California Regional Water Quality Control Board
North Coast Region

CLEANUP AND ABATEMENT ORDER NO. R1-2001-82

FOR

EQUILON ENTERPRISES, LLC
SHELL OIL COMPANY

2799 Fourth Street
Santa Rosa, California

Sonoma County

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds that:

1. Equilon Enterprises LLC owns property and operates a Shell branded retail gasoline station at 2799 Fourth Street in Santa Rosa (Assessor's Parcel Number 032-030-15 and hereinafter Site). Shell Oil Company owned and operated the Site prior to July 28, 1998. Equilon Enterprises LLC and Shell Oil Company are hereinafter collectively referred to as Discharger.

2. The Site is located at the northwest corner of Fourth Street and Farmers Lane and is bordered on the north, east and west by commercial properties and on the south by Fourth Street, commercial properties and Santa Rosa Creek (Attachment A).

3. In June 1987, fuel products were found leaking into Santa Rosa Creek. Cleanup efforts, initiated by the City of Santa Rosa, contained and removed visible floating fuel products from the creek. A subsequent investigation revealed that on or before June 1987, Shell Oil Company caused or permitted the discharge of an unknown quantity of fuel products at the Site. Previously removed underground tanks and existing fuel delivery lines were identified at that time as the probable sources of the contamination. The separate phase hydrocarbons were determined to be a mixture of gasoline and diesel.

4. In July and August 1987, the Discharger installed an intercept trench to prevent fuel products from reaching the creek. Several groundwater monitoring wells were installed on and offsite as part of the environmental investigation. In September 1989, the Discharger installed a groundwater recovery and treatment system and began operation.

5. In October 1988, the Executive Officer issued Cleanup and Abatement Order No. 88-143 to Shell Oil Company.

6. Separate phase petroleum hydrocarbons was last detected at the site in January 1983. In general, groundwater sampling results over time showed a reduction in gasoline and benzene concentrations. Diesel concentrations remained elevated. In 1994 and 1995, influent samples collected from the treatment system showed no detectable levels of petroleum hydrocarbons. Therefore, the Discharger proposed to cease operation because the system was no longer effectively removing dissolved phase petroleum hydrocarbons from groundwater. Regional Water Board staff concurred with system shut down provided that analytical results show a declining trend in petroleum hydrocarbon concentrations.

The treatment system would remain in place until such time it was shown to be no longer needed.

7. In November 1995, the Discharger began testing for Methyl tertiary Butyl Ether (MtBE). MtBE was detected in groundwater at up to 140 ug/l [parts per billion (ppb)].

8. In July 1997, Regional Water Board staff requested the submittal of a feasibility study and corrective action plan due to the lack of a declining trend in petroleum hydrocarbon concentrations and an increase in MtBE concentrations. In 1997, MtBE concentrations were reported at up to 110,000 ppb in an onsite well with MtBE migration toward Santa Rosa Creek.

9. In December 1997, the Discharger proposed and installed an oxygenation system including biosparging and oxygen releasing compound. The Discharger estimated a two-year cleanup time period.

10. In April 1999, Regional Water Board staff notified the Discharger that it no longer concurred with the current remedy due to the significant increase in MtBE concentrations, the threat to Santa Rosa Creek, and the need to gain hydraulic control of the plume.

11. In April 1999, the Discharger proposed to upgrade and resume operation of the existing groundwater extraction system. The system began operation on April 3, 2000.

12. In November 2000, the Discharger began collecting surface water samples from Santa Rosa Creek on a monthly basis. MtBE has consistently been detected in surface water ranging from 0.57 to 80.8 ppb. As of February 2000, MtBE was reported in groundwater at 10,000 ppb immediately adjacent to Santa Rosa Creek. The lateral and vertical extent of MtBE has not been defined.

13. Water Quality Objectives exist to ensure protection of the beneficial uses of water. Several beneficial uses of water exist, and 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 need to be considered that 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 following water quality objectives apply to this site:

Constituent of Concern	Background Level ug/l	Water Quality Objective ug/l	Reference for Objective
Total Petroleum Hydrocarbons as gasoline (TPH-g)	$\leq$50.0	50.0	Published literature provides a taste and odor threshold of 5 ug/l which is applied to the

Constituent of Concern	Background Level ug/l	Water Quality Objective ug/l	Reference for Objective
			narrative TASTE and ODOR objective of the Basin Plan for domestic supply, but detection limit is 50 ug/l and is controlling
Total Petroleum Hydrocarbons as diesel (TPH-d)	≤50.0	56.0	USEPA health advisory of September 4, 1992, Suggested No Adverse Response Level of 56 ug/l is applied to narrative TOXICITY water quality objective for domestic supply in the Basin Plan
Total Petroleum Hydrocarbons as motor oil	≤50.0	50.0	U.S. EPA National Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, May 1, 1986. SNARL of 0.1 ug/l to 1.0 ug/l is applied to the narrative TOXICITY objective in the Basin Plan and Oil and Grease objective of the Basin Plan, but detection limit is 50 ug/l and is controlling
Benzene	≤0.5	1.0	California DHS MCL, Title 22 of the California Code of Regulations, § 64444 is 1.0 ug/l for domestic

Constituent of Concern	Background Level ug/l	Water Quality Objective ug/l	Reference for Objective
			supply; USEPA health advisory for cancer risk is 0.7 ug/l; applied to the narrative TOXICITY objective in the Basin Plan
toluene	≤0.5	42	California DHS MCL, Title 22 of the California Code of Regulations, § 64444 is 150 ug/l for domestic supply; USEPA taste and odor threshold is 42 ug/l, Federal Register 54(97):22064-22138; applied to the TASTE AND ODOR water quality objective for domestic supply in the Basin Plan
ethylbenzene	≤0.5	29	California DHS MCL, Title 22 of the California Code of Regulations, § 64444 is 700 ug/l; USEPA taste and odor threshold is 29 ug/l, Federal Register 54(97):22064-22138; applied to the TASTE AND ODOR water quality objective for domestic supply in the Basin Plan
xylene	<0.5	17	California DHS

Constituent of Concern	Background Level ug/l	Water Quality Objective ug/l	Reference for Objective
			MCL, Title 22 of the California Code of Regulations, § 64444 is 1750 ug/l for domestic supply; USEPA taste and odor threshold, Federal Register 54(97):22064-22138 is 17 ug/l; applied to the TASTE AND ODOR water quality objective for domestic supply in the Basin Plan
Tertiary Butyl Alcohol (TBA)	<10	12.0	Department of Health Services Interim Action Level
Methyl-tertiary Butyl Ether (MtBE)	<5	5.0	Department of Health Services Secondary Drinking Water Health Advisory.

14. Existing and potential beneficial uses of areal groundwater include domestic, agricultural, industrial and municipal water supply.

15. The discharger has caused or permitted, causes or permits, or threatens to cause or permit waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state and create, or threaten to create, a condition of pollution or nuisance. The discharge and threatened discharge of waste is deleterious to the beneficial uses of water and is creating and threatens to create a condition of pollution and nuisance which threatens to continue unless the discharge and threatened discharge is permanently abated.

16. This enforcement action is being taken for the protection of the environment and, therefore, is exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15321, Chapter 3, Title 14, California Code of Regulations.

THEREFORE, IT IS HEREBY ORDERED that, pursuant to California Water Code Sections 13267(b) and 13304, the discharger shall cleanup and abate the discharge and threatened discharge of waste by complying with the following tasks:

A. Conduct a sensitive receptor survey within 60 days of issuance of this Order. The survey must include a door-to-door water supply well survey.

B. Continue the operation of the groundwater extraction system and conduct any interim measures to gain and maintain hydraulic control and abate the discharge of MtBE into Santa Rosa Creek.

C. Implement the November 22, 2000 "Letter Response and Work Plan" and the March 14, 2001 addendum prepared by Cambria within 30 days of issuance of this Order.

D. Submit a report of completed work, with a work plan for Regional Water Board Executive Officer concurrence for any needed additional effort to define the extent of contamination, within 45 days of work plan implementation.

E. Implement the plan described in Task D above within 45 days of Executive Officer concurrence.

F. Continue with Tasks D and E until the Executive Officer has determined that the vertical and lateral extent of groundwater contamination has been defined.

G. Submit a revised Corrective Plan (CAP) according to the requirements of the California Code of Regulations (Title 23, Division 3, Chapter 16, Article 11, Section 2725) within 60 days of Regional Water Board Executive Officer's concurrence that Tasks D, E & F have been completed.

H. Complete any additional work tasks in accordance with the final plan described in G above, such as system redesign and/or modification, within 45 days of Regional Water Board Executive Officer concurrence.

I. Implement the final CAP within 60 days of Regional Water Board Executive Officer concurrence.

J. Develop an outreach and public participation plan which identifies all affected and interested parties, including governmental and non-governmental agencies representing environmental areas.

K. Comply with Monitoring and Reporting Program No. R1-2000-14 and include the collection of monthly groundwater elevation measurements and the submittal of monthly reports showing hydraulic control of the plume.

L. If, for any reason, the discharger is unable to perform any activity or submit any documentation in compliance with the work schedule set forth herein or in compliance with any schedule submitted pursuant to the Order and approved by the Executive Officer, the discharger may request, in writing, a time extension. The extension request must be

submitted at least five days in advance of the due date and shall include justification for the delay including the good faith effort performed to achieve compliance with the due date. The extension request shall also include a proposed time schedule with new performance dates and the due date in question and all subsequent dates dependent upon the extension. An extension may be granted for good cause, in which case this Order will be accordingly revised.

Ordered by _____

Susan Warner
Executive Officer

July 31, 2001

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