



**Transmittal**

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**Date:** April 13, 2011 **From:** Dan Jablonski  
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**Subject:** First Quarter 2011 (Sentry) Monitoring Event Submittal

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

Item	Description
1	Table 1 - Summary of Groundwater Elevations, First Quarter 2011 Sentry Event
2	Table 2 - Summary of Groundwater Analytical Data, First Quarter 2011 Sentry Event
3	Table 3 - Summary of Miscellaneous Compounds Detected in Groundwater Samples, First Quarter 2011 Sentry Event
4	Table 4 - Summary of Total Fluids and Groundwater Extraction Pump Operation, First Quarter 2011 Sentry 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 first quarter 2011 sentry event conducted at the DFSP Norwalk site. Groundwater elevations and analytical data for wells monitored during this event are summarized in Tables 1 through 3, and are briefly discussed below. The operation of SFPP's wells during this event is summarized in Table 4.

- 1) Thirty nine (39) wells located in the south-central/intermediate 24-inch block valve, southeastern, southern off-site, and western off-site areas were gauged by Blaine Tech Services, Inc. (Blaine Tech) on behalf of SFPP during this sentry event. Groundwater samples were collected from 21 wells. Of these, two wells in the south-central/intermediate block valve area (MW-SF-1 and MW-SF-4) and one well in the southeastern area (GMW-38) were voluntarily gauged and sampled by KMEP during this sentry event. Well GMW-O-18 was sampled but not gauged due to the presence of the extraction pump. Samples were collected from well GMW-O-18 through the wellhead sampling port.
- 2) The southeastern area extraction wells (GMW-36, GMW-O-15, and GMW-O-18) were down due to mechanical problems with the air compressor and conveyance line. Groundwater extraction from these wells resumed on February 10, 2011. 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 have generally decreased in the uppermost aquifer and increased in the Exposition aquifer beneath the site since the third quarter 2010 sentry event. The groundwater extraction system was in operation during this monitoring event, thus the groundwater levels do not reflect the static water level conditions in the area. Free product was detected in four of the 39 wells gauged during this sentry event. These include wells GMW-36 (1.4 feet thickness), GMW-O-12 (0.10 feet thickness), GMW-O-20 (0.14 feet thickness), and MW-SF-2 (0.12 feet thickness).
- 4) Volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) quantified as gasoline (TPH-g) and fuel product (TPH-fp) were not detected in groundwater samples collected from Exposition aquifer wells EXP-1, EXP-2, and EXP-5. Trace detections of 1,2-dichloroethane (1,2-DCA) (0.73 µg/L) and methyl tertiary butyl ether (MTBE) (0.95 µg/L) were reported in well EXP-3. TPH-g and TPH-fp, and remaining VOCs were non-detect in well EXP-3.
- 5) In the southeastern area, the RWQCB requested KMEP to increase the monitoring frequency from quarterly to monthly for wells GMW-36, GMW-O-15, GMW-O-16, GMW-O-18, GMW-O-19, and PZ-5. KMEP began monthly monitoring at these wells in March 2010. The results of this monthly monitoring are provided in monthly transmittals to the RWQCB. During this sentry monitoring event, concentrations of TPH-g, TPH-fp, and some VOCs in well GMW-36 were generally higher than past concentrations (likely due to the southeastern area extraction down time, see Remark 2 above). An increase in TPH-fp, ethylbenzene and tertiary butyl ether (TBA) was reported in well GMW-O-15; concentrations of TPH-g, MTBE, benzene, toluene, and total xylenes decreased since the second semiannual 2010 event. VOCs, TPH-g, and TPH-fp were not detected in wells GMW-O-16 and GMW-O-19 with the exception that benzene and MTBE were detected at low concentrations in well GMW-O-16. With the exception of TBA, VOCs in well GMW-O-18 were non-detect; TPH-g and TPH-fp decreased relatively to concentrations reported during the second semiannual 2010 event. The TBA concentration in well PZ-5 decreased slightly since the second semiannual 2010 event, and remains within the range of past concentrations in this well.
- 6) In the southern off-site area, no VOCs, TPH-g, or TPH-fp were detected in wells GMW-O-1, GMW-O-2, and GMW-O-3. The detected concentrations of VOCs, TPH-g, and TPH-fp in well GMW-O-14 increased relative to the concentrations reported during the second semiannual 2010 event. However, the increases in concentrations are likely a result of seasonal fluctuations in groundwater elevations as this phenomenon has been observed during previous monitoring events. Groundwater quality in well GMW-O-14 will continue to be monitored on a quarterly basis.
- 7) In the western off-site area, no VOCs, TPH-g, or TPH-fp were detected in well WCW-13. 1,2-DCA was detected in wells WCW-3 and WCW-7. MTBE and diisopropyl ether (DIPE) were also detected in well WCW-7. The detected concentrations of 1,2-DCA and MTBE in this area remained below the risk-based corrective action levels of 70 µg/L for 1,2-DCA and 40 µg/L for MTBE.
- 8) Two equipment blanks 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  
FIRST QUARTER 2011 SENTRY EVENT**  
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)
EXP-1	1/10/2011	78.44	---	54.77	---	23.67
EXP-2	1/10/2011	79.43	---	55.18	---	24.25
EXP-3	1/10/2011	77.58	---	53.88	---	23.70
EXP-5	1/10/2011	72.41	---	48.69	---	23.72
GMW-1	1/10/2011	74.77	---	28.22	---	46.55
GMW-27	1/10/2011	74.41	---	27.97	---	46.44
GMW-30	1/10/2011	74.91	---	28.61	---	46.30
GMW-36	1/10/2011	74.53	27.7	29.10	1.40	NC
GMW-37	1/10/2011	77.32	---	29.90	---	47.42
GMW-38	1/10/2011	75.47	---	28	---	47.47
GMW-39	1/10/2011	75.05	---	27.63	---	47.42
GMW-9	1/10/2011	74.44	---	32.02	---	42.42
GMW-O-1	1/10/2011	71.45	---	24.14	---	47.31
GMW-O-10	1/10/2011	73.98	---	27.30	---	46.68
GMW-O-12	1/10/2011	73.49	26.32	26.42	0.10	NC
GMW-O-14	1/10/2011	74.08	---	27.12	---	46.96
GMW-O-15	1/10/2011	74.23	---	25.97	---	48.26
GMW-O-16	1/10/2011	74.10	---	26.42	---	47.68
GMW-O-17	1/10/2011	73.78	---	25.64	---	48.14
GMW-O-19	1/10/2011	74.46	---	26.37	---	48.09
GMW-O-2	1/10/2011	72.54	---	25.13	---	47.41
GMW-O-20	1/10/2011	73.32	26.48	26.62	0.14	NC
GMW-O-23	1/10/2011	73.63	---	27.45	---	46.18
GMW-O-3	1/10/2011	72.19	---	25.17	---	47.02
GMW-O-9	1/10/2011	73.5	---	26.69	---	46.81
GMW-SF-8	1/10/2011	76.75	---	28.85	---	47.90
HL-2	1/10/2011	76.94	---	29.90	---	47.04
MW-8	1/10/2011	76.06	---	28.53	---	47.53
MW-SF-1	1/10/2011	78.93	---	32.51	---	46.42
MW-SF-2	1/10/2011	78.53	32.5	32.62	0.12	NC
MW-SF-4	1/10/2011	79.38	---	32.99	---	46.39
MW-SF-5	1/10/2011	79.74	---	33.80	---	45.94
MW-SF-6	1/10/2011	76.8	---	30.87	---	45.93
MW-SF-9	1/10/2011	74.1	---	27.41	---	46.69
PZ-2	1/10/2011	73.96	---	27.57	---	46.39
PZ-5	1/10/2011	73.97	---	26.54	---	47.43
WCW-13	1/10/2011	77.70	---	30.96	---	46.74
WCW-3	1/10/2011	76.16	---	29.5	---	46.66
WCW-7	1/10/2011	76.44	---	29.87	---	46.57

**Abbreviations**

--- = not detected.

feet btoc = feet below top of casing.

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

**TABLE 2**  
**SUMMARY OF GROUNDWATER ANALYTICAL DATA**  
**FIRST QUARTER 2011 SENTRY EVENT**

Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Well	Well	Date	TPH-g	TPH-fp	Benzene	Toluene	Ethyl-benzene	Total Xylenes <sup>1</sup>	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
Exposition Aquifer	EXP-1	01/10/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	EXP-2	01/10/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	EXP-3	01/10/11	<50	<100	<0.5	<0.5	<0.5	<0.5	0.73	0.95	<10	<1	<1	<1
	EXP-5	01/10/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
Southeastern Area	GMW-36	01/12/11	320,000	130,000	4,600	2,900	1,400	13,300	<200	<100	<2,000	<200	<200	<200
	GMW-38	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-39	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	68	<1	<1	<1
	GMW-O-15	01/12/11	12,000	15,000	1,300	49	280	1,030	<20	430	12,000	<20	<20	<20
	GMW-O-16	01/11/11	<50	<100	0.52	<0.5	<0.5	<0.5	<0.5	0.94	<10	<1	<1	<1
	GMW-O-18	01/12/11	3,000	130	<1	<1	<1	<1	<2	<1	29,000	<2	<2	<2
	GMW-O-19	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
PZ-5	01/12/11	4,000	1,200	1,500	<5	<5	<5	<10	130	38,000	<10	<10	<10	
South-central Area	MW-SF-1	01/12/11	15,000	15,000	8,500	<50	<50	<50	<100	650	<1,000	<100	<100	<100
	MW-SF-4	01/12/11	20,000	18,000	8,500	<50	350	280	<100	350	<1,000	100	<100	<100
Southern Off-site Area	GMW-O-1	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-2	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-3	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-14	01/11/11	49,000	11,000	12,000	5,500	1,400	4,500	120	<50	<1,000	190	<100	<100
Western Off-site Area	WCW-13	01/10/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	WCW-3	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	3.3	<0.5	<10	<1	<1	<1
	WCW-7	01/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	25	1.4	<10	3.3	<1	<1

**Notes**

1. The total xylenes result is the sum of m,p-xylenes and o-xylenes when detected.

**Abbreviations**

<50 = not detected at or above the laboratory reporting limit shown.

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

DIPE = diisopropyl 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  
**FIRST QUARTER 2011 SENTRY EVENT**  
 Defense Fuel Support Point Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID	Date	1,2,4- Trimethylbenzene	1,3,5- Trimethylbenzene	4-Isopropyltoluene	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene
GMW-36	01/12/11	12,000	6,800	250	210	4,000	370	650	290
GMW-O-14	01/11/11	690	140	<100	<100	<400	<100	<100	<100
GMW-O-15	01/12/11	500	130	<20	<20	170	<20	31	<20

**Notes**

<20 = not detected at or above the laboratory reporting limit shown.

**TABLE 4**

**SUMMARY OF TOTAL FLUIDS AND GROUNDWATER EXTRACTION PUMP OPERATION  
FIRST QUARTER 2011 SENTRY EVENT**  
Defense Fuel Support Point Norwalk  
Norwalk, California

Remediation Area	Remediation Well ID	Pump Type	1/28/11 Pump Status (ON/OFF)	Comments
South-Central Area	GMW-9	TFE	OFF	
	GMW-22	TFE	<b>ON</b>	
	GMW-24	TFE	OFF	
	GMW-25	GWE	OFF	
	GWR-3	GWE	OFF	
	MW-SF-2	TFE	OFF	
	MW-SF-3	TFE	<b>ON</b>	
	MW-SF-6	TFE	OFF	
	MW-SF-11	TFE	OFF	
	MW-SF-12	TFE	OFF	
	MW-SF-13	TFE	<b>ON</b>	
	MW-SF-14	TFE	<b>ON</b>	
	MW-SF-15	TFE	<b>ON</b>	
	MW-SF-16	TFE	<b>ON</b>	
	MW-O-1	TFE	OFF	
	MW-O-2	TFE	OFF	
	GMW-O-11	TFE	OFF	
	GMW-O-20	TFE	OFF	
	GMW-O-21	TFE	<b>ON</b>	
GMW-O-23	TFE	OFF		
Southeastern Area	GMW-O-15	TFE	OFF	Down due to mechanical issues with the conveyance line. Groundwater extraction resumed on February 10, 2011.
	GMW-O-18	TFE	OFF	
	GMW-36	TFE	OFF	

**Notes**

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

**Abbreviations**

GWE = groundwater extraction.

TFE = total fluids extraction.