California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2007-0063
WDID No. 1B07054RSON

[Rescinding and Replacing Monitoring and Reporting Program Order R1-2006-0012]

FOR

CONOCOPHILLIPS COMPANY
AND
ATLANTIC RICHFIELD COMPANY

FOR THE

(THE FORMER) BP #11249 (MOBIL) SERVICE STATION

1300 Farmers Lane

Santa Rosa, California

Sonoma County

This Monitoring and Reporting Program Order rescinds and replaces Order R1-2006-0012 and all previous Regional Water Board issued monitoring and reporting directives for the (Former) BP #11249 (Mobil) Service Station site.

GROUNDWATER MONITORING

1. Prior to purging each monitoring well for sampling, the depth to groundwater shall be measured to the nearest 0.01-foot. The groundwater elevations for each monitoring event shall be reported in tabular form indicating the top of casing elevation, the groundwater elevation referenced to mean sea level and the actual depth to groundwater.
2. Prior to purging, groundwater from all monitoring wells shall be tested for the following parameters: pH, temperature, and dissolved oxygen. These field tests shall be conducted so that the test results represent water quality at the depth of the well screens.
3. Prior to purging, groundwater from monitoring wells MW-3, MW-4, MW-6, MW-7, MW-8S, and MW-9S shall be tested for oxidation-reduction potential.
4. Prior to sampling, groundwater monitoring wells shall be purged of at least three wetted well-casing volumes of water. If a well goes dry before three well-casing volumes have been removed, then the well shall be sampled after it has recovered 80% of the initial wetted casing volume.

5. Groundwater samples from wells MW-1, and MW-3 shall be analyzed at least one time to characterize background levels for the following dissolved constituents of concern: aluminum, antimony, beryllium, cobalt, iron, manganese, mercury, nickel, silver, thallium, zinc; and bromide. Analyses for these dissolved constituents shall be performed on samples collected during the first quarterly monitoring event conducted under this Order, unless the data have already been obtained from prior monitoring.

6. Groundwater samples from wells MW-3, MW-4, MW-7, MW-8S, and MW-9S shall be analyzed quarterly for the following oxidation-sensitive constituents of concern:
   a. Dissolved metals: arsenic, barium, cadmium, total chromium, hexavalent chromium, cobalt, copper, lead, molybdenum, selenium, vanadium, and uranium;
   b. Inorganic compounds: dissolved carbon dioxide, and bromate;
   c. Total dissolved solids, and chemical oxygen demand.

7. Groundwater samples from monitoring wells MW-4, MW-6, MW-7, MW-7D, MW-8D, MW-8S, MW-9D, MW-9S, MW-11, and MW-12 shall be analyzed quarterly for the following constituents:
   a. Total petroleum hydrocarbons as gasoline
   b. Benzene, toluene, ethylbenzene, and xylenes
   c. Methyl tertiary butyl ether (MTBE) and tert-butyl alcohol (TBA).

8. Groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-10 shall be analyzed annually during the first calendar quarter for MTBE and TBA.

9. All laboratory analyses must be performed by a laboratory certified for those analyses by the State of California Department of Health Services.

10. Analytical methods for sample analyses shall achieve practical quantification reporting limits that are adequate for evaluating regulatory action levels for each constituent. A table of commonly achievable laboratory reporting limits for the constituents of concern is incorporated in this Monitoring and Reporting Program Order as Appendix A.

11. Ozone and volatile organic compound (VOC) concentrations in air shall be monitored bi-weekly at the wellheads of all groundwater monitoring wells and injection wells, along conveyance trenching, and within the ozone system (OS) compound using a portable ozone meter and flame ionization detector. If ozone or VOCs are detected at these locations, additional air monitoring shall be conducted to assess whether detectable levels of these constituents are present in and around the onsite buildings. In addition, a stationary ozone detection meter shall be located within the OS compound and shall be configured to shut the OS system down if ozone is detected in ambient air.

REPORTING

12. Monitoring reports shall be submitted to the North Coast Regional Water Quality Control Board at 5550 Skylane Boulevard, Suite A, Santa Rosa, California, 95403 according to the following schedule:

Quarter	Reporting Period	Required Submittal Date
First Quarter	January, February, March	April 30th
Second Quarter	April, May, June	July 31st
Third Quarter	July, August, September	October 31st
Fourth Quarter	October, November, December	January 31th

13. Monitoring data and reports shall also be submitted electronically to the State Water Resources Control Board's Geographic Environmental Information Management System database (GeoTracker) as required by Title 23, Division 3, Chapter 30, Article 2, Sections 3890-3895 of the California Code of Regulations).

14. Monitoring reports shall identify the locations and levels of any ozone or VOCs detections in ambient air.

15. Monitoring reports shall include the following elements:
    a. A narrative description of the work conducted;
    b. An accurately scaled site plan showing all structures and other significant site features, including the locations of monitoring wells, remediation system sparge points and vapor extraction wells;
    c. A groundwater elevation map for each sampling event;
    d. Analytical data tables including both current and historical analytical results;
    e. Field instrument calibration records and protocols;

16. Copies of the well purging and sampling field logs; chain of custody documents; and signed laboratory reports including quality control data and explanations of analytical anomalies, if any. These supporting documents may be included as appendices to the report.

17. A table summarizing soil vapor extraction system (SVE) operational data shall be submitted. The table shall present the soil vapor treatment system influent and effluent analytical results, the volume of soil vapor extracted, and the cumulative contaminant mass removed. Copies of monitoring reports prepared for compliance with the Bay Area Air Quality Management District permit shall also be submitted to the Regional Water Board.

Ordered by _____

Catherine E. Kuhlman
Executive Officer

August 7, 2007

Table of Commonly Achievable Minimum Detection Levels for Petroleum Constituents and ORP Sensitive Chemicals

CHEMICAL	Minimum Detection Level
Bromate	**5 µg/l** [1]
Bromide	**100 µg/l** [2]
Ethylene dibromide (Dibromoethane)	**0.5 µg/l**
1,2-Dichloroethane	**0.5 µg/l**
Petroleum Hydrocarbons (as gasoline)	**50 µg/l**
Petroleum Hydrocarbons (as diesel)	**50 µg/l**
Petroleum Hydrocarbons (as motor oil)	**50 µg/l**
Benzene	**0.5 µg/l**
Toluene	**0.5 µg/l**
Ethyl Benzene	**0.5 µg/l**
Xylenes	**0.5µg/l**
Methyl tertiary butyl ether (MTBE)	**0.5 µg/l**
Uranium (U)	**1 pCi/L** [3]
Hexavalent Chromium (Cr)	**5 µg/l**
Lead (Pb)	**0.5 µg/l**
Molybdenum (Mo)	**3 µg/l**
Selenium (Se)	**2 µg/l**
Vanadium (V)	**5 µg/l**

1 µg/l = micrograms per liter

2 Bromide is a naturally occurring constituent analyzed to identify its presence as a potential precursor for the formation of bromate under oxidative conditions.

3 pCi/L = picocuries per liter