

California Regional Water Quality Control Board  
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2009-0085

[Rescinding and Replacing Monitoring and Reporting Program No. R1-2005-0051]

For

SHELL OIL PRODUCTS US

For

SHELL SERVICE STATION  
255 DUTTON AVENUE

And

Lee Ann Thompson

For

SHELL DZ PRODUCTS FACILITY  
257 DUTTON AVENUE

Sonoma County

This Monitoring and Reporting Program Order (Order) is issued pursuant to California Water Code Section (CWC) 13267(b) and requires monitoring of groundwater and submission of technical reports. This Order replaces all previously issued groundwater monitoring directives issued for the site. The objective of monitoring conducted under this Order is to provide the Discharger and the Regional Water Board with information concerning groundwater quality and contaminant trends at the site.

All monitoring and reporting activities shall be conducted by or under the supervision of a California Registered Engineer or Geologist. Under the authority of CWC section 13267, the Discharger named above is required to comply with the following:

**MONITORING**

1. Monitoring wells shall be checked for the presence or absence of free product prior to the collection of groundwater samples. The thickness of the product shall be measured to at least 0.01 foot increments.
2. The depth to groundwater in all monitoring wells shall be determined to nearest 0.01 foot increment, prior to purging, at least semi-annually during the first and third quarter groundwater monitoring events.

### SAMPLING AND ANALYSIS

3. Groundwater samples shall be collected quarterly from monitoring wells MW-2, MW-4, MW-5, MW-8, MW-10, MW-11, MW-19, and MW-20.
4. Groundwater samples shall be collected semi-annually, during the first and third calendar quarters, from monitoring wells MW-1, MW-1DZ, MW-2, MW-3DZ, MW-6, MW-7, MW-9, MW-12, MW-13, MW-14, MW-15, MW16, MW-17, and MW-18.
5. All water samples shall be analyzed for:
  - a. Total Petroleum Hydrocarbons measured as gasoline (TPH-g) and as diesel (TPH-d);
  - b. Volatile Organic Compounds: benzene, toluene, ethyl benzene, xylenes, and methyl tertiary butyl ether (MTBE), tert-Butyl alcohol (TBA)
6. All chemical analyses shall be conducted by a laboratory certified by the California Department of Health Services for those analyses.
7. Analytical methods for sample analyses shall achieve minimum detection levels that are adequate for evaluating regulatory action levels for each constituent. A table of commonly achievable practical quantitation limits for the constituents of concern is incorporated in this Monitoring and Reporting Program Order as Appendix A.

### REPORTING

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

<u>Report</u>	<u>Reporting Period</u>	<u>Required Submittal Date</u>
1st Semi-annual Report	January through June	July 31
2nd Semi-annual Report	July through December	January 31

9. Monitoring reports shall include the following elements:
  - a. A narrative description of the work conducted;
  - b. A narrative summary of the remediation system operation and effectiveness;
  - c. An accurately scaled site plan showing all structures and other significant site features, including the locations of former underground storage tanks, monitoring wells, surface water sampling points, remediation system layout, and vapor extraction wells;
  - d. A groundwater elevation map for each groundwater monitoring event.
  - e. A contaminant distribution maps for the each groundwater monitoring event, showing the analytical results for TPH-g, benzene, and MTBE in all monitoring wells that were sampled;
  - f. Analytical data tables including both current and historical analytical results;
  - g. Field instrument calibration records and protocols;
  - h. 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; and

- i. A table summarizing soil vapor and groundwater extraction system operational data shall be submitted. The table shall present the groundwater and vapor treatment system influent and effluent analytical results, the volume of media and contaminant mass extracted during each reporting period, and the cumulative contaminant mass removed.
10. Remediation system status and progress reports shall also be submitted for the first and third calendar quarters to the North Coast Regional Water Quality Control Board at 5550 Skylane Boulevard, Suite A, Santa Rosa, California, 95403 by April 30 and October 31, respectively. The remediation system status and progress report shall consist of a narrative summary of the operational activities, including an effectiveness evaluation and current status of the remediation system. In addition, the report shall include a table of operational data, as specified in reporting requirement # 9.i. above.
11. Laboratory analytical results and monitoring 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.

Ordered by \_\_\_\_\_

Catherine Kuhlman  
Executive Officer

July 31, 2009

**Water Quality Objectives  
For  
Selected Petroleum Constituents in Groundwater**

Constituent of Concern	Practical Quantitation Limit <sup>1</sup> (µg/l)	Water Quality Objective <sup>2</sup> (µg/l)	Reference for Objective
Methyl t-Butyl Ether	< 0.5	5	California Department of Health Services Secondary Maximum Contaminant Level applied to the TASTE and ODOR water quality objective in the Basin Plan
Gasoline	< 50	5.0	Published literature provides a taste and odor threshold of 5 ug/l which is applied to the narrative TASTE AND ODOR water quality objective of the Basin Plan
Diesel	< 50	100	US EPA health advisory of September 4, 1992, Suggested No Adverse Response Level (SNARL) applied to TASTE AND ODOR water quality objective in the Basin Plan
Motor Oil	< 175	100	US EPA health advisory Suggested No Adverse Response Level (SNARL) of 0.1 ug/l to 1.0 ug/l applied to GENERAL water

<sup>1</sup> Practical quantitation limits are based on current technology. For instances where technology cannot achieve the water quality objective the practical quantitation limit will be used.

<sup>2</sup> The California Water Code, and regulations and policies developed thereunder require cleanup and abatement of discharges and threatened discharges of waste to the extent feasible. Cleanup and abatement activities are to provide attainment of background levels of water quality or the highest water quality that is reasonable if background levels of water quality cannot be restored. Alternative cleanup levels greater than background concentration shall be permitted only if the discharger demonstrates that: it is not feasible to attain background levels; the alternative cleanup levels are consistent with the maximum benefit to the people of the State; alternative cleanup levels will not unreasonably affect present and anticipated beneficial uses of such water; and they will not result in water quality less than prescribed in the Basin Plan and Policies adopted by the State and Regional Water Board (State Water Resources Control Board Resolutions Nos. 68-16 and 92-49).

Water quality objectives in the Basin Plan are adopted to ensure protection of the beneficial uses of water. The Basin Plan provides that “whenever several different objectives exist for the same water quality parameter, the strictest objective applies”. Accordingly, the most stringent water quality objectives for protection of all beneficial uses are selected as the protective water quality criteria. Alternative cleanup and abatement actions must evaluate the feasibility of, at a minimum: (1) cleanup to background levels, (2) cleanup to levels attainable through application of best practicable technology, and (3) cleanup to protective water quality criteria levels. The table below sets out the water quality objectives for waters of the State impacted

			quality objective in the Basin Plan
Benzene	< 0.5	0.15	California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment) applied to GENERAL water quality objective in the Basin Plan
Toluene	< 0.5	42	US EPA National Ambient Water Quality Criteria, Human Health and Welfare Protection applied to TASTE AND ODOR water quality objective in the Basin Plan
Ethylbenzene	< 0.5	3.2	Cal/EPA Cancer Potency Factor applied to GENERAL water quality objective in the Basin Plan
Xylenes	< 0.5	17	US EPA National Ambient Water Quality Criteria, Human Health and Welfare Protection applied to TASTE AND ODOR water quality objective in the Basin Plan