



Transmittal

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Date: October 23, 2009
To: Mr. Jeffrey Hu
California Regional Water Quality
Control Board – Los Angeles
Region (RWQCB)
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Project Number: 1603.044 C
Project Name: Defense Fuel Support Point (DFSP) Norwalk

Item	Description
1	Table 1 - Summary of Groundwater Elevations, Third Quarter 2009 Sentry Event
2	Table 2 - Summary of Groundwater Analytical Data, Third Quarter 2009 Sentry Event

Remarks

On behalf of SFPP, L.P., an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), AMEC Geomatrix, Inc., is transmitting the groundwater monitoring results for the third quarter 2009 sentry event conducted at the DFSP Norwalk site. Groundwater elevations and analytical data for wells monitored during this event are summarized in Table 1 and Table 2, respectively, and are briefly discussed below.

- 1) Twenty (20) wells located in the south-central, intermediate 24-inch block valve, off-site 24-inch block valve, and western off-site areas were gauged by Blaine Tech Services, Inc., on behalf of SFPP during this sentry event.
- 2) Groundwater elevations have generally decreased in both the uppermost and Exposition aquifers beneath the site since the first semi-annual monitoring event in April 2009.
- 3) Two wells (GMW-O-15 located in the southeastern off-site area and MW-SF-4 located in the intermediate block valve area) contained free product and therefore were not sampled during this monitoring event. Free product has been detected previously in both of these wells. Free product was not detected in well GMW-36 (located in the southeastern area) where it was detected during the April 2009 sampling event.
- 4) Wells GMW-O-15, MW-SF-1, MW-SF-4, PZ-5, EXP-4, and GMW-38 were voluntarily monitored by KMEP during this event. Well EXP-4 was sampled to further evaluate the potential presence of several volatile organic compounds (VOCs) that had been detected at low concentrations in a sample collected from this well during the April 2009 semi-annual monitoring event. During the July 2009 sentry event, a low concentration (1.2 micrograms per liter [$\mu\text{g/L}$]) of bromodichloromethane (BDCM) was detected in the sample from EXP-4; this compound was not detected in any other samples collected during this event.

- 5) With the exception of BDCM noted above, VOCs and total petroleum hydrocarbons quantified as gasoline (TPHg) were not detected in groundwater samples collected from Exposition aquifer wells. Total petroleum hydrocarbons quantified as fuel product (TPHfp) was detected in the groundwater samples collected from wells EXP-1 and EXP-4 at a concentration of 120 µg/L. Historically, TPHfp has not been detected in these wells except at well EXP-1 in November 1998. These low level detections of TPHfp in EXP-1 and EXP-4 may be anomalous and will be further evaluated during the October 2009 semi-annual monitoring event.
- 6) In addition to methyl tert-butyl ether (MTBE), other fuel oxygenates (tert-butyl alcohol [TBA], diisopropyl ether [DIPE], ethyl tert-butyl ether [ETBE], and tert-amyl methyl ether [TAME]) were added to groundwater monitoring and reporting program in first quarter 2009 pursuant to the RWQCB's request. MTBE, TBA, and DIPE were detected in one or more groundwater samples during this sentry event. ETBE and TAME were not detected in any of the groundwater samples.
- 7) In the southeastern off-site area, concentrations of VOCs, TPHg, and TPHfp in well PZ-5 were generally greater than those detected in the same well during April 2009. In assessing the increase in analyte concentrations noted in PZ-5, AMEC Geomatrix and KMEP reviewed a wide variety of information including remediation system status and operations records and field conditions and found that a total fluids extraction (TFE) pump was not present in well GMW-O-15, which is one of two groundwater extraction wells in the southeastern area. The TFE pump apparently had not been re-installed in this well after having been removed for the April 2009 groundwater monitoring event. Totalizing flowmeter measurements from the area did not indicate a conspicuous decrease in remediation system fluid extraction rate from the area; however the flowmeter that measures flow from that part of the extraction well network was subsequently found to need replacement. KMEP has replaced the affected flowmeter and is in the process of resuming groundwater extraction from GMW-O-15. Based on the information reviewed to date, it appears that the increased analyte concentrations observed in PZ-5 in July 2009 may be related to the temporary interruption of groundwater extraction from GMW-O-15. Groundwater conditions in the southeastern area including at PZ-5 will continue to be evaluated as additional groundwater monitoring and remediation system operations data are obtained.
- 8) In the southern off-site area, no VOCs, TPHg, and TPHfp were detected in wells GMW-O-1, GMW-O-2, and GMW-O-3. The detected concentrations of VOCs, TPHg, and TPHfp in well GMW-O-14 were within recent historical ranges for this well.
- 9) In the western off-site area, no VOCs, TPHg, and TPHfp were detected in well WCW-13. 1,2-dichloroethane (1,2-DCA) was detected in wells WCW-3 and WCW-7. TPHfp and MTBE were detected in well WCW-7 only. 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.
- 10) An equipment blank sample was collected each day of sampling and analyzed for VOCs, TPHg, and TPHfp. None of the analytes were detected at or above laboratory reporting limits.

Please contact Shioh-Whei Chou or Thandar Phyu at (949) 642-0245 if you have any questions. Thank you.



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TABLE 1

**SUMMARY OF GROUNDWATER ELEVATIONS
THIRD QUARTER 2009 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	7/20/2009	78.44	---	54.83	---	23.61
EXP-2	7/20/2009	79.43	---	54.91	---	24.52
EXP-3	7/20/2009	77.58	---	53.93	---	23.65
EXP-4	7/20/2009	79.81	---	54.51	---	25.30
EXP-5	7/21/2009	72.41	---	49.10	---	23.31
GMW-36	7/22/2009	74.53	---	25.90	---	48.63
GMW-38	7/21/2009	75.47	---	27.21	---	48.26
GMW-39	7/21/2009	75.05	---	26.85	---	48.20
GMW-O-1	7/20/2009	71.45	---	23.15	---	48.30
GMW-O-2	7/21/2009	72.54	---	24.40	---	48.14
GMW-O-3	7/21/2009	72.19	---	24.21	---	47.98
GMW-O-14	7/22/2009	74.08	---	26.31	---	47.77
GMW-O-15	7/22/2009	74.23	24.94	24.99	0.05	NC
MW-SF-1	7/22/2009	78.93	---	30.98	---	47.95
MW-SF-4	7/22/2009	79.38	31.61	31.65	0.04	NC
PZ-5	7/22/2009	73.97	---	25.20	---	48.77
PZ-10	7/21/2009	74.34	---	26.60	---	47.74
WCW-3	7/20/2009	76.16	---	28.48	---	47.68
WCW-7	7/21/2009	76.44	---	28.94	---	47.50
WCW-13	7/20/2009	77.70	---	30.20	---	47.50

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.

NC = not calculated due to the presence of free product in the well.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA
THIRD QUARTER 2009 SENTRY EVENT
 Defense Fuel Support Point Norwalk
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Sample ID ¹	Date	TPHg	TPHfp	Benzene	Toluene	Ethyl-benzene	Total Xylenes ²	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
EXP-1	7/20/2009	<50	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
EXP-2	7/20/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
EXP-3	7/20/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
EXP-4	7/20/2009	<50	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
EXP-5	7/21/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
GMW-36	7/22/2009	24,000	15,000	3800	5400	720	3380	<50	28	<500	<50	<50	<50
GMW-38	7/21/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	27	<1	<1	<1
GMW-39	7/21/2009	<100	<100	<0.5	<0.5	<0.5	<0.5	<1	<0.5	2500	<1	<1	<1
GMW-39 (DUP)	7/21/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	4400	<1	<1	<1
GMW-O-1	7/20/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
GMW-O-2	7/21/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
GMW-O-3	7/21/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1
GMW-O-14	7/22/2009	32,000	12,000	7800	1900	1500	4100	86	<25	<500	130	<50	<50
GMW-O-14 (DUP)	7/22/2009	31,000	15,000	7800	1900	1400	3900	93	<25	<500	140	<50	<50
MW-SF-1	7/22/2009	12,000	34,000	6300	110	180	89	<50	510	540	<50	<50	<50
PZ-5	7/22/2009	3800	1800	2000	20	98	77	<5	800	54,000	<5	<5	<5
PZ-5 (DUP)	7/22/2009	3500	1900	1900	19	92	72	<5	780	52,000	<5	<5	<5
PZ-10	7/21/2009	<200	1700	1.4	<1	<1	<1	<2	9.6	55	3.1	<2	<2
WCW-3	7/20/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<10	<1	<1	<1
WCW-7	7/21/2009	<50	120	<0.5	<0.5	<0.5	<0.5	31	1.9	<10	5.6	<1	<1
WCW-13	7/20/2009	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<1	<1	<1

Notes

1. Wells GMW-O-15 and MW-SF-4 were not sampled because free product was detected in these wells during this sampling event.
2. 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.
 DUP = duplicate sample.
 ETBE = ethyl tert-butyl ether.
 MTBE = methyl tert-butyl ether.
 TAME = tert-amyl methyl ether.
 TBA = tert-butyl alcohol.
 TPHfp = total extractable petroleum hydrocarbons quantified using a site fuel product standard.
 TPHg = total purgeable petroleum hydrocarbons quantified using a gasoline standard (C4-C13).