL 2011 MONTHLY MONITORING EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Remediation Area	Remediation Well ID	Pump Type	4/29/11 Pump Status (ON/OFF)	Comments
South-Central Area	GMW-9	TFE	OFF	
	GMW-22	TFE	ON	
	GMW-24	TFE	OFF	
	GMW-25	GWE	OFF	
	GWR-3	GWE	OFF	
	MW-SF-2	TFE	OFF	
	MW-SF-3	TFE	OFF	
	MW-SF-6	TFE	OFF	
	MW-SF-11	TFE	ON	
	MW-SF-12	TFE	OFF	
	MW-SF-13	TFE	ON	
	MW-SF-14	TFE	ON	
	MW-SF-15	TFE	ON	
	MW-SF-16	TFE	ON	
	MW-O-1	TFE	OFF	
	MW-O-2	TFE	OFF	
	GMW-O-11	TFE	OFF	
	GMW-O-20	TFE	OFF	
GMW-O-21	TFE	ON		
GMW-O-23	TFE	OFF		
Southeastern Area	GMW-O-15	TFE	ON	
	GMW-O-18	TFE	ON	
	GMW-36	TFE	ON	

**Notes**

Data reported based on information provided by SFPP, L.P.

**Abbreviations**

GWE = groundwater extraction.

TFE = total fluids extraction.