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## Meeting Minutes

<b>Meeting Subject:</b> Norwalk Tank Farm Restoration Advisory Board (RAB) Quarterly Meeting	<b>Meeting Date:</b> <u>26 July 2007</u> <b>Meeting Time:</b> 6:30 p.m. <b>Meeting Place:</b> Norwalk Arts & Sports Complex
<b>RAB, PROJECT TEAM, AND OTHER ATTENDEES</b>	
<b><u>RAB Community Members</u></b> E. Garcia B. Hoskins M. McIntosh (Co-Chair) W. Miller T. Winkler	<b><u>Other Members</u></b> A. Figueroa (City of Norwalk) S. Hariri (DTSC) J. Holdren (City of Cerritos) J. Hu (RWQCB) S. Osborn (KMEP) (for M. Pitta) Lt. Col. Ramer (DESC-AMW) (Co-Chair)
<b><u>Other Attendees</u></b> A. Armendarez (Office of Asm. Mendoza) J. Brady (Geomatrix) B. Cardenas (Office of Rep. Napolitano) S. Chou (Geomatrix) S. Gandhi (Parsons) M. Lucas (Parsons) L. Lund (Parsons) R. Hassan (Parsons) C. Stewart (Geomatrix) T. Whyte (URS)	<b><u>Acronyms:</u></b> CHHSLs..... California Human Health Screening Levels DESC-AMW.. Defense Energy Support Center Americas West DTSC ..... Department of Toxic Substances Control GSA..... General Services Administration HHRA ..... Human Health Risk Assessment KMEP ..... Kinder Morgan Energy Partners LNAPL..... Light non-aqueous phase liquids MTBE ..... Methyl tertiary butyl-ether OCCS ..... Offsite Chemicals Cleanup Subcommittee OEHHA..... Office of Environmental Health Hazard Assessment 1,2-DCA..... 1,2-dichloroethane RAB ..... Restoration Advisory Board RBCA..... Risk-Based Corrective Action RWQCB..... Regional Water Quality Control Board SVE..... Soil Vapor Extraction TPH..... Total petroleum hydrocarbons URS..... URS Corporation VOCs..... Volatile organic compounds WRD ..... Water Replenishment District of Southern California
<b><u>Absentees</u></b> D. Caughey N. Matsumoto (WRD) M. Pitta (KMEP) (Co-Chair) W. Sterner	
<b><u>Not Attending</u></b> Dr. Duran (OCCS) Dr. Landolph (OCCS)	
<b><u>BACKGROUND</u></b> DESC-AMW and KMEP are conducting environmental cleanup activities at the area in and around the former Defense Fuel Support Point Norwalk, also known as the Tank Farm, located at 15306 Norwalk Boulevard, Norwalk, CA. The RAB is an advisory committee of local citizens and project members that reviews and comments on documents relating to the environmental cleanup. All RAB meetings are open to the public and are scheduled quarterly on the last Thursday of the month at 6:30 p.m. in January, April, July, and October unless otherwise voted on by the RAB community membership.	

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### 1. Introduction Steve Osborn, KMEP, Meeting Chair

Mary Jane McIntosh called the meeting to order at 6:39 p.m. She introduced Steve Osborn from Kinder Morgan. Mr. Osborn was filling in for Mike Pitta, who was out of town traveling. Mr. Osborn introduced the guests attending the meeting.

Mr. Osborn asked for comments on the draft minutes from the April 26, 2007, RAB meeting. Ms. McIntosh made a motion to accept the minutes as written. Bill Miller seconded the motion. The minutes were approved without opposition.

### 2. KMEP Update Steve Osborn, KMEP, and Shioh-Whei Chou, Geomatrix Consultants

#### Second Addendum to RAP Update

Mr. Osborn said that the Dual-Phase Extraction (DPE) Test was performed during May 2007. The results support the preliminary design. Additional precautions were taken during work in the vicinity of KMEP pipelines. Six onsite wells and one offsite well were installed. Mr. Osborn next showed some photographs of the DPE test and the pipeline, utility clearance, and well installation. He said they had to clear areas to identify pipelines and verify locations. They cleared the boring locations to 10 feet. After clearing the areas, then they installed the wells.

Mr. Osborn next said that they converted four existing Soil Vapor Extraction (SVE) wells to DPE wells by installing pumps in wells GMW-9, MW-SF-2, MW-SF-3, and MW-SF-6 and connecting these wells to the groundwater treatment system. They upgraded the air supply manifold to accommodate these and future wells. They plan to connect the seven new wells and well MW-O-1 to the soil vapor and groundwater treatment system manifolds. Mr. Osborn next showed photographs of some of the construction, including the manifold area and a typical well head with double containment. He showed some conveyance piping photographs. He then showed some before and after photographs of the southeastern easement brush clearance that took place recently.

#### Remediation Operations Update

Ms. Chou showed a map of the current remediation systems and pointed out the West Side Barrier System, the South-Central area, the Southeastern area, and the DESC remediation area. She said that the Groundwater/Product Extraction System still consists of eight groundwater extraction wells in the West Side Barrier area. There are now four new pumps, for a total of 10 total fluids (product and groundwater) extraction wells and two groundwater extraction wells in the South-Central Plume area. There are two total fluids extraction wells and one groundwater extraction well in the Southeastern 24-inch Block Valve area. The total groundwater extracted by the system since the April 2007 RAB meeting included: 313,500 gallons from the South Central Plume area; 76,600 gallons from the Southeastern 24-inch Block Valve area; and 266,700 gallons from the West Side Barrier area. There was no free product recovered manually. Total groundwater extracted since September 1995 includes: 24.7 million gallons from the South Central Plume area; 7.7 million gallons from the Southeastern 24-inch Block Valve area; and 25.9 million gallons from the West Side Barrier area. A total of 58.3 million gallons of groundwater have been extracted, and 8,846 gallons of free product have been removed. Ms. Chou said that not much free product was removed, but that there was an increase in groundwater extracted.

Ms. Chou said that the groundwater/product extraction system operated continuously during the second quarter of 2007 with the following exceptions: during the semi-annual groundwater monitoring event; during the dual-phase extraction test; during well installations; and during the connection of wells to existing treatment manifolds. The system operated for 68 percent of the time during the quarter. Ms. Chou also showed a graph of the cumulative groundwater and product extracted.

Ms. Chou said that the SVE System has 17 onsite and 5 offsite vapor extraction wells in the South-Central Plume area. This number will increase when they tie in the new wells. There are two vapor extraction wells in

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the Southeastern 24-inch Block Valve area. Approximately 200 gallons equivalent of fuel were removed from soil and destroyed by thermal oxidation since the April 2007 RAB meeting. Approximately 451,700 gallons equivalent of fuel were removed from soil and destroyed by thermal oxidation since September 1995. The SVE System has operated for approximately 55,882 hours since September 1995. She said that the SVE System operated continuously during the second quarter of 2007 with the following exceptions: during the semi-annual groundwater monitoring event; during the dual-phase extraction test; during well installations; and during the connection of wells to existing treatment manifolds. The system operated for 50 percent of the time during the quarter. Ms. McIntosh asked when the system would be back up to about 80 percent operational. Ms. Chou said probably this quarter. Ms. Chou next showed a graph of cumulative fuel recovered by SVE to date and a graph of the recovery activity in the past six months.

### Semi-Annual Groundwater Monitoring

Ms. Chou said that in May 2007, 103 wells were sampled, including 5 Exposition wells. Groundwater levels encountered during April 2007 were generally similar to those encountered during previous monitoring events at the site. No volatile organic compounds (VOCs) were detected in Exposition wells. Free product was detected in the northern Tank Farm area, the South-Central area, and the Southeastern area. Free product was not detected in the Truck Rack area.

In the South-Central offsite area, VOC concentrations remained non-detect in the offsite wells GMW-O-1 and GMW-O-2 and decreased in GMW-O-3 since November 2005. In general, the lateral extents of total petroleum hydrocarbons (TPH), benzene, methyl tertiary butyl-ether (MTBE), and 1,2-dichloroethane (1,2-DCA) in the South-Central area remain similar to those interpreted during recent monitoring events. There was an increase in TPH in well MW-9, south of the Truck Rack area, on the east side of the South-Central area.

In the Southeastern area, VOCs generally remained stable compared with December 2006. 1,2-DCA was not detected. In the western offsite area, the lateral extents of 1,2-DCA and MTBE remain similar to those interpreted in the previous semi-annual monitoring event in December 2006. Benzene was not detected in this area.

Ms. Chou next showed maps from 2006 and 2007. The first set of maps showed groundwater elevations. In May 2006, groundwater flow was generally to the northwest. In April 2007, it was still generally towards the northwest, with some change in the western area. TPH was similar in May 2007 as compared to May 2006. Ms. McIntosh asked if it appears that it is moving more towards offsite in the northwest area. Ms. Chou said that yes, but the levels were right around the detection limit in that area. Benzene was similar in May 2007 as compared to May 2006. 1,2-DCA was detected in two western offsite wells 2006, but it was only detected in one in 2007. MTBE was detected in one western offsite well in 2006 and 2007, but in 2007 it was at a lower concentration.

Mr. Hoskins asked that since the site is not active, shouldn't we be seeing dramatic decreases? Ms. Chou said that the maps just show the edges of the plumes, but not the concentration decreases. Ms. McIntosh said that concentrations are not increasing significantly in the northwest area, but they are just fluctuating a little bit. Mr. Hoskins said that since we have been in a drought, if the aquifers are dropping, shouldn't we be pulling more product? Ms. Chou said that is what they are focusing on now. Ms. McIntosh suggested that if we could have overlays of maps, we should be able to see changes by the end of the year. Ms. McIntosh said she was concerned about the increases in well MW-9. She requested that it be added to the Sentry Event and reported to the RAB. She also said that she is happy that we can see progress in this report, particularly in the TPH plume. She said we should see more progress in the next report.

### Site Conceptual Model Update

KMEP is currently working with the RWQCB to develop a model showing subsurface conditions and remediation progress. It should demonstrate progress in the remediation.

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### 3. DESC-AMW Update Redwan Hassan, Parsons

#### June/July 2007 Off-Site Investigation at Holifield Park

Mr. Hassan said that they received conditional approval of the work plan at Holifield Park. They conducted additional soil gas, soil, and groundwater sampling beneath the park to better characterize impacts. Then they determined if chemicals of concern in groundwater potentially impact Dolland Elementary School and assessed the potential for adverse human health effects using December 2006 and June and July 2007 data.

Considering the 2006 and 2007 efforts, they collected 168 soil gas samples from depths of 5, 10, 15, 20, and 25 ft bgs (feet below ground surface). They collected 78 soil samples from depths of 5, 10, 15, 20, and 25 ft bgs. They collected 40 hydropunch groundwater samples at various depths between 24 and 48 ft bgs. One monitoring well was installed in the park. The primary chemicals of concern included fuel-related chemicals such as benzene. Mr. Hassan showed a map with the sampling locations. They used a grid pattern and focused on the northwest area and along the fence line along the park and school, and along the southeast area and park. Mr. Hassan also showed some photographs of the work. The soil gas results showed that most chemicals of concern were below California Human Health Screening Levels (CHHSLs) except in a few areas. The soil sampling results show that the soil concentrations were very low compared to the soil gas. The 2007 extent of soil gas and soil impacts was consistent with the 2006 results. Concentrations were less than the regulatory screening values in the northern investigative area. There was no impact to the school property. Benzene exceeded the preliminary screening level in some samples in the southern area. This was not a surprise, since that area is already under remediation by KMEP's southeastern area cleanup system. Ms. McIntosh said that it looks like the results show that the problems were from the Tank Farm area and are already under remediation. Mr. Hassan agreed, and said that they just need to extend the remediation a little bit east past the fence. As you get closer to the fence, the concentrations of fuel increase; as you go east, the concentrations go towards non-detect.

The groundwater results showed that concentrations were below regulatory requirements with the exception of the B-120 and B-122 locations, near the KMEP existing extraction wells. Benzene results in groundwater were consistent with previous findings. Benzene extends about 120 feet east under the park, but it was not detected in samples farther east. Benzene in the southern area was consistent with existing data in this known area of impact. Results for TPH as gasoline and TPH as fuel in groundwater were also similar to previous findings and below regulatory levels.

Loren Lund, a Toxicologist from Parsons, next discussed how a person might be exposed to chemicals in groundwater. Mr. Lund said that chemicals could be volatilized into outdoor air, chemicals could be volatilized into indoor air, or groundwater could be used for drinking water. Groundwater is not used as drinking water beneath this site. They crossed off indoor air as a possible exposure pathway due to the sampling levels being below the health screening levels. He said that the procedure used for assessing potential human health effects includes comparing the measured concentrations with preliminary regulatory/risk screening levels. The risk screening levels are designed conservatively to be health-protective. Concentrations that are found to be below screening levels do not pose a significant threat. Concentrations that are found to be above screening levels need further evaluation but do not necessarily indicate unacceptable risks. The comparison values (screening levels) that they look at include:

- Soil Gas: CalEPA (2005) CHHSLs for *vapor intrusion* into indoor air (inside a building).
- Groundwater: CalEPA *drinking water* criteria (or USEPA Region 9 if no CalEPA value) (this is used even though groundwater beneath the site is not a drinking source).
- Soil: USEPA Region 9 (2004) *risk-based* criteria. They also looked at the potential of the chemicals to migrate to the groundwater.

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Mr. Hassan said the conclusions of the offsite investigation found that there are two distinct impacted areas identified in Holifield Park: 1) the northern area around the newly-installed monitoring well, GMW-62; and 2) and the southern portion of the park near B-24/B-122. The northern impacted area is perhaps related to existing onsite activities, and the southern impacted area appears related to area of known release already being remediated. The ongoing remediation systems in the northern area consist of biosparging, soil vapor extraction, and total fluids and groundwater extraction. The on-going remediation systems in the southern portion include soil vapor extraction, total fluids extraction, and groundwater extraction and are related to KMEP's response to a release from a 24-inch Block Valve in April 1994. Remediation systems for each area will be evaluated and/or expanded as needed to ensure cleanup goals are met within the time frames presented in the revised RAPs for both KMEP and DESC. They do not believe that it is extensive enough to warrant further investigation. RWQCB has requested two new well in the northern area.

In summary, they found that there are no adverse health effects. All soil gas concentrations in northern investigative area, including Dolland Elementary school property line samples, were less than CalEPA screening levels. Regulatory screening levels were exceeded near the southern area (around B-24).

Groundwater impacts are limited in extent. Concentrations exceeded the screening levels at some locations in the northern investigative area. The area of impact has been delineated and is limited to approximately 120 feet east of the fence line that borders the site and Holifield Park. Regulatory screening levels were exceeded near the southern area (around B-24). These were not unexpected given the proximity of this sample location to the 24-inch Block Valve release area. KMEP is currently conducting SVE, product recovery, and groundwater extraction in this area. There are two plumes, and each one being addresses separately. They have enough data, and they do not need further investigation other than the ongoing remediation.

Adriana Figueroa asked how the contamination got there. Mr. Hassan said most of the concentrations are in the groundwater. The groundwater can spread out, which is how they think it spread across the fence line. They have not found another source. Ms. Figueroa asked about the groundwater flow going in the opposite direction. Mr. Hassan said that was correct. The contamination did not spread very far and is in a limited area. The remediation should show it being pulled back.

### Remediation Activities

Mr. Hassan said that recent remediation activities included installing absorbent socks in wells GMW-21, GMW-58, TF-9, TF-17, TF-18, TF-20, and PZ-3. These wells had limited free product. Now they have none after use of the socks. Other activities included:

- Pipe declogging in preparation for extraction of groundwater.
- Installation of a power supply for the PLC.
- Installation of a variable frequency drive on the Air Stripper motor
- Replacement of pump P-102 for the Air Stripper
- Recharging and certifying all the fire extinguishers at the remediation system
- Installation of three groundwater extraction wells (GW-13, GW-14, GW-15). One is located in the central area, one is in the northwest, and one is along the eastern boundary to help limit offsite migration.
- Installation of two Rediflo submersible pumps in wells GW-13 GW-15. They plan to do the same in well GW-14.
- Installation of an eye wash station
- Purchase of a sump for the Air Stripper (it is yet to be installed)
- Bought a fiber-glass, rounded top and bottom, 60 gallon per minute capacity Carbon Vessel (it is yet to be installed). This additional tank was needed because of the large flow anticipated with the new larger diameter wells.

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Mr. Hassan next described the absorbent socks. The sock size is two inches. The outside diameter is 1.7 inches. The length is 3 feet, 3 inches. It weighs about three pounds. The sock is surrounded by a perforated stainless steel canister. The sock is a polypropylene fibrous material in a white fabric sock. It is hydrophobic (oleophilic) material. The rated absorption is three gallons per case.

### Central Plume Remediation

Mr. Hassan said that they have been doing a lot of well installation and upgrades, so lately the remediation has been mostly biosparging and bioremediation. Since April 1996, approximately 435,896 gallons of total hydrocarbon mass were removed: 55,538 gallons of free product were recovered; 1,397 gallons of dissolved phase hydrocarbons were recovered; 152,112 gallons of volatile hydrocarbons were recovered through soil vapor extraction; and estimated 208,705-plus gallons of hydrocarbons were destroyed due to enhanced biodegradation. Approximately 43.5 million gallons of groundwater were treated. Mr. Hassan next displayed a slide showing these numbers on a graph. The next slide gave a graph with an additional breakdown of the hydrocarbon mass removal from the horizontal wells, the truck fill stand area, biodegradation, and the vapor wells in the east and in the west.

### Eastern Boundary Update

Mr. Hassan said that they completed piping for the SVE wells and the biosparge wells. They performed the startup test for the baseline sampling. Samples were sent to a laboratory for TO-3M and TO-15 analysis. Field samples were analyzed for DO, CO<sub>2</sub>, and CH<sub>4</sub>. The startup sample results from July 2007 showed that methane levels are currently at a level best for SVE. When the methane levels decrease, then they can convert to bioventing. Mr. Hassan next showed a photograph with a vapor monitoring point, biosparge well, and a SVE well. He then showed a map with the current DESC remediation layout. The map showed the recent upgrades in the VE West and VE East areas. These upgrades should help contain offsite migration.

### 5. Set Date and Agenda for Next Meeting

The next quarterly RAB meeting will be held on **Thursday, October 25, 2007, at 6:30 p.m.** in the Norwalk Arts & Sports Complex. The agenda is to include the remediation updates, Sentry Event, Plume overlays, and Conceptual Site Modeling.

### 8. Public Comment Period

Mr. Hoskins made a motion to adjourn the meeting. The motion was seconded by Ms. McIntosh and passed without opposition. Mr. Osborn adjourned the meeting at 7:50 p.m.

## ACTION ITEMS

Item	Responsible Party	Due Date
Add MW-9 to Sentry Event & report back to RAB	DESC/KMEP	10/25/07
Plume Overlays	DESC/KMEP	10/25/07
Next Quarterly RAB meeting	All	10/25/07