California Regional Water Quality Control Board
North Coast Region

Cleanup and Abatement Order No. R1-2000-34

For

Redwood Oil Company
Robert I. Barbieri
Peter C. Van Alyea
Peggy R. Van Alyea
455 Yolanda Avenue
Santa Rosa

Sonoma County

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

1. Robert Barbieri, Peter Van Alyea and Peggy Van Alyea own property at 455 Yolanda Avenue, Santa Rosa, California (hereinafter site). Redwood Oil Company operates a bulk petroleum facility at the site.

2. The site is bordered on the north by residential properties, to the east by 459 Yolanda Avenue, to the west by commercial properties and to the south by Yolanda Avenue and commercial properties. In September 1998, Redwood Oil Company purchased property at 459 Yolanda Avenue and is currently installing an underground storage tank cardlock facility at that address.

3. Historical plant capacity at the site includes 140,000 gallons of underground tank storage and 60,000 gallons of above ground tank storage. Site activities include past and current storage and distribution of gasoline, diesel, kerosene, ethanol, solvent, racing fuel, motor oil, hydraulic oil, gear oil, antifreeze, waste antifreeze, and waste oil, and storage, service and repair of product pumps and transport equipment.

4. Spills and discharges have included:

   - Oil and wastewater discharges from a wash pad/rack to surface drainages on the west edge of the property in 1983.
   - Spillage of solvent to the ground surface in 1984.
   - An approximate 1000-gallon kerosene discharge from an above ground tank in 1985.
   - Gasoline, diesel, and oil range hydrocarbons detected in soil beneath the former 550-gallon motor oil and 1,000-gallon waste oil tanks in 1990.
   - Gasoline, diesel, benzene, toluene, ethylbenzene and xylenes (BTEX) detected in the former water supply well at 459 Yolanda Avenue (DW-1) in 1990.
   - A fuel line leak at the underground fuel dispenser area in 1995.

- A 55-gallon motor oil discharge to an offsite drainage ditch west of the site in 1997.
- Gasoline, diesel, BTEX, and MtBE discharges to soil and groundwater from underground storage tanks.
- Floating product measured in the water supply well at 455 Yolanda (DW-2) at 0.48 feet in 1999.

Based on these discharges, Redwood Oil Company, Robert I. Barbieri, Peter C. Van Alyea, and Peggy R. Van Alyea are hereinafter referred to as the dischargers.

5. Past enforcement action includes the issuance of Cleanup and Abatement Order No. 90-184 on November 7, 1990 to Redwood Oil Company, Robert I. Barbieri, Laura Lee Barbieri, Peter C. Van Alyea, and Peggy R. Van Alyea. The Order directed the dischargers to provide a status report and a schedule for the implementation of the revised monitoring well installation work plan, implement the plan and submit a report of findings.

6. Beginning in 1990, groundwater monitoring wells were installed to investigate the vertical and lateral extent of groundwater impact. The vertical and lateral extent of petroleum hydrocarbon and MtBE contamination in groundwater has not been defined. Offsite migration of petroleum hydrocarbon and MtBE contamination has occurred. A water supply well located at 680 Yolanda Avenue is threatened. Other water supply wells exist in the area.

7. In August 1998, a Corrective Action Plan (CAP) was submitted recommending limited overexcavation (at the time of tank removal) combined with groundwater extraction, soil vapor extraction and air sparging. Two CAP addenda were submitted. A Remedial Action Plan (RAP) was submitted in July 1999, and amended in September 1999. A plume migration control system was proposed consisting of four groundwater extraction wells at the southern property boundary due to the offsite migration of MtBE.

8. On December 14, 1999, ten underground storage tanks were removed from the site. TPHg, TPHd, benzene and MtBE were detected in soil beneath the former underground storage tanks at up to the following respective levels: 22,000; 2,500; 68; and 33 ppm. Detections in groundwater include TPHg at 1,300,000 parts per billion (ppb); TPHd at 150,000 ppb; benzene at 4,700 ppb; and MtBE at 32,000 ppb.

9. 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)	≤50.0	50.0	Published literature provides a taste and odor threshold of 5 ug/l which is applied to the 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 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

Constituent of Concern	Background Level ug/l	Water Quality Objective ug/l	Reference for Objective
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 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 Standard.
Polynuclear aromatic hydrocarbons (PAH)	≤0.03	0.031[1]	U.S. EPA Human Health Protection for Other Waters (aquatic organism consumption only) is applied to the narrative TOXICITY objective in the Basin Plan for domestic supply
Polynuclear aromatic hydrocarbons (PAH)	≤0.0028	0.0028[1]	U.S. EPA Human Health Protection for Sources of Drinking Water is applied to the narrative TOXICITY objective in the Basin Plan for domestic supply

10. Existing and potential beneficial uses for areal groundwater identified in the Water Quality Control Plan for the North Coast Region include domestic, agricultural, industrial and municipal water supply.

[1] For sum of acenaphthylene, anthracene, benz(a)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i) perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene and pyrene.

11. The dischargers have caused or permitted, cause or permit, or threaten to cause or permit waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state and creates, or threatens 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 or nuisance which threatens to continue unless the discharge and threatened discharge is permanently abated.

12. 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 dischargers shall cleanup and abate the discharge and threatened discharge of waste by complying with the following tasks:

A. Implement the revised "Work Plan for Lateral and Vertical Plume Definition" within 30 days of Regional Water Board Executive Officer (Executive Officer) concurrence.

B. Submit an acceptable report of completed work, with a complete work plan and schedule for Executive Officer concurrence for any needed additional effort to define the vertical and lateral extent of contamination, within 45 days of work plan implementation.

C. Complete additional work tasks in accordance with the final plan and schedule described in B, above, within 45 days of Executive Officer concurrence with the plan and schedule.

D. Submit a report, acceptable to the Executive Officer, for work described in C, above, within 45 days of completion.

E. Remove by July 15, 2000, the remaining two underground storage tanks, lines, and dispensers, and conduct overexcavation according the accepted CAP and the June 29, 1999, "Proposed Procedures for Soil Overexcavation."

F. Submit a report, acceptable to the Executive Officer, for work described in E, above, within 45 days of completion.

G. Install the two western plume migration control wells and lines by September 1, 2000.

H. Award the contract to install the soil and groundwater treatment system by July 15, 2000.

I. Begin operation of the soil and groundwater treatment and plume migration control systems by October 1, 2000.

J. Submit a report, acceptable to the Executive Officer, for work described in G and I, above, within 45 days of completion.

K. Complete additional tasks deemed necessary by the Executive Officer until project completion.

L. Comply with Monitoring and Reporting Program No. R1-2000-35.

M. 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 a 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 for 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 _____
Lee A. Michlin
Executive Officer

May 5, 2000