



Transmittal

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Date: October 14, 2011 **From:** Dan Jablonski
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Subject: Third Quarter 2011 (Sentry) Monitoring Event Submittal

Project Name: Defense Fuel Support Point (DFSP) Norwalk

Item	Description
1	Table 1 - Summary of Groundwater Elevations, Third Quarter 2011 Sentry Event
2	Table 2 - Summary of Groundwater Analytical Data, Third Quarter 2011 Sentry Event
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4	Table 4 - Summary of Total Fluids and Groundwater Extraction Pump Operation, Third 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 third 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) Twenty one wells located in the south-central/intermediate 24-inch block valve, southeastern, southern off-site, and western off-site areas were sampled by Blaine Tech Services, Inc. (Blaine Tech) on behalf of SFPP during this sentry event. Groundwater levels were collected from 18 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. Wells GMW-36 and GMW-O-15 were sampled but not gauged due to the presence of the extraction pumps. Samples were collected from these two wells through the wellhead sampling ports. Well GMW-O-18 was not sampled or gauged due to the presence of an inoperable extraction pump.
- 2) The southeastern area extraction wells (GMW-36, GMW-O-15, and GMW-O-18) were in operation during the third quarter 2011. 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 increased in the uppermost aquifer and increased in the Exposition aquifer beneath the site since the first quarter 2011 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 not detected in the 18 wells gauged during this sentry event.
- 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, and EXP-2. A trace detection of 1,2-dichloroethane (1,2-DCA) (0.61 µg/L) was reported in well EXP-3; TPH-g, TPH-fp, and remaining VOCs were non-detect. A trace detection of TPH-fp (110 µg/L, which is just above 100 µg/L reporting limit) was reported in well EXP-5 in July 2011; TPH-g and all VOCs were non-detect. A confirmation sample was collected from well EXP-5 on September 22, 2011 to confirm the presence of TPH in this well. VOCs and TPH were non-detect in this confirmation sample.
- 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 lower than concentrations reported during the January 2011 sentry event. A decrease in TPH-g; TPH-fp; benzene, toluene, ethylbenzene, total xylenes (BTEX); MTBE; and tertiary butyl ether (TBA) was reported in well GMW-O-15, relative to concentrations reported during January 2011. TPH-g, TPH-fp, and VOCs were not detected in wells GMW-O-16 and GMW-O-19 with the exception that TPH-fp and MTBE were detected at low concentrations in well GMW-O-16 (120 µg/L and 1.8 µg/L, respectively). Concentrations of TPH-g, TPH-fp, and VOCs in well PZ-5 remained relatively consistent with concentrations reported during January 2011. TPH-g, TPH-fp, and VOCs were not detected in wells GMW-38 and GMW-39.
- 6) In the southern off-site area, TPH-g, TPH-fp, and VOCs were not detected in wells GMW-O-1, GMW-O-2, and GMW-O-3. The detected concentrations of TPH-g, TPH-fp, and VOCs in well GMW-O-14 decreased relative to the concentrations reported during the January 2011 sentry event. The decreases 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. In wells MW-SF-1 and MW-SF-4, TPH-g, TPH-fp, benzene, and MTBE concentrations decreased since the January 2011 sentry event. An increase in toluene, ethylbenzene, and total xylenes was reported in both wells.
- 7) In the western off-site area, TPH-g, TPH-fp, and VOCs were not detected in well WCW-13. 1,2-DCA was detected in wells WCW-3 and WCW-7 at concentrations of 4.5 µg/L and 21 µg/L, respectively. MTBE and diisopropyl ether (DIPE) were also detected in well WCW-7 (1.2 µg/L and 2.6 µg/L, respectively). TPH-fp was detected at a concentration of 110 µg/L in the WCW-7 field duplicate sample. 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
THIRD 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	7/11/2011	78.44	---	53.51	---	24.93
EXP-2	7/11/2011	79.43	---	53.94	---	25.49
EXP-3	7/11/2011	77.58	---	52.54	---	25.04
EXP-5	7/11/2011	72.41	---	47.42	---	24.99
EXP-5	9/22/2011	72.41	---	48.12	---	24.29
GMW-36	7/11/2011	74.53	---	NM	---	NC
GMW-38	7/11/2011	75.47	---	26.83	---	48.64
GMW-39	7/11/2011	75.05	---	26.55	---	48.50
GMW-O-1	7/11/2011	71.45	---	22.88	---	48.57
GMW-O-14	7/11/2011	74.08	---	24.77	---	49.31
GMW-O-15	7/11/2011	74.23	---	NM	---	NC
GMW-O-16	7/11/2011	74.10	---	26.00	---	48.10
GMW-O-18	7/11/2011	74.36	---	NM	---	NC
GMW-O-19	7/11/2011	74.46	---	25.42	---	49.04
GMW-O-2	7/11/2011	72.54	---	23.80	---	48.74
GMW-O-3	7/11/2011	72.19	---	23.36	---	48.83
MW-SF-1	7/11/2011	78.93	---	29.84	---	49.09
MW-SF-4	7/11/2011	79.38	---	30.35	---	49.03
PZ-5	7/11/2011	73.97	---	25.47	---	48.50
WCW-13	7/11/2011	77.70	---	30.24	---	47.46
WCW-3	7/11/2011	76.16	---	28.57	---	47.59
WCW-7	7/11/2011	76.44	---	28.74	---	47.70

Abbreviations

--- = not detected.

NC = not calculated.

NM = not measured due to the presence and/or operation of the extraction pump.

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
THIRD 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 ¹	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
Exposition Aquifer	EXP-1	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	EXP-2	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	EXP-3	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	0.61	<0.5	<10	<1	<1	<1
	EXP-5	07/11/11	<50	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	EXP-5	09/22/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
Southeastern Area	GMW-36	07/29/11	7,300	3,200	560	570	61	990	<10	350	4,600	<10	<10	<10
	GMW-38	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-39	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-15	07/12/11	1,000	970	150	17	14	97	<2	220	6,400	<2	<2	<2
	GMW-O-16	07/12/11	<50	120	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<10	<1	<1	<1
	GMW-O-19	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	PZ-5	07/12/11	3,300	1,200	1,500	16	50	77	<20	110	34,000	<20	<20	<20
South-central Area	MW-SF-1	07/12/11	8,400	12,000	4,700	34	76	38	<50	240	<500	<50	<50	<50
	MW-SF-4	07/12/11	15,000	10,000	4,500	36	530	538	<50	220	<500	<50	<50	<50
Southern Off-site Area	GMW-O-1	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-2	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-3	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
	GMW-O-14	07/12/11	12,000	5,500	3,800	50	<25	1,810	<50	<25	<500	<50	<50	<50
Western Off-site Area	WCW-3	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	4.5	<0.5	<10	<1	<1	<1
	WCW-7	07/12/11	<50	<100	<0.5	<0.5	<0.5	<0.5	21	1.2	<10	2.6	<1	<1
	WCW-13	07/11/11	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<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
THIRD QUARTER 2011 SENTRY EVENT**Defense Fuel Support Point Norwalk
Norwalk, CaliforniaResults 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	07/29/11	200	83	74	<10	<10
GMW-O-14	07/12/11	280	<50	<200	<50	<50
GMW-O-15	07/12/11	29	10	12	2.4	3.6
MW-SF-4	07/12/11	250	<50	<200	56	<50
PZ-5	07/12/11	29	<20	<80	<20	<20

Notes

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

TABLE 4

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

Remediation Area	Remediation Well ID	Pump Type	9/27/11 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.