



Transmittal

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Date: April 12, 2012 **From:** Vladimir Carino
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Subject: Remediation System Operational Status, March 2012
Project Name: SFPP Norwalk Pump Station, Norwalk, California

Item	Description
1	Table 1 – Remediation Well Construction and Status

Remarks

On behalf of SFPP, L.P., (SFPP) an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), CH2M HILL is transmitting this monthly remediation system operational status for March 2012. 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 the National Pollutant Discharge Elimination System (NPDES) permit
3. System downtime, 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 27, 2012. Operational status and maintenance of the system are 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 soil vapor extraction (SVE) and total fluids extraction/groundwater extraction (TFE/GWE) wells, and soil vapor and groundwater treatment systems (collectively referred to as remediation systems)
- Inspection of groundwater extraction pumps
- Inspection and minor repairs of soil vapor extraction wells
- Collection and analysis of treatment system influent and midpoint groundwater samples
- Collection and analysis of treatment system effluent soil vapor and water samples

- Replacement of carbon from the lead polishing liquid phase granular activated carbon (LGAC) vessel
- Replacement of carbon from the LGAC vessel downstream of the OWS.

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. Effluent flow readings for the TFE/GWE system and SVE system temperature and flow readings are recorded daily using the digital chart recorder. These data are downloaded by the KMEP technicians at least weekly.

Soil Vapor Extraction and Treatment System

The SVE system was on for approximately 744 hours (100 percent uptime) from February 28 to March 30, 2012. The SVE wells in operation at the end of March include MW-SF-1, MW-SF-2, MW-SF-5, MW-SF-12, MW-SF-13, MW-SF-14, GMW-10, VEW-1, MW-O-1, MW-O-2, GMW-O-11, GMW-O-12, GMW-O-20, and GMW-O-23 in the south-central area; and wells GMW-O-15 and GMW-O-18 in the southeastern area.

Total Fluids and Groundwater Extraction and Treatment System

The TFE/GWE system was operational for approximately 701 hours (94 percent uptime) from February 28 to March 30, 2012. The TFE/GWE wells in operation at the end of March include MW-SF-3, MW-SF-11, MW-SF-14, MW-SF-16, and GMW-O-21 in the south-central area; and wells GMW-O-15, GMW-O-18, and GMW-36 in the southeastern area.

On March 2, 12, 16, and 20, 2012, the system was off on arrival due to a high level in the transfer tank underneath the OWS. The reason for the high level in the transfer tank was due to particulates from the wells plugging the bag filters and the lead LGAC vessel downstream of the OWS. The lead LGAC vessel was subsequently backwashed and the bag filters replaced. On March 2, 2012, the lead LGAC vessel was bypassed and the spare vessel onsite was put online. The carbon inside the former lead vessel was changed out on March 16, 2012 and will be used as the spare.

During March 2012, solids due to dying biomass inside one of the bioreactors caused occasional plugging of the bag filters and the lead polishing LGAC vessel, which caused the effluent flow to decrease. Due to the low concentrations of dissolved oxygen in one of the fluidized bed bioreactors, oxygen boosters were installed on February 24, 2012, to provide sufficient oxygen to keep the biomass healthy. Occasional shutdowns of the GWTS and operation of the bioreactors on recycle mode also may have caused the biomass to die. An additional factor for plugging of the bag filters and lead LGAC vessel was the malfunctioning of the bead filter for one of the bioreactors. The bead filter prevents the build-up of solids inside the bioreactors. The bead filter was repaired on March 23, 2012 and the system has been operational since this time. Troubleshooting of the bioreactors will continue during April 2012.

Total groundwater extracted, treated, and discharged under the NPDES permit in March 2012 was approximately 615,106 gallons.

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

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**TABLE 1
REMEDATION 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 27, 2012 ¹	
						SVE	TFE/GWE
South-Central	MW-SF-1	6/18/1990	78.93	25 - 40	SVE	ON	--
	MW-SF-2	6/18/1990	78.53	25 - 40	SVE; TFE	ON	OFF
	MW-SF-3	6/18/1990	78.12	25 - 40	SVE; TFE	OFF	ON
	MW-SF-4	6/19/1990	79.38	25 - 40	SVE	OFF	--
	MW-SF-5	9/19/1990	79.74	23 - 38	SVE	ON	--
	MW-SF-6	9/19/1990	76.80	25 - 40	SVE; TFE	OFF	OFF
	MW-SF-9	6/15/1995	74.10	NA	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	ON
	MW-SF-12	6/18/2007	78.07	20 - 40	SVE; TFE	ON	OFF
	MW-SF-13	6/19/2007	73.40	20 - 40	SVE; TFE	ON	OFF
	MW-SF-14	6/21/2007	78.16	20 - 40	SVE; TFE	ON	ON
	MW-SF-15	6/21/2007	78.27	20 - 40	SVE; TFE	OFF	OFF
	MW-SF-16	6/20/2007	78.21	20 - 40	SVE; TFE	OFF	ON
	GMW-9	7/8/1991	74.44	20 - 50	SVE; TFE	OFF	OFF
	GMW-10	7/8/1991	74.67	25 - 50	SVE	ON	--
	GMW-22	8/2/1991	74.17	25 - 60	SVE; TFE	OFF	OFF
	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	OFF	OFF
	VEW-1	NA	NA	NA	SVE	ON	--
	VEW-2	NA	NA	NA	SVE	OFF	--
	MW-O-1	1/22/1991	75.48	25 - 40	SVE; TFE	ON	OFF
	MW-O-2	1/23/1991	71.90	25 - 40	SVE; TFE	ON	OFF
	GMW-O-11	5/20/1992	74.17	20 - 50	SVE; TFE	ON	OFF
	GMW-O-12	5/21/1992	73.49	20 - 50	SVE	ON	--
	GMW-O-20	6/15/1995	73.32	NA	SVE; TFE	ON	OFF
	GMW-O-21	10/1/1997	71.43	26 - 46	TFE	--	ON
	GMW-O-23	6/25/2007	73.63	20 - 40	SVE; TFE	ON	OFF
	MW-18 (MID)	6/10/1991	75.67	50 - 60	SVE	OFF	--
HW-1	9/6/1992	NA	NA	SVE	OFF	--	
HW-2	9/6/1992	NA	NA	SVE	OFF	--	
Southeastern	GMW-O-15	4/19/1994	74.23	20 - 50	SVE; TFE	ON	ON
	GMW-O-18	7/25/1994	74.36	21 - 40	SVE; TFE	ON	ON
	GMW-36	4/11/1994	74.53	20 - 50	TFE	--	ON
	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	NA	OFF
	BW-3	5/17/1996	74.16	31 - 50	GWE	NA	OFF
	BW-4	5/20/1996	74.61	28 - 47	GWE	NA	OFF
	BW-5	5/23/1996	73.59	27 - 46	GWE	NA	OFF
	BW-6	5/22/1996	73.48	28 - 47	GWE	NA	OFF
	BW-7	5/22/1996	74.65	27 - 46	GWE	NA	OFF
	BW-8	5/21/1996	75.08	27 - 46	GWE	NA	OFF
	BW-9	5/21/1996	76.19	27 - 46	GWE	NA	OFF

Notes

1. Based on information provided by SFPP, L.P.

Abbreviations

-- = not applicable
 NA = 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