



**Transmittal**

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**Subject:** Remediation System Operational Status, March 2011

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

**Item Description**

1 Table 1 – Remediation Well Construction and Status

**Remarks**

On behalf of SFPP, L.P., an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), CH2M HILL is transmitting this monthly remediation system operational status for March 2011. As requested in the RWQCB's July 20, 2010 e-mail, this status report includes the following:

1. Groundwater and soil vapor extracted from individual wells for treatment;
2. Treated groundwater discharged under NPDES; and
3. System down time, wells affected, and reason for downtime.

A summary of remediation wells in the south-central, southeastern, and West Side Barrier areas is presented in Table 1. Table 1 includes well identifications, well construction details, well use, and operational status as of March 29, 2011. Operational status and maintenance of the system is briefly discussed below.

Tasks performed for operation and maintenance of the remediation systems during the reporting period included:

- Weekly maintenance and monitoring of the south-central and southeastern SVE and TFE/GWE wells, and soil vapor and groundwater treatment systems (collectively referred to as remediation systems);
- Inspection of groundwater extraction pumps;
- Collection and analysis of treatment system influent soil vapor and groundwater samples;
- Collection and analysis of treatment system effluent soil vapor and water samples;
- Replacement of carbon from the granular activated carbon (GAC) vessels ;
- Installation of a new transfer pump;
- Placement of a fluidized bed bioreactor (FBBR); and

- Rewiring of the SVE system thermocouples and installation of a new low pressure gas switch.

During the reporting period, remediation system inspections were performed on a weekly basis and volumes of extracted groundwater, hours of operation, and other system parameters were recorded on an approximately weekly basis during system operation.

### **Soil Vapor Extraction and Treatment System**

The SVE system was operational for approximately 73 hours (10% uptime) during March 2011. The SVE wells in operation during March include MW-SF-15, MW-SF-16, GMW-10, GWR-3, MW-O-1, MW-O-2, GMW-O-11, GMW-O-12, GMW-O-20, GMW-O-23 in the south-central area; and GMW-O-15 and GMW-O-18 in the southeastern area. The system was turned off on March 1, 2011, to upgrade the electrical controls. During the upgrades to the system, the low pressure natural gas switch was found to be faulty. Therefore, the system could not be turned on until the switch was replaced. The low pressure switch was replaced on March 29, 2011, and the system was put back online that same day. During the SVE downtime, KMEP technicians, with the assistance of a remediation contractor, completed the re-wiring of the SVE thermocouples.

### **Total Fluids and Groundwater Extraction and Treatment System**

The TFE/GWE system was operational for approximately 286 hours (38% uptime) during March 2011. The TFE/GWE wells in operation during March include MW-SF-3, MW-SF-11, MW-SF-13, MW-SF-14, MW-SF-15, MW-SF-16, GMW-22, and GMW-O-21 in the south-central area; and GMW-O-15, GMW-O-18, and GMW-36 in the southeastern area. On February 28, 2011, the TFE/GWE system was off on arrival due to a broken transfer pump. A new pump was ordered and the system remained off until the new pump was installed on March 18, 2011. During the system downtime, KMEP's remediation contractor, Cardno ERI, placed the new FBBR and began installation of the above-ground appurtenances (e.g., electrical and plumbing). The FBBR will be used in conjunction with the existing groundwater treatment system to treat tertiary butyl alcohol (TBA), a new NPDES discharge parameter. Carbon from two of the three GAC vessels was changed out on March 8, 2011, while the system was down.

Groundwater extracted, treated, and discharged under the NPDES permit in March 2011 is as follows:

- Groundwater extracted from the south-central area wells: 605,232 gallons
- Groundwater extracted from the southeastern area wells: 208,681 gallons
- Treated groundwater discharged under NPDES: 813,913 gallons

Please contact Vladimir Carino at 714.435.6017 if you have any questions.

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**TABLE 1  
REMEDIATION WELL CONSTRUCTION AND STATUS**

SFPP, L.P.  
Defense Fuel Support Point Norwalk  
Norwalk, California

Remediation Area	Remediation Well ID	Installation Date	Top of Well Casing Elevation (ft msl)	Well Screen Interval (ft bgs)	Remediation Well Function	Well Operation Status on March 29, 2011 <sup>1</sup>
South-Central	MW-SF-1	6/18/1990	78.93	25 - 40	SVE	OFF
	MW-SF-2	6/18/1990	78.53	25 - 40	SVE; TFE	OFF; OFF
	MW-SF-3	6/18/1990	78.12	25 - 40	SVE; TFE	OFF; <b>ON</b>
	MW-SF-4	6/19/1990	79.38	25 - 40	SVE	OFF
	MW-SF-5	9/19/1990	79.74	23 - 38	SVE	OFF
	MW-SF-6	9/19/1990	76.80	25 - 40	SVE; TFE	OFF; OFF
	MW-SF-9	6/15/1995	74.10	--	SVE	OFF
	MW-SF-10	9/23/2003	76.53	10 - 30	SVE	OFF
	MW-SF-11	6/19/2007	78.56	20 - 40	SVE; TFE	OFF; <b>ON</b>
	MW-SF-12	6/18/2007	78.07	20 - 40	SVE; TFE	OFF; OFF
	MW-SF-13	6/19/2007	73.40	20 - 40	SVE; TFE	OFF; <b>ON</b>
	MW-SF-14	6/21/2007	78.16	20 - 40	SVE; TFE	OFF; <b>ON</b>
	MW-SF-15	6/21/2007	78.27	20 - 40	SVE; TFE	<b>ON; ON</b>
	MW-SF-16	6/20/2007	78.21	20 - 40	SVE; TFE	<b>ON; ON</b>
	GMW-9	7/8/1991	74.44	20 - 50	SVE; TFE	OFF; OFF
	GMW-10	7/8/1991	74.67	25 - 50	SVE	<b>ON</b>
	GMW-22	8/2/1991	74.17	25 - 60	SVE; TFE	OFF; <b>ON</b>
	GMW-24	8/5/1991	74.04	25 - 60	SVE; TFE	OFF; OFF
	GMW-25	1/10/1992	74.29	20 - 50	SVE; GWE	OFF; OFF
	GWR-3	1/10/1992	74.93	20 - 50	SVE; GWE	<b>ON; OFF</b>
	VEW-1	--	--	--	SVE	OFF
	VEW-2	--	--	--	SVE	OFF
	MW-O-1	1/22/1991	75.48	25 - 40	SVE; TFE	<b>ON; OFF</b>
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	<b>ON; OFF</b>
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	<b>ON; OFF</b>
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	<b>ON</b>
	GMW-O-20	6/15/1995	73.32	--	SVE; TFE	<b>ON; OFF</b>
	GMW-O-21	10/1/1997	71.43	26 - 46	TFE	<b>ON</b>
GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	<b>ON; OFF</b>	
MW-18 (MID)	6/10/1991	75.67	50 - 60	SVE	OFF	
HW-2	--	--	--	SVE	OFF	
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	<b>ON; ON</b>
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	<b>ON; ON</b>
	GMW-36	4/11/1994	74.53	20 - 50	TFE	<b>ON</b>
	GMW-SF-9	4/1/2003	73.00	37 - 46	GWE	OFF
	GMW-SF-10	4/2/2003	75.77	37 - 46	GWE	OFF
West Side Barrier	BW-2	5/20/1996	73.57	27 - 47	GWE	OFF
	BW-3	5/17/1996	74.16	31 - 50	GWE	OFF
	BW-4	5/20/1996	74.61	28 - 47	GWE	OFF
	BW-5	5/23/1996	73.59	27 - 46	GWE	OFF
	BW-6	5/22/1996	73.48	28 - 47	GWE	OFF
	BW-7	5/22/1996	74.65	27 - 46	GWE	OFF
	BW-8	5/21/1996	75.08	27 - 46	GWE	OFF
	BW-9	5/21/1996	76.19	27 - 46	GWE	OFF

Notes

1. The well operations listed correspond to the well functions indicated in the previous column. Based on information provided by SFPP, L.P.

Abbreviations

-- = information not available  
ft msl = feet above mean sea level based on the National Geodetic Vertical Datum of 1929.  
ft bgs = feet below ground surface  
GWE = groundwater extraction  
SVE = soil vapor extraction  
TFE = total fluids extraction