



Transmittal

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From: Dan Jablonski

To: Mr. Paul Cho, PG
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Control Board – Los Angeles
Region (RWQCB)
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CH2M HILL
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Subject: August 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, August 2011 Monthly Monitoring Event
- 3 Table 3 - Summary of Miscellaneous Compounds Detected in Groundwater Samples, August 2011 Monthly Monitoring Event
- 4 Table 4 - Summary of Total Fluids and Groundwater Extraction Pump Operation, August 2011 Monthly Monitoring Event
- 5 Attachment 1 – Concentration Time Series Charts – Wells PZ-5 and GMW-O-18

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 August 2011 monthly monitoring event conducted at the DFSP Norwalk site. 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 on August 30, 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. 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 southeastern 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 (0.10 to 0.37 feet) in the southeastern area since the July 2011 monitoring event. Free product was not detected in any of the wells that were gauged in August 2011.
- 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 and tertiary butyl alcohol [TBA]), total petroleum hydrocarbons (TPH) quantified as gasoline (TPH-g), and TPH quantified as fuel product (TPH-fp) in well GMW-36 during August 2011 were higher than concentrations reported during July 2011. Methyl tertiary butyl ether (MTBE) in well GMW-36 decreased relative to concentrations reporting during July 2011. An increase in TPH-g, TPH-fp, and VOCs (benzene, toluene, ethylbenzene, total xylenes, MTBE, and TBA) was reported in well GMW-O-15 during August 2011. TPH-g and TPH-fp concentrations were approximately one to two orders of magnitudes higher than concentrations reported during July 2011. Since well GMW-O-15 has a history of presence of free product, it is suspected that a small quantity of emulsified product was present in the water sample which could have caused a significant increase in contaminant concentrations.
- 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 August 2011. MTBE (1.5 µg/L) was detected in well GMW-O-16 during August 2011; TPH-g, TPH-fp and remaining VOCs were non-detect. Benzene, toluene, ethylbenzene, and MTBE concentrations reported in well GMW-O-18 during August 2011 were higher than concentrations reported in June 2011 (July data was unavailable for comparison). TPH-g, TPH-fp, total xylenes, and TBA concentrations decreased in well GMW-O-18 relative to June 2011. TPH-g, benzene, toluene, total xylenes concentrations reporting in well PZ-5 during August 2011 were lower than the concentrations reported during July 2011. Ethylbenzene, MTBE and TBA increased relative to concentrations reported in July 2011. With the exception of 1,2,4-trimethylbenzene (Table 3), the remaining VOCs in well PZ-5 were not detected above the laboratory reporting limit. Concentration time series charts for wells PZ-5 and GMW-O-18 are included in Attachment 1.
- 6) One equipment blank and one trip blank sample were collected during this 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.

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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
	05/13/11	74.53	NM	NM	NC	NC
	06/22/11	74.53	NM	NM	NC	NC
07/11/11	74.53	NM	NM	NC	NC	
08/19/11	74.53	NM	NM	NC	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
	05/13/11	74.23	NM	NM	NC	NC
	06/22/11	74.23	NM	NM	NC	NC
07/11/11	74.23	NM	NM	NC	NC	
08/19/11	74.23	NM	NM	NC	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

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-16	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
	05/13/11	74.10	---	25.76	---	48.34
	06/22/11	74.10	---	25.89	---	48.21
	07/11/11	74.10	---	26.00	---	48.10
08/19/11	74.10	---	25.63	---	48.47	
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
	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
	05/13/11	74.36	NM	NM	NC	NC
	06/22/11	74.36	NM	NM	NC	NC
	07/11/11	74.36	NM	NM	NC	NC
08/19/11	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

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-19	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
	05/13/11	74.46	---	25.11	---	49.35
	06/22/11	74.46	---	25.27	---	49.19
	07/11/11	74.46	---	25.42	---	49.04
	08/19/11	74.46	---	25.32	---	49.14
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
	05/13/11	73.97	---	25.21	---	48.76
	06/22/11	73.97	---	25.37	---	48.60
07/11/11	73.97	---	25.47	---	48.50	
08/19/11	73.97	---	25.35	---	48.62	

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
AUGUST 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 ¹	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 ^{2,3}	14,000	43,000	1,100	1,500	160	1,260	<20	11	2,700	<20	<20	<20	
07/13/10 ²	500	4,500	49	51	4.9	68	<0.5	0.91	340	<1.0	<1.0	<1.0	
08/12/10 ²	9,200	2,200	1,400	1,100	52	1,580	<10	18	1,600	<10	<10	<10	
09/20/10 ²	3,300	5,200	130	18	36	260	<1.0	130	13,000	<1.0	<1.0	1.6	
10/5/2010 ²	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	

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-36	01/12/11	320,000	130,000	4,600	2,900	1,400	13,300	<200	<100	<2000	<200	<200	<200
	02/24/11 ²	1,600	3,900	110	77	19	188	<1.0	3	2,200	<1.0	<1.0	<1.0
	03/23/11 ²	3,200	2,900	360	340	28	360	<3.0	7.6	2,400	<3.0	<3.0	<3.0
	04/29/11 ²	1,500	10,000	75	67	6.8	113	<0.5	3.3	1,700	<1.0	<1.0	<1.0
	05/13/11 ²	13,000	11,000	2,300	2,100	93	1,640	<20	43	<200	<20	<20	<20
	06/22/11 ²	420	1,500	24	12	2.8	29	<0.5	110	5,900	<1.0	<1.0	<1.0
	07/29/2011 ²	7,300	3,200	560	570	61	990	<10	350	4,600	<10	<10	<10
08/19/2011 ²	13,000	6,200	570	1,100	250	1,890	<20	260	9,000	<20	<20	<20	
GMW-O-15	10/16/08	1,700	2,800	550	3	37	34.1	<5	110	---	---	---	---
	03/16/10 ²	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
	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 ²	490	900	96	9.7	9.6	33.4	<1.0	240	2,900	<1.0	<1.0	1.1
	07/13/10 ²	580	250	110	7.5	11	33.7	<1.0	300	5,100	<1.0	<1.0	1.5
	08/12/10 ²	710	370	120	4.1	10	43	<1.0	260	5,300	<1.0	<1.0	1.5
	09/20/10 ²	620	500	120	3.3	13	29.4	<1.0	230	6,000	<1.0	<1.0	1.4
	10/5/2010 ²	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
	02/24/11 ²	12,000	10,000	700	450	310	1,770	<1.0	970	4,100	<1.0	<1.0	20
	03/23/11 ²	2,400	4,300	210	47	39	250	<2.0	310	3,600	<2.0	<2.0	5.2
	04/29/11 ²	1,200	1,500	250	27	27	154	<2.0	350	3,900	<2.0	<2.0	2.4
05/13/11 ²	1,300	1,600	200	18	22	127	<2.0	350	6,600	<2.0	<2.0	3.6	
06/22/11 ²	1,800	1,200	190	95	34	219	<1.0	310	6,800	<1.0	<1.0	1.8	
07/12/2011 ²	1,000	970	150	17	14	97	<2.0	220	6,400	<2.0	<2.0	<2.0	
08/19/2011 ²	33,000	550,000	820	2,200	610	4,400	<50	290	9,200	<50	<50	<50	
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	---	---	---	---	---	---	---	---	---	---	---

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME	
GMW-O-16	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	<0.5	---	---	---	---
	05/05/07	<50	<100	<0.5	<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	<0.5	---	---	---	---
	02/07/08	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	---	---	---	---
	04/16/08	<50	<100	<0.5	1.2	0.59	5.5	<0.5	<0.5	0.63	---	---	---	---
	10/14/08	<50	<100	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.65	---	---	---	---
04/23/09	<50	<100	<0.5	<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	<0.5	<10	<1	<1	<1	
03/16/10	<50	140	<0.50	<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	<0.50	<10	<1.0	<1.0	<1.0	
05/26/10	<50	120	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.88	<10	<1.0	<1.0	<1.0	
06/22/10	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<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	<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	<0.5	2.3	<10	<1.0	<1.0	<1.0	

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-16	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	0.52	<0.5	<0.5	<0.5	<0.5	0.94	<10	<1.0	<1.0	<1.0
	02/24/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<10	<1.0	<1.0	<1.0
	03/23/11	<50	100	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<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
	05/13/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<10	<1.0	<1.0	<1.0
	06/22/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	<10	<1.0	<1.0	<1.0
07/12/11	<50	120	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<10	<1.0	<1.0	<1.0	
08/19/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<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	<0.5	3.1	12.9	<0.50	1.2	2,400	<1.0	<1.0	<1.0	
05/25/10	110	540	<0.5	<0.5	<0.5	<0.5	<1.0	2.9	6,500	<1.0	<1.0	<1.0	
06/25/10 ²	74	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.50	8,300	<1.0	<1.0	<1.0

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-18	07/14/10 ²	110	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.85	11,000	<1.0	<1.0	<1.0
	08/12/10 ²	220	<100	0.64	<0.5	<0.5	<0.5	<1.0	0.93	15,000	<1.0	<1.0	<1.0
	09/20/10 ²	290	<100	1.1	<0.5	<0.5	0.55	<1.0	1.2	23,000	<1.0	<1.0	<1.0
	10/5/10 ²	4,000	1,100	1,200	420	23	231	<10	670	2,600	<10	<10	<10
	11/16/10 ²	2,000	120	<0.5	<0.5	<0.5	<0.5	<1.0	0.53	21,000	<1.0	<1.0	<1.0
	12/22/10	---	---	---	---	---	---	---	---	---	---	---	---
	01/12/11 ²	3,000	130	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	29,000	<2.0	<2.0	<2.0
	02/24/11 ²	1,400	2,100	60	31	19	123	<0.5	380	1,600	<1.0	<1.0	3.9
	03/23/11 ²	110	230	6	1.4	1.1	8.1	<0.5	2.9	3,300	<1.0	<1.0	<1.0
	04/29/11 ²	<50	120	3.7	<0.5	<0.5	1.7	<0.5	7.5	780	<1.0	<1.0	<1.0
	05/13/11 ²	<100	230	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<10	<1.0	<1.0	<1.0
06/22/11 ²	7,500	37,000	<0.5	<0.5	<0.5	436	<1.0	5.5	3,200	<1.0	<1.0	<1.0	
08/19/11 ²	2,600	12,000	17	3.9	3.2	40	<2.0	85	61	<2.0	<2.0	<2.0	
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	---	---	---	---	

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-O-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
	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	
05/13/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0	
06/22/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1.0	<1.0	<1.0	
07/11/11	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	
08/19/11	<50	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<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	---	---	---	---

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
PZ-5	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 ⁴	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	
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	
05/13/11	2,000	830	710	4.7	25	25.8	<5.0	140	34,000	<5.0	<5.0	<5.0	
06/22/11	4,500	1,100	960	9	30	80	<10	100	33,000	<10	<10	<10	

TABLE 2

**SUMMARY OF GROUNDWATER ANALYTICAL DATA
AUGUST 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
PZ-5	07/12/11	3,300	1,200	1,500	16	50	77	<20	110	34,000	<20	<20	<20
	08/19/11	2,600	1,200	750	9	63	45	<10	150	47,000	<10	<10	<10

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
AUGUST 2011 MONTHLY MONITORING EVENT**

Defense Fuel Support Point Norwalk
Norwalk, California

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

Sample ID	Date	1,2,4- Trimethylbenzene	1,3,5- Trimethylbenzene	Naphthalene	n-Propylbenzene	tert-Butylbenzene
GMW-36	08/19/11	410	130	170	32	<20
GMW-O-15	08/19/11	1,300	410	420	130	<50
GMW-O-18	08/19/11	8.6	5.8	<10	<2.0	<2.0
PZ-5	08/19/11	15	<10	<40	<10	<10

Notes

<10 = not detected at or above the laboratory reporting limit shown.

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

Remediation Area	Remediation Well ID	Pump Type	8/30/11 Pump Status (ON/OFF)	Comments
South-Central Area	GMW-9	TFE	OFF	
	GMW-22	TFE	OFF	
	GMW-24	TFE	OFF	
	GMW-25	GWE	OFF	
	GWR-3	GWE	OFF	
	MW-SF-2	TFE	OFF	
	MW-SF-3	TFE	ON	
	MW-SF-6	TFE	OFF	
	MW-SF-11	TFE	OFF	
	MW-SF-12	TFE	OFF	
	MW-SF-13	TFE	ON	
	MW-SF-14	TFE	OFF	
	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	OFF		
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.

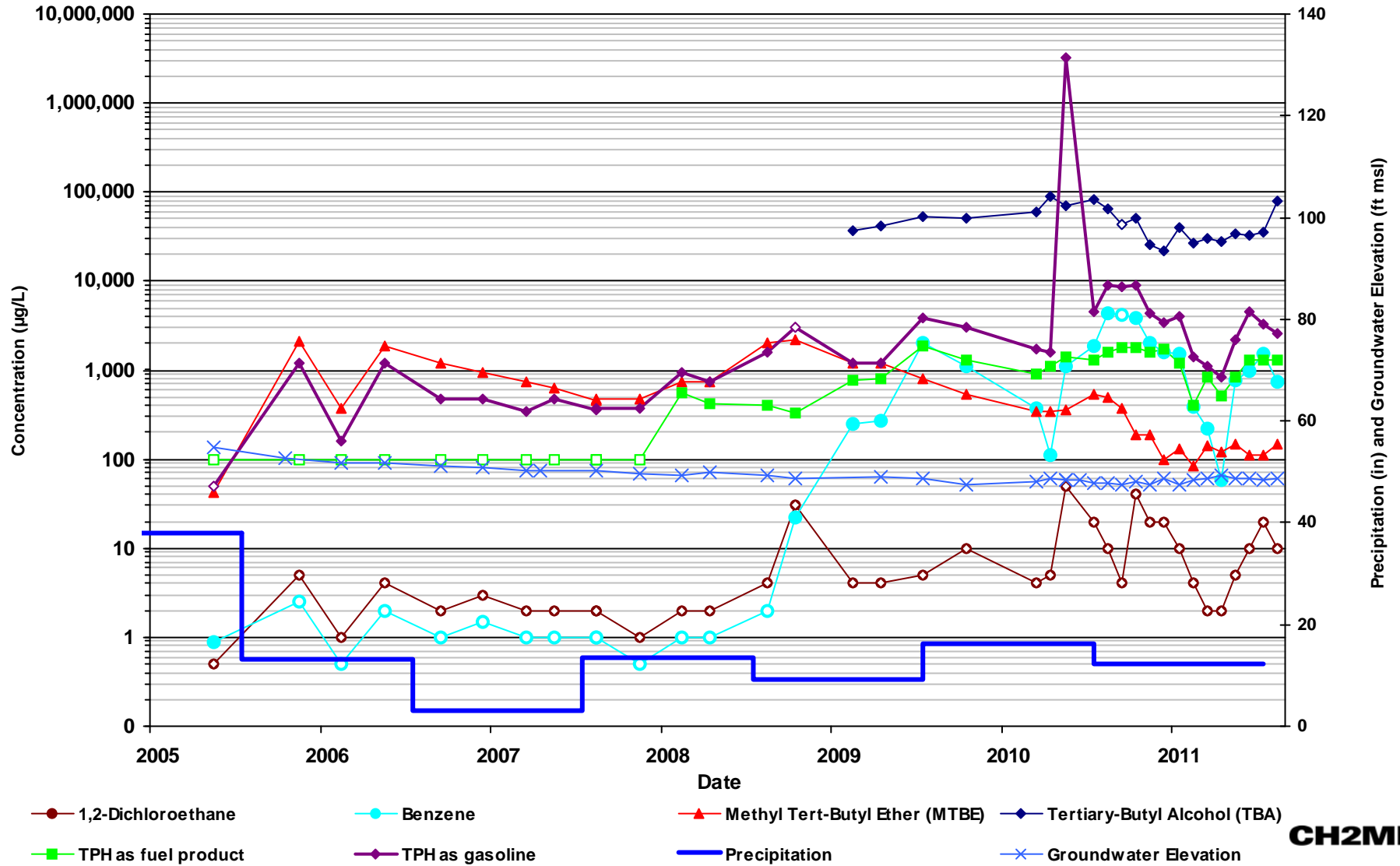
Abbreviations

GWE = groundwater extraction.

TFE = total fluids extraction.

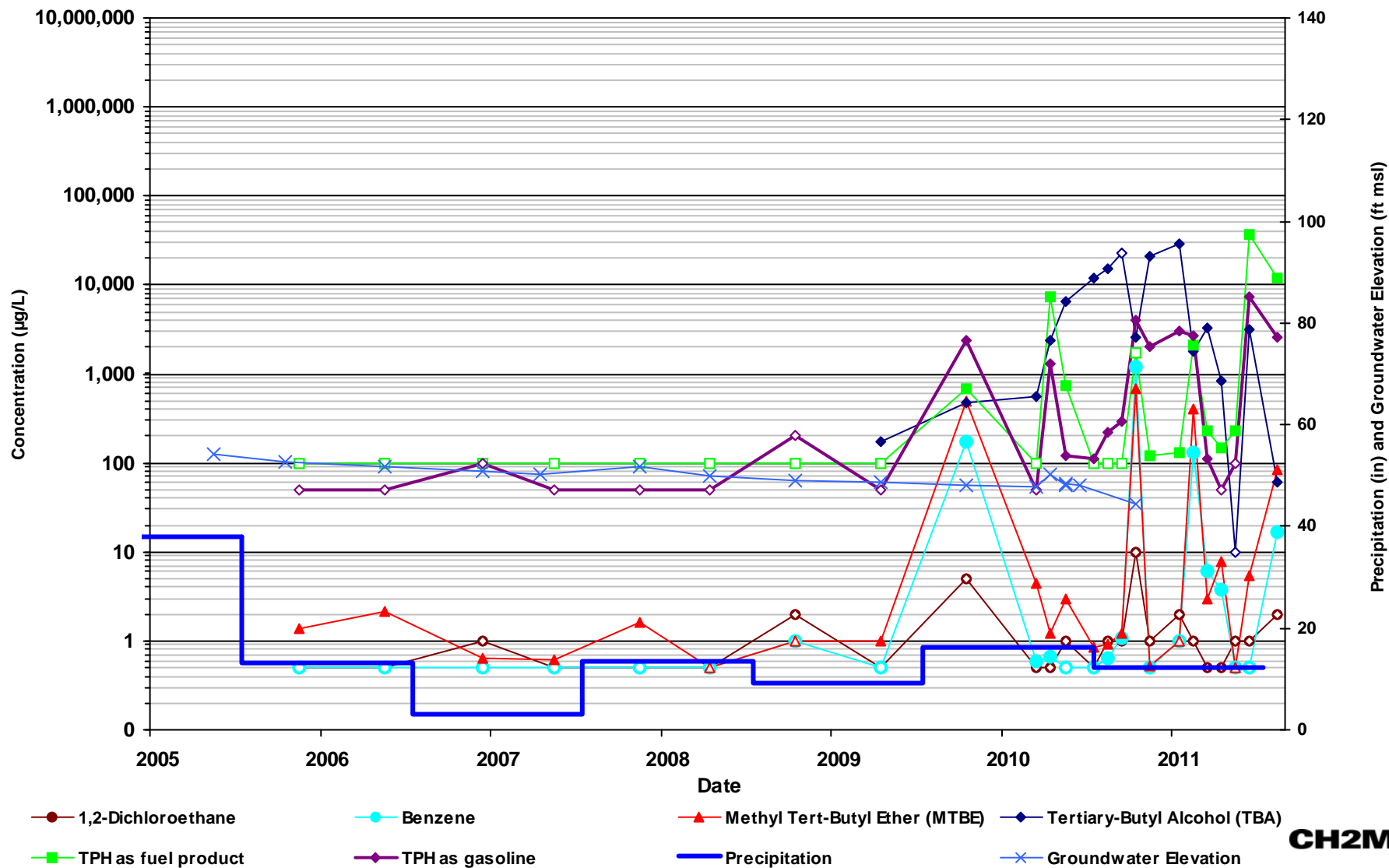
Attachment 1
Concentration Time Series Charts
Wells PZ-5 and GMW-O-18

PZ-5



Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.
 Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source:
<http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>

GMW-O-18



CH2MHILL

Non detect results (ND) are plotted with an open symbol using the laboratory reporting limit.

Precipitation data reported as annual rainfall which is calculated from Long Beach CIMIS #174 weather station. source: <http://www.ipm.ucdavis.edu/weather/sites/losangeles.html>