CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
MONITORING AND REPORTING PROGRAM NO. R5-2007-0808
FOR
NEW WEST PETROLEUM/FLAG CITY SHELL
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) is issued by the Executive Officer of the Regional Water Quality Control Board, Central Valley Region, (Regional Board) pursuant to California Water Code section 13267(b)(1).

The New West Petroleum/Flag City Shell (Site) is located at 6437 Banner Street in Lodi (Figure 1). J. Gilbert Moore and Eileen A Moore currently own the property and New West Petroleum Inc. operates the tanks at the fueling station, and are hereafter collectively identified as the Dischargers. In June 2006, the Underground Storage Tanks (USTs) Site was transferred from San Joaquin County Environmental Health Department (SJCEHD) Local Oversight Program to the Regional Board.

The Dischargers have discharged and/or are suspected of having discharged waste that could affect the quality of the waters of the state. Existing data and information about the site show the presence of petroleum hydrocarbons and fuel additives emanating from the property under the control of the Dischargers, and resulting from the Dischargers' current or past operation. Petroleum hydrocarbons, including Methyl tert-Butyl Ether (MtBE) detected in groundwater beneath the property and offsite, appear to be the result of a release from past operations of the fueling station. The Dischargers have installed, and began operation in September 2006, an Interim Groundwater Extraction (GE) remediation system at the USTs source area. The Dischargers are continuing to delineate the vertical and lateral extent of waste in groundwater, prior to submitting a corrective action plan for cleanup of the site. The depth to groundwater is approximately 12 feet. There are two San Joaquin County supply wells downgradient of the MtBE plume at Flag City:

1. CSA-31 Well 2, located approximately 900 to 1,000 feet southeast of the Site, and
2. CSA-31, Well 1, located approximately 1,000 feet to the east of Well 2.

Site monitoring well MW-6B, located approximately 400 feet from CSA-31 Well 2, has been impacted by MtBE since March 2006.

The constituents found at the site are "wastes" as defined in California Water Code section 13050. The wastes discharged at the site impair the beneficial uses of waters of the state. This MRP is necessary to delineate the extent of waste in groundwater and to determine the effectiveness of cleanup actions at the site. The Dischargers shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer or until Regional Board staff approve those changes in writing.

Prior to construction of any new groundwater monitoring, treatment or extraction wells, and prior to abandonment of any groundwater monitoring, treatment or extraction wells, the Dischargers shall submit plans and specifications to Regional Board staff for review and approval. Once installed, all new wells shall be added to the monitoring program and shall be sampled and analyzed according to the schedule below.

The Dischargers shall obtain all local and state permits and access agreements necessary to fulfill the requirements of this Order prior to beginning the work.

GROUNDWATER MONITORING

As shown on Figure 3, there are seventeen groundwater monitoring wells, designated MW-1 through MW-9D. Also, there are five groundwater extraction well (EW-1 through EW-5) for the Interim GE remediation system. The groundwater monitoring program for the above-named wells and any wells installed subsequent to the issuance of this MRP, shall follow the schedule below. If present, monitoring wells with free phase petroleum (free) product or visible sheen shall be monitored for product thickness and depth to water only, and bailed to remove free product. A sample of free product (if present) must be collected at least once and analyzed for classification of product and to obtain a chromatograph for comparison to dissolved hydrocarbons detected in other wells. The volume of extracted groundwater and petroleum product (if present) shall be provided in quarterly monitoring reports.

	SAMPLING FREQUENCY[1]
	Quarterly
Wells	EW-1 EW-2 EW-3 EW-4 EW-5 MW-1 MW-2 MW-3A MW-3B MW-4A MW-4B MW-4C MW-5B MW-5C MW-6B MW-6C MW-7A MW-7B MW-8A MW-8B MW-9B MW-9C MW-9D CSA-31 Well 1 and CSA-31 Well 2 New Wells

[1] All wells will be monitored quarterly for water levels, and the presence and thickness of free product.

Constituents	**EPA Analytical Method[1]**	**Max. Detection Limit (µg/l)[2]**
Total Petroleum Hydrocarbons (TPH), as Gasoline	8260B or 8015M	50
Benzene	8260B[2]	0.5
Toluene	8260B	0.5
Ethylbenzene	8260B	0.5
Xylene	8260B	0.5
MTBE	8260B	0.5
TBA	8260B	5
TAME	8260B	0.5
DIPE	8260B	0.5
ETBE	8260B	0.5
Ethanol	8260B	50
Methanol	8260B	100
	8260B	100

1 Requests for equivalent, substitute EPA Analytical Methods must be approved by Regional Board staff letter.
2 For nondetectable results.

REPORTING

When reporting data, the Dischargers shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order. In addition, the Dischargers shall notify Regional Board staff within 48 hours of any unscheduled shutdown of any soil vapor and/or groundwater extraction system.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the direction of, a registered professional and signed by the registered professional.

Paper copies of quarterly reports shall be submitted to the Regional Board by the **1st day of the second month following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November**) until such time as the Executive Officer determines that the reports are no longer necessary. Each quarterly report shall include the following minimum information:

(a) a description and discussion of the groundwater sampling event and results, including trends in the concentrations of wastes and groundwater elevations in the wells, how and when samples were collected, and whether the waste plume(s) is delineated;

(b) field logs that contain, at a minimum, water quality parameters measured before, during, and after purging, method of purging, depth of water, volume of water purged, etc.;

(c) groundwater contour maps for all groundwater zones;

(d) isocontour waste concentration maps for all groundwater zones;

(e) a table showing well construction details such as well number, groundwater zone being monitored, coordinates (northings and eastings), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom;

(f) a table showing historical lateral and vertical (if applicable) flow directions and gradients;

(g) cumulative data tables containing the water quality analytical results and depth to groundwater;

(h) a copy of the laboratory analytical data report;

(i) if applicable, the status of any ongoing remediation, including cumulative information on the mass of waste removed from the subsurface, system operating time, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system; and

(j) if applicable, the reasons for and duration of all interruptions in the operation of any remediation system, and actions planned or taken to correct and prevent interruptions.

The 4th Quarterly Report of each year shall be an Annual Report submitted to the Regional Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation. The Annual Report shall contain, in addition to the information required above for Quarterly Reports, the following minimum information:

(a) graphical summaries of all data obtained during the previous year;

(b) chronologically organized groundwater contour maps and waste concentration maps containing all data obtained during the previous year;

(c) a discussion of the long-term trends in the concentrations of the wastes in the groundwater monitoring wells;

(d) an analysis of whether the waste plume is being captured by the remediation system(s) or is continuing to spread;

(e) a description of all cleanup activities conducted during the year, an analysis of their effectiveness in removing the wastes, and plans to improve cleanup system effectiveness;

(f) the anticipated date for completion of cleanup activities;

(g) an identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

(h) if desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.

The results of any monitoring done more frequently than required at the locations specified in the MRP also shall be reported to the Regional Board. The Discharger shall implement the above monitoring program as of the date of the Order.

Failure to comply with the Order may subject the Dischargers to enforcement actions pursuant to applicable law, including civil liability ranging between a maximum of $1,000 to $5,000 per day pursuant to California Water Code section 13268, which states, in part, as follows:

> "Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, . . . or falsifying any information provided therein, is guilty of a misdemeanor, and may be liable civilly in accordance with subdivision (b)."

If, for any reason, the Discharger is unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Executive Officer, the Discharger may request, in writing, an extension of the time specified. The extension request shall include

justification for the delay. An extension may be granted by revision of this Order or by a letter from the Executive Officer.

Ordered by: _____
PAMELA C. CREEDON
Executive Officer

_____30 April 2007_____
(Date)

California Regional Water Quality Control Board
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Arnold Schwarzenegger
Governor

28 May 2008

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DOCUMENTS REVIEW, NEW WEST PETROLEUM #1003 (SHELL BRANDED), 6437 BANNER STREET, LODI, SAN JOAQUIN COUNTY (CAO R-5-2007-0709)

I reviewed the R*educed Monitoring Frequency Request (Request)* and the *First Quarter 2008 Groundwater Monitoring and Remediation System Status Report* (*1Q2008 Report*), submitted 21 May 2008 and 21 April 2008 respectively by your consultant Closure Solutions, Inc. (CSI). The *Request* provides the results of a technical review of the data collected to date from groundwater monitoring of individual wells (enclosed Figure 1) conducted under Regional Board Cleanup and Abatement Order No. R5-2007-0709 (*CAO*) and Regional Board Monitoring and Reporting Program R5-2007-0808 (*MRP*). The *CAO* requires compliance with the *MRP* schedule, which in turn requires quarterly groundwater monitoring and the full list of analyses for all monitoring wells (MW's) and municipal wells CSA-31 Well 1 and CSA-31 Well 2. The *Request* recommends the following changes to the MRP in *Request, Table 1 Recommended Sampling Frequency and Analyte Reductions* (enclosed):

- No changes to CSA-31 Well 1 and CSA-31 Well 2 schedules and analyses.
- MW-1 would be sampled annually for all analytes during the second quarter of each calendar year,
- MW-2, MW-5A and MW-5B would be sampled semi-annually for all analyses during the second and fourth quarters of each calendar year, and
- MW-2 through MW-9D would be sampled
  1. Annually (second quarter) for constituents total petroleum hydrocarbons as gasoline (TPHg), and benzene, toluene, ethylbenzene, and xylenes (collectively as BTEX), and
  2. Quarterly for constituents methyl tert-butyl ether (MtBE), ethanol, methanol, tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), and ethyl tertiary butyl ether (ETBE).

Comments:

1. The *Request* did not include the data set that was evaluated. However, I also reviewed the most recent *1Q2008 Report* Table 2, which does include all of the historical data for the wells. Please include a copy of the most recent Table 2 in future requests for changes in the *MRP* sampling frequency.

2. The *Request* proposes the annual sampling event be changed from the fourth quarter to the second quarter without providing a technical rationale for the change. The *MRP*

states that "*The 4th Quarterly Report of each year shall be an Annual Report submitted to the Regional Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation…"* Since the Annual Report provides a summary and evaluation of the previous year's activities, including "*…if desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes..."* annual sampling and reporting will continue to be conducted during the fourth quarter of each calendar year. Please include future requests for changes to the *MRP* sampling plan frequency and/or list of analytes with a rationale for the changes in the fourth quarter Annual Report.

3. Summarized from *Request Table 1,* the above proposed bullets three and four provide schedules for MW-2, MW-5A, and MW-5B that contradict each other by requesting semiannual sampling for all analyses in bullet three versus a combination of quarterly and annual sampling for specific analyses in bullet four. Since the intent of the *Request* appears to be that MW-2, MW-5A, and MW-5B are sampled semi-annually and a specific rationale is given for semi-annual sampling of those wells in *Request Table 1*, MW-2, MW-5A, and MW-5B are removed from bullet four's schedule and will be analyzed for all constituents on a semi-annual schedule.

4. The MRP also states *"The Dischargers shall not implement any changes to this MRP … until Regional Board staff approve those changes in writing*." The approved changes to the *MRP* are listed in the new *MRP* Table 1 below:

	TABLE 1 SAMPLING FREQUENCY[1]		
	Quarterly[2]	**Semi-Annually[3]**	**Annually[4]**
Wells	EW-1 EW-2 EW-3 EW-4 EW-5 MW-3A MW-3B MW-4A MW-4B MW-4C MW-6B MW-6C MW-7A MW-7B MW-8A MW-8B MW-9B MW-9C MW-9D CSA-31 Well 1 and CSA-31 Well 2 New Wells[5]	MW-2, MW-5A, MW-5B	MW-1[6], EW-1 EW-2 EW-3 EW-4 EW-5 MW-3A MW-3B MW-4A MW-4B MW-4C MW-6B MW-6C MW-7A MW-7B MW-8A MW-8B MW-9B MW-9C MW-9D CSA-31 Well 1 and CSA-31 Well 2

1 All wells will be monitored quarterly for water levels, and the presence and thickness of free product.
2 All constituents with the exception of Total Petroleum Hydrocarbons as gasoline (TPHg) and BTEX. **See exception 5 below for new wells**.
3 All constituents in the second and fourth quarters of the calendar year.
4 Add TPHg and BTEX (analyze all constituents) during the fourth quarter of the calendar year. **See exception 6 below for MW-1**.
5 Any new monitoring or treatment wells added to this program will initially be sampled on a quarterly basis for all constituents listed in the MRP **for a period of at least one year**, after which a request for reduction in sampling those well may be submitted with the rationale for the proposed changes in the **fourth quarter annual report**. Sample collection and analysis for new wells shall follow standard EPA protocol.
6 MW-1.sampled for all constituents only annually during the fourth quarter of the calendar year.

If the current data trends change in any of the reduced sampling wells, Regional Board staff may reinstitute quarterly monitoring as appropriate. If you have any questions or comments, you may call me at (916) 464-4615 or email me at jbarton@waterboards.ca.gov.

JAMES L.L. BARTON, P.G.
Engineering Geologist
UST Enforcement Unit II

Enclosures

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