



March 11, 2010

Project 1603.044.0

Mr. Thomas E. Lynch
Assistant City Manager
City of Norwalk
P.O. Box 1030
Norwalk, California 90651-1030

**Re: Holifield Park and Second Semiannual Groundwater Monitoring Report for 2009,
SFPP Norwalk, 15306 Norwalk Boulevard, Norwalk, California**

Dear Mr. Lynch:

AMEC Geomatrix, Inc. (AMEC), has prepared this letter on behalf of SFPP, L.P. (SFPP), an operating partnership of Kinder Morgan Energy Partners, L.P. (KMEP), to summarize recent groundwater monitoring results and remediation activities in Holifield Park near the off-site 24-inch block valve east of the Defense Fuel Support Point – Norwalk at 15306 Norwalk Boulevard in Norwalk, California (DFSP; the site). This letter was prepared in response to a letter dated January 29, 2010 from the City of Norwalk (City) to Mr. Jeffrey Hu of the Los Angeles Regional Water Quality Control Board (RWQCB). In that letter, the City commented on the Second Semiannual 2009 Groundwater Monitoring Report and requested that KMEP take additional actions to contain and remediate the fuel constituents in groundwater in the southern portion of Holifield Park near the off-site 24-inch block valve (referred to herein as the southeastern off-site area).

In this area, concentrations of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) in groundwater generally increased between February and October 2009. As discussed in recent Restoration Advisory Board (RAB) meetings, these increases appear to have been associated with periods of planned system shutdowns or reduced pumping from the remediation wells in the southeastern area. Resumed full-scale operation of the southeastern remediation system is anticipated to stabilize and gradually reduce concentrations of VOCs and TPH in groundwater in the southeastern off-site area. A summary of the recent groundwater monitoring results and remediation activities, as well as a description of planned remediation activities to contain and remediate impacted groundwater in the southeastern off-site area, are presented below.

SUMMARY OF GROUNDWATER CONDITIONS DURING 2009

As summarized in Table 1 of the City's letter dated January 29, 2010 and Table 9 of the Second Semiannual 2009 Groundwater Monitoring Report dated January 21, 2010, concentrations of benzene and TPH as gasoline (TPHg) generally increased in well PZ-5 between February 2009 and October 2009. In addition, benzene and TPHg were detected in well GMW-O-18 in October 2009; these constituents had not been detected in this well since sampling began in 1996 and since May 2000, respectively. These concentration increases have been noted, potential

P:\S1603\1603.044.0\Docs\Southeastern Area Update_03_11_10.doc

AMEC Geomatrix, Inc.
510 Superior Avenue, Suite 200
Newport Beach, CA
USA 92663-3627
Tel (949) 642-0245
Fax (949) 642-4474
www.amecgeomatrixinc.com

AMEC Geomatrix

Mr. Thomas E. Lynch
City of Norwalk
March 11, 2009
Page 2

causes have been identified, and additional measures to increase the effectiveness of groundwater remediation in the area have been implemented as described below.

The most significant increases in concentrations of TPH and VOCs in the southeastern off-site area were observed between the April 2009 semi-annual event and the July 2009 sentry event (third quarter 2009 sentry event). Groundwater monitoring results from the third quarter 2009 sentry event indicated that concentrations of VOCs, TPHg, and TPH quantified as site-specific fuel product (TPHfp) in well PZ-5 were generally greater in July 2009 than those detected in the same well during April 2009.¹ In assessing the increase in analyte concentrations noted in PZ-5, AMEC and SFPP 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 for well GMW-O-15 apparently had not been re-installed in the well by the previous operations and maintenance contractor after having been removed for the April 2009 groundwater monitoring event. GMW-O-15 is one of two TFE wells in the southeastern area. As shown on Figures 1 and 2, concentrations of TPHg and benzene in PZ-5 increased significantly after April 2009 when pumping apparently stopped in 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 TFE from GMW-O-15.

The RWQCB was notified of the discovery of the pump's status on October 12, 2009 and the RAB was notified in the Third Quarter 2009 Sentry Data Transmittal and also during the October 2009 RAB meeting. Supplemental information was provided to the RWQCB in letters dated October 19 and October 28, 2009.^{2,3}

Results from the October 2009 sampling event indicated concentrations of dissolved fuel constituents in PZ-5 were similar to those observed in the same well during July 2009.⁴ However, the lateral extent of dissolved constituents in the southeastern area appears to have increased based on the detections of dissolved constituents at well GMW-O-18, where dissolved fuel constituents had not been detected in recent years. Based on system operational history and the data shown on Figures 1 and 2, concentration increases detected in PZ-5 and GMW-O-18 appear to be associated with the non-operational period for GMW-O-15.

REMEDIATION SYSTEM OPERATION DURING 2009

During 2009, the TFE system in the southeastern area operated continuously with the following exceptions.

¹ AMEC Geomatrix, Inc., 2009, Third Quarter 2009 Sentry Data Transmittal, Defense Fuel Support Point Norwalk, Norwalk, California, October 23.

² AMEC Geomatrix, Inc., 2009, Southeastern Area Total Fluids Extraction Status Update, October 19.

³ AMEC Geomatrix, Inc., 2009, Review of Total Fluids Extraction in Southeastern Area, October 28.

⁴ Parsons, 2010, Second Semiannual 2009 Groundwater Monitoring Report, January 21.

Mr. Thomas E. Lynch
City of Norwalk
March 11, 2009
Page 3

- In January 2009, naturally-occurring selenium was detected above its maximum discharge limit in the treatment system effluent, and additional effluent sampling confirmed the presence of selenium in extracted groundwater. On February 3, 2009, the TFE system was shut down to evaluate the presence of selenium concentrations in extraction wells. During the shutdown period, groundwater samples were collected from TFE and GWE wells and analyzed for selenium to evaluate concentrations of selenium in extracted groundwater. Based on the selenium results, seven wells remained shut down when the system was restarted on March 3, 2009 but three of the wells were gradually phased back into operation by October 2009 as the effluent selenium concentration remained below its National Pollutant Discharge Elimination System (NPDES) discharge limit.
- As mentioned above, the TFE pump in well GMW-O-15 apparently had not been re-installed in the well by the previous operations and maintenance contractor after having been removed for the April 2009 groundwater monitoring event. TFE resumed in GMW-O-15 on October 28, 2009 following the status review described above and the second semi-annual 2009 groundwater monitoring event.
- On November 30, 2009, the TFE system was shut down due to the presence of selenium in the effluent water at concentrations above its NPDES discharge limit. Additional work was performed during December 2009 and January 2010 to 1) further evaluate selenium concentrations in groundwater, and 2) perform maintenance and upgrade activities on the TFE system to improve system performance. On February 4, 2010, five wells resumed pumping including both TFE wells in the southeastern area, GMW-36 and GMW-O-15. By February 26, 2010, pumping was resumed in four more wells, and pumping will resume in GMW-O-18 by mid-April 2010. Additional wells will resume pumping as maintenance is completed and conditions allow.

PLANNED REMEDIATION ACTIVITIES

Since discovering the non-operation of TFE well GMW-O-15, SFPP and AMEC have implemented additional measures to verify pump operation and increased the frequency of several maintenance activities. To verify that pumps that have been removed from wells for groundwater monitoring are re-installed and operational after each groundwater monitoring event, SFPP will conduct field checks of pump presence and operation at each pumping well approximately one week after pumps have been reinstalled and resumed operation. In addition to the previous practice of noting when operational changes are made to the TFE system, SFPP will conduct a visual confirmation of pump presence and operation at each pumping well on a monthly basis and take prompt action to reconcile any inconsistencies between observed well operation status and expected well operation status. The operational status of each pump will be tabulated and reported in future groundwater monitoring reports. Flow totalizers will be inspected, and repaired or replaced if necessary, on a quarterly basis instead of semi-annually.

Mr. Thomas E. Lynch
City of Norwalk
March 11, 2009
Page 4

Additional system status verification or evaluation measures will be implemented if found to be necessary.

In addition to implementing additional measures to verify system operation, a capture zone analysis for the southeastern TFE system was performed using a groundwater flow model to assess the expected performance of the system. The preliminary results were submitted to the RWQCB in a letter dated December 21, 2009.⁵ The model predicted that operation of GMW-36 and GMW-O-15 at pumping rates of 2 gallons per minute (gpm) and 3 gpm, respectively, would provide hydraulic capture of impacted groundwater in the southeastern area. This pumping scenario is achievable with the pumps currently in operation, and produces simulated hydraulic capture that extends to PZ-5 within approximately 6 months and to GMW-O-18 within approximately 12 months. In light of the recent detections of TPH and VOCs in GMW-O-18 during October 2009, groundwater extraction from GMW-O-18 will be resumed to further expand hydraulic capture in the southeastern off-site area.

As described above, TFE pumping operations in GMW-36 and GMW-O-15 resumed one month ago. Based on historical cleanup progress observed in the southeastern area and the preliminary results for the southeastern capture zone analysis, we anticipate that resumed pumping will result in resumed groundwater quality improvement in the area. To expedite the improvement of groundwater quality in this area, SFPP plans to resume groundwater extraction operations in GMW-O-18 following the sentry groundwater monitoring event scheduled for March 15 and 16, 2010.

Groundwater monitoring and remediation wells in the southeastern area, including PZ-5, GMW-O-18, GMW-36, GMW-O-15, GMW-O-16, and GMW-O-19, will be sampled on a monthly basis to evaluate groundwater conditions. If groundwater conditions improve, the monitoring frequency may be reduced as appropriate. The simulated results of the capture zone analysis will be compared with actual conditions after at least six months of pumping by measuring groundwater levels in wells in the southeastern area and comparing the measured drawdown to the drawdown predicted in the model. These comparative data will be reported in future semiannual groundwater monitoring reports. Groundwater extraction rates will also be measured periodically to verify that the pumps are operating at the recommended flow rates. If groundwater conditions in the southeastern area do not stabilize or improve after six months of TFE operation, AMEC will evaluate additional potential pumping scenarios.

To delineate the extent of impact in groundwater northeast of GMW-O-18, SFPP plans to prepare a work plan for additional delineation for submittal to the RWQCB by April 19, 2010. If groundwater conditions improve before the additional delineation is performed and the extent of impact in groundwater decreases to that observed prior to the pumping interruptions in 2009, GMW-O-18 may be converted back to a groundwater monitoring well and used again to define the northeastern extent of impacted groundwater in the southeastern area.

⁵ AMEC Geomatrix, Inc., 2009, Summary of Capture Zone Analysis for Southeastern Area, December 21.

Mr. Thomas E. Lynch
City of Norwalk
March 11, 2009
Page 5

If you have any questions regarding this project, please contact Stephen Defibaugh of KMEP at 714-560-4802 or either of the undersigned at 949-642-0245.

Sincerely yours,
AMEC Geomatrix, Inc.



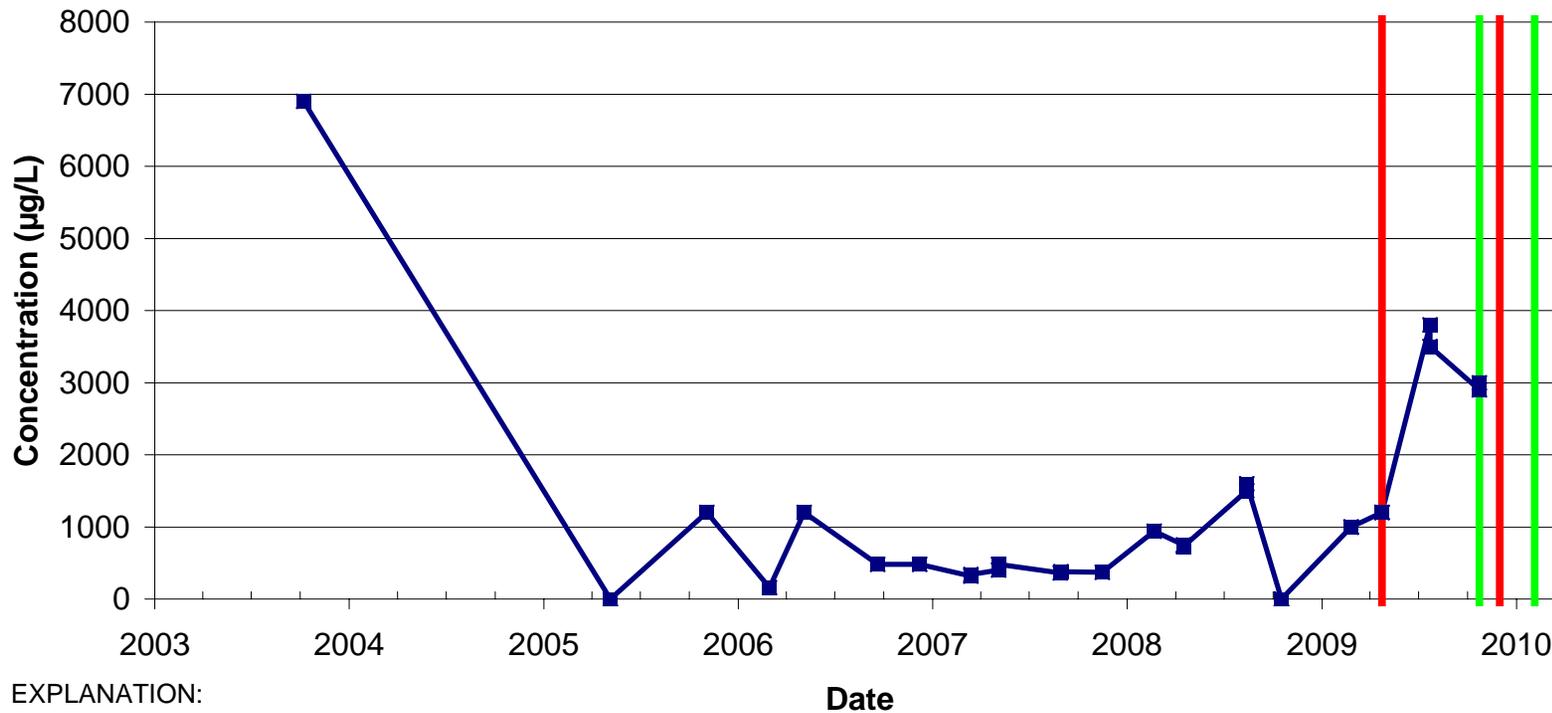
Alex Padilla
Staff Engineer



Shiow-Whei Chou, PE
Senior Engineer

Attachments: Figure 1 PZ-5, TPHg Concentration vs. Time
Figure 2 PZ-5, Benzene Concentration vs. Time

cc: Mr. Stephen Defibaugh, KMEP
Mr. Michael Hanak, KMEP
Mr. Paul Chou, RWQCB
Mr. Jeffrey Hu, RWQCB
Mr. Kwang-il Lee, RWQCB
Mr. Arthur Heath, RWQCB
Mr. Sam Unger, RWQCB
Ms. Mary Jane McIntosh, RAB
Mr. Bob Hoskins, RAB
Mr. Eugene Garcia, RAB
Ms. Tracy Winkler, RAB
Mr. Tim Whyte, URS
Ms. Adriana Figueroa, City of Norwalk
Mr. Charles Emig, City of Cerritos
Office of Congresswoman Grace F. Napolitano
Lt. Col. Jon Ramer, DESC
Col. William Keyes, DESC
Mr. Kola Olowu, DESC
Mr. Redwan Hassan, Parsons
Ms. Mary Lucas, Parsons



EXPLANATION:

- TPHg Concentration
- GMW-O-15 Pumping Stops
- GMW-O-15 Pumping Starts

PZ-5 TPHg Concentrations vs. Time DFSP Norwalk Norwalk, California		
By: ALP	Date: 2/23/10	Project No.: 1603
AMEC Geomatrix		Figure 1

