

CALIFORNIA WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

CLEANUP AND ABATEMENT ORDER NO. 86-23

CHEVRON USA, INCORPORATED  
SERVICE STATION NO. 1870, TEMECULA  
RIVERSIDE COUNTY

907106

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Chevron USA Service Station No. 1870 is located at 2890 Rancho California in Temecula, California. The site lies in the Murrieta Hydrographic Subunit of the Santa Margarita Hydrologic Unit and is located approximately 200 feet to the east of Murrieta Creek.
2. On April 23, 1984 a product line failed a leak test. This prompted Chevron USA, Incorporated (Inc.) to conduct a full subsurface investigation to further ascertain if petroleum hydrocarbon product leakage had occurred.
3. The results of the subsurface investigation are contained in two reports dated June 28, 1984 and October 22, 1984, and prepared by Harding Lawson Associates, consultants for Chevron, USA, Inc.

The reports contain the following information:

- a) Ground water is encountered at 10 to 15 feet below grade. This aquifer extends to a depth of about 100 feet.
- b) The upper aquifer is separated from a deeper aquifer by a clay aquitard which is as much as 500 feet thick.
- c) Ground water in the upper aquifer flows to the south-southwest at a rate of approximately 50 to 150 feet/year.
- d) A series of borings revealed a layer of petroleum hydrocarbon contaminated soil approximately 5 feet thick with as much as 2500 ppm total petroleum hydrocarbons; however most of the soil samples contained 200 ppm total petroleum hydrocarbons or less.
- e) Free petroleum hydrocarbon product was encountered in one of the exploratory wells.
- f) Ground water samples contained dissolved petroleum hydrocarbons in concentrations as high as the following values:

<u>Constituent</u>	<u>Concentration</u>
Benzene	27 mg/l
Toluene	55 mg/l
Xylenes	74 mg/l
Total Petroleum Hydrocarbons	181 mg/l

mg/l = milligrams per liter

- g) Dissolved petroleum hydrocarbon product was found in the ground water taken from an offsite well drilled on the opposite side of Front Street.
4. Some of the wells have been manually bailed on a weekly basis to recover free petroleum hydrocarbon product. By letter dated December 9, 1985, Chevron USA, Inc. presented the most recent water sample analyses. Only a portion of the monitoring wells were sampled and the results show that the offsite well on the opposite side of Front Street contains 29 ppm total petroleum hydrocarbons. Free petroleum hydrocarbon product is still present on the water table in at least one of the onsite wells.
5. The *Comprehensive Water Quality Control Plan Report, San Diego Basin (9)* (Basin Plan) was adopted by this Regional Board on March 17, 1975; approved by the State Water Resources Control Board on March 20, 1985; and updated by the Regional Board on February 27, 1978; March 23, 1981; January 24 and October 3, 1983; and August 27, 1984. The 1978, 1981, 1983 and 1984 updates were subsequently approved by the State Board.
6. The Basin Plan established the following beneficial uses for the ground water in the Murrieta Hydrographic Subunit:
- a) Municipal and Domestic Supply
  - b) Agricultural Supply
  - c) Industrial Service Supply
  - d) Industrial Process Supply
  - e) Ground Water Recharge
7. The Basin Plan established the following beneficial uses for the surface waters in the Murrieta Hydrographic Subunit:
- a) Municipal and Domestic Supply
  - b) Agricultural Supply
  - c) Industrial Service Supply
  - d) Industrial Process Supply
  - e) Water Contact Recreation
  - f) Non-contact Water Recreation
  - g) Wildlife Habitat

8. On October 28, 1968 the State Water Resources Control Board adopted Resolution 68-16, *Statement of Policy With Respect to Maintaining High Quality Waters in California* (hereinafter referred to as the Nondegradation Policy). Under the terms and conditions of the Nondegradation Policy, the existing (pre-discharge) ground water quality of the Murrieta Hydrographic Subunit must be maintained unless it is demonstrated that a decrease in water quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect beneficial uses, and (3) will not result in water quality less than prescribed in the Basin Plan or other adopted policies.

9. Section 13050(1) of the California Water Code defines "pollution" as follows:

"Pollution means an alteration of the quality of the waters of the State by waste to a degree which unreasonably affects (1) such waters for beneficial uses, or (2) facilities which serve such beneficial uses."

10. To protect the municipal and domestic supply beneficial use listed in Finding 6, it is necessary that the ground water not contain constituents in concentrations exceeding the following water quality criteria:

<u>Constituent</u>	<u>Maximum Allowable Concentration</u>	
Benzene	0.67 µg/l	1 µg/l
Toluene	14.3 mg/l	150 µg/L
Ethylbenzene	1.4 mg/l	700 µg/L
Ethylene dibromide	0.05 µg/l	?
Total Petroleum Hydrocarbons	1.0 mg/l	?

11. The presence of the dissolved petroleum hydrocarbon constituents listed in Finding 3(f) constitutes a pollution of the State's waters as defined in Finding 9 in that it contains constituents exceeding the levels listed in Finding 10.

12. This enforcement action is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15321, Chapter 3, Title 14, California Administrative Code.

*IT IS HEREBY ORDERED*, That pursuant to Section 13304 of the California Water Code:

1. Chevron USA, Incorporated shall submit a report to this office no later than April 30, 1986 identifying and developing a range of remedial action alternatives to clean up the contamination resulting from the petroleum hydrocarbon discharge from Chevron USA, Incorporated Service Station No.

IMPLIES  
↓  
submitted 9/25/86  
according to Addendum 1

1870. The report shall determine and present cost estimates for a cleanup strategy corresponding to each of the following potential final cleanup levels:

- a) Treatment and/or removal of the contaminated ground water to attain the naturally occurring background concentrations for the following constituents in the underlying ground water aquifer:

- (1) Benzene
- (2) Toluene
- (3) Total Xylenes
- (4) Ethylbenzene
- (5) Total petroleum hydrocarbons
- (6) Ethylene dibromide

This cleanup alternative represents basically complete cleanup of contamination resulting from the petroleum hydrocarbon discharge.

- b) Treatment and/or removal of the contaminated ground water to attain the following drinking water criteria in the affected ground water:

<u>Constituent</u>	<u>Maximum Concentration</u>
Benzene	0.67 µg/l
Toluene	14.3 mg/l
Ethylbenzene	1.4 mg/l
Total Petroleum Hydrocarbons	1.0 mg/l
Ethylene dibromide	0.05 µg/l

- c) A remedial action alternative proposing the attainment of petroleum hydrocarbon concentrations in the affected ground water contamination zone which concedes the contaminated ground water to a degraded status. Under this alternative, the proposed final cleanup levels may be less stringent than those in (a) or (b). Under this alternative it must be conclusively demonstrated that migration of petroleum hydrocarbon contaminated ground water to Murrieta Creek will not result in the discharge of contaminated ground water containing constituents in excess of the following limitations:

<u>Constituent</u>	<u>Maximum Concentration</u>
Benzene	0.67 µg/l
Toluene	14.3 mg/l
Ethylbenzene	1.4 mg/l
Ethylene dibromide	0.05 µg/l
Total Petroleum Hydrocarbons	1.0 mg/l

All variables associated with this alternative (e.g., ground water velocity field, dispersion coefficients, hydraulic conductivity, adsorption constants, porosity, etc.) must be fully identified and evaluated to a high level of confidence. It will also be necessary

to establish, to the satisfaction of the Regional Board, that the proposed petroleum hydrocarbon concentrations would comply with the following criteria in accordance with the State's Nondegradation Policy:

- (1) The proposed petroleum hydrocarbon concentrations to be attained in the affected ground water contamination zone would not, upon migration to Murrieta Creek, alter the quality of the surface water to a degree which unreasonably affects the beneficial uses listed in Finding 7.
  - (2) The proposed petroleum hydrocarbon concentrations to be attained in the affected ground water contamination zone will be consistent with the maximum benefit to the people of the State.
  - (3) The proposed petroleum hydrocarbon concentrations to be attained in the affected ground water contamination zone will not result in water quality less than prescribed in the Basin Plan or other adopted policies.
2. The cleanup alternatives required under Directive 1 of this Order will be evaluated in detail by Regional Board staff. This evaluation will include the technical considerations, estimated costs and anticipated water quality impacts associated with each alternative. Based on this evaluation, a specific cleanup alternative will be selected by Regional Board staff for implementation. Upon notification by the Executive Officer, Chevron USA, Inc. shall implement the cleanup alternative selected by Regional Board staff. If Chevron USA, Inc. wishes to implement cleanup alternative 1(a), then Chevron USA, Inc. need not develop cleanup strategies corresponding to cleanup alternatives 1(b) and 1(c). If Chevron USA, Inc. wishes to implement cleanup alternative 1(b), then the company need not develop a cleanup strategy corresponding to cleanup alternative 1(c).
  3. In the interim period until a final cleanup alternative is selected for implementation, Chevron USA, Inc. shall continue to take:
    - a) Effective remedial action to immobilize the plume of petroleum hydrocarbon contaminated ground water.
    - b) Effective remedial action to remove all free petroleum hydrocarbon product from the ground water.
    - c) Effective remedial action to protect the water quality and beneficial uses of Murrieta Creek.
  4. The report required under Directive 1 shall also include the following information: Results of chemical analyses on ground water samples from a sufficient number of wells to define the horizontal and vertical extent of the plume of petroleum hydrocarbon contaminated ground water. At

least one sample from near the center of the plume shall be analyzed for the constituents listed in Directive 1(a) while the rest of the water samples may be analyzed for Total Petroleum Hydrocarbons only.

5. Chevron USA, Inc. shall dispose of petroleum hydrocarbon contaminated ground water and/or soil in accordance with all applicable local, state, and federal regulations.
6. Chevron USA, Inc. shall, upon implementation of the selected cleanup alternative, submit quarterly reports discussing the cleanup program status and the progress made towards attaining the final cleanup criteria. Specific information to be included in the quarterly progress reports will be determined by Regional Board staff upon selection of the final cleanup alternative.

Directive #7 added.  
w/ addendum 7/27/87

*Ladin H. Delaney*

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LADIN H. DELANEY  
Executive Officer

Date:

SH:vn