

ORIGINAL CAO: MAY 13, 1991
ADDENDUM 1: JULY 26, 1991
②: 10/15/88
③: June 14, 1992

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

CLEANUP AND ABATEMENT ORDER NO. 91-45

[7/26/91]

REDEVELOPMENT AGENCY OF THE CITY OF SAN DIEGO
303 MARKET STREET

G.T.F. PROPERTIES
AND
SHELL OIL COMPANY - RALPH'S
148 MARKET STREET

DEC 1 1994

GOLDEN WEST HOTEL
AND
UNOCAL CORPORATION
235 MARKET STREET

VAPOR EVT. 1994

GREYHOUND LINES, INCORPORATED
AND
TRANSPORTATION LEASING COMPANY
GREYHOUND MAINTENANCE CENTER
539 FIRST AVENUE

JUN 3 1994

FOR
PETROLEUM HYDROCARBON CONTAMINATION OF GROUND WATER
IN THE DOWNTOWN SAN DIEGO AREA
SAN DIEGO COUNTY

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

1. In 1987, during routine exploratory boring, a subsurface hydrocarbon plume was discovered near the intersection of Market Street and First Avenue in downtown San Diego. The subsurface plume is composed of petroleum hydrocarbon with a carbon chain which ranges from gasoline to diesel and appears to be an accumulation of several coalescing sources. The plume has an areal extent which covers all or portions of six city blocks.
2. On May 19, 1989, the Regional Board Executive Officer issued cleanup and abatement orders to the following responsible parties:
 - a. No. 89-48 to G.T.F. Properties and Shell Oil Company, 148 Market Street;
 - b. No. 89-49 to Greyhound Lines Inc., 539 First Avenue;

- c. No. 89-50 to the Redevelopment Agency for the City of San Diego, 303 Market Street;
- d. No. 89-51 to Golden West Hotel and UNOCAL Corporation, 235 Market Street.

These orders, which remain in effect, were issued pursuant to Section 13304(a) of the California Water Code for discharges of petroleum hydrocarbon to the vadose zone and underlying ground water.

These sites are within the San Diego Mesa Hydrographic Subunit (8.2) of the Coronado Hydrographic Unit (8.0).

- 3. The cleanup and abatement orders referenced above established the following directives:
 - a. The discharger(s) shall conduct a subsurface investigation and submit the results in a report to this office, no later than August 31, 1989, which characterizes the vertical and horizontal extent of petroleum hydrocarbon contamination in the soil and ground water (both free product and dissolved) resulting from the unauthorized release from the subject site.
 - b. The discharger(s) shall submit a remedial action strategy proposal, no later than October 16, 1989, which addresses the removal and/or treatment of the soil contamination.
 - c. The discharger(s) shall submit a remedial action strategy proposal, no later than November 30, 1989, which addresses the removal of any free product and the removal and/or treatment of the ground-water contamination.
- 4. These sites are within the Marina Redevelopment Project in the center city area of the City of San Diego. The project is being administered by the Redevelopment Agency of the City of San Diego. Centre City Development Corporation (CCDC) is a nonprofit corporation established by the City of San Diego to administer downtown redevelopment projects, including the Marina Redevelopment Project.
- 5. By letter dated August 20, 1990, CCDC on behalf of the named responsible parties, submitted a remedial action plan (RAP), prepared by their consultant Geomatrix Consultants, to address the floating (free phase) petroleum hydrocarbon and ground water in the Marina Redevelopment Project area. The RAP indicates the following:

- a. The free product is generally stable and does not appear to be significantly migrating. The dissolved phase plume also has not shown significant migration.
 - b. Based on field measurements and ground-water modelling, the free product and dissolved phase plumes do not presently pose a threat to San Diego Bay. Continued ground-water monitoring will help verify the stability of the plumes.
 - c. Geomatrix concludes that by reducing the total mass of hydrocarbons in the subsurface, the potential future migration of hydrocarbons will be greatly reduced.
 - d. The parties propose to institute a petroleum hydrocarbon (product)-only extraction system which consists of a fixed petroleum hydrocarbon extraction system and a manual, periodic well skimming program. The fixed extraction system will be installed in the wells which have the greatest measured thickness of free product and will continually and automatically extract free product. The periodic well skimming program will include periodic removal of free product in those wells with a free product thickness >0.5 inch. They also plan to conduct a ground-water monitoring program.
6. Prior to initiating petroleum hydrocarbon recovery, monitoring wells which exhibit >0.5 inch of free phase hydrocarbon will be manually skimmed. Product recovery data will be used to evaluate which wells are best suited for inclusion in the fixed hydrocarbon extraction system.
 7. This Order has been issued in response to State Board Order No. WQ 90-2, "IN THE MATTER OF THE PETITION OF UNION OIL COMPANY OF CALIFORNIA FOR REVIEW OF CLEANUP AND ABATEMENT ORDER NO. 89-51 OF THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO REGION", which recommended issuance of a consolidated order. This Order only addresses ground-water contamination and cleanup. These responsible parties are responsible for remediation of soils on each individual site under Cleanup and Abatement Order Nos. 89-48, 89-49, 89-50, and 89-51 and addenda.
 8. 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, 1975; and updated by the Regional Board on February 27, 1978; March 23, 1981; January 24 and October 3, 1983; August 27, 1984; December 16, 1985; March 24,

1986; November 16 and December 21, 1987; April 25, 1988; April 10, 1989 and March 12, 1990. The updates were subsequently approved by the State Board.

9. The Basin Plan established no beneficial uses for surface or ground waters in the San Diego Mesa Hydrographic Subunit.
 10. The quality of the ground water of the San Diego Mesa Hydrographic Subunit is subject to the provisions of the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California." This policy is incorporated in the Basin Plan. Under the terms and conditions for Resolution No. 68-16, the existing (predischarge) quality of ground water in the San Diego Mesa 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 that prescribed in the Basin Plan or other adopted policies.
 11. The Basin Plan contains the following prohibition:

"Dumping or deposition of oil, garbage, trash or other solid municipal, industrial or agricultural waste into natural or excavated sites below historic water levels or deposition of soluble industrial wastes at any site is prohibited, unless such site has been specifically approved by the Regional Board for that purpose."
- The subject site has not been specifically approved by the Regional Board for the above purpose.
12. These discharges have polluted and threaten to further pollute ground water of the basin.
 13. Regional Board files indicate that the ground water has a total dissolved solids (TDS) concentration that ranges from 1,085 to 3,080 parts per million (ppm) and, under the state definition, qualifies as a potential underground source of drinking water. Presently, the ground water is not being used as a drinking water source. However, some time in the future this water source may be utilized. The discharge of petroleum hydrocarbons degrades the existing water quality and renders it unusable for drinking water unless the ground water is treated.

14. The ground water beneath the area is in continuity with waters of the bay. However, ground-water monitoring data indicates that the free product and dissolved phase plumes have not migrated to the bay.
15. 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 Code of Regulations.

IT IS HEREBY ORDERED, that pursuant to Section 13304 of the California Water Code, the Redevelopment Agency of the City of San Diego; G.T.F. Properties, Shell Oil Company; Golden West Hotel, Union Oil Company; Greyhound Lines, Inc., and Transportation Leasing Company (hereinafter the dischargers) shall comply with the following directives:

1. The dischargers shall implement the Remedial Action Plan, dated August 17, 1990, prepared by Geomatrix Consultants, and institute free product removal no later than July 1, 1991. The implementation of the RAP shall include the following:
 - a. On a monthly basis, the dischargers shall measure the free product and water levels in all monitoring wells.
 - b. On a quarterly ^{reduce?} basis, for the first year of implementation, the dischargers shall sample the following ground-water monitoring wells and analyze them using EPA Methods 8015 (modified for gasoline and diesel), 8020 (aromatic hydrocarbons), and 7040 (organic lead):

GE-2, GE-3, GH-7, CC-10, CC-18, CC-19, NESD-3, and any additional well(s) specifically approved by the Regional Board Executive Officer.

Following the first year, the above wells shall be sampled and analyzed semi-annually.

- c. On an annual basis, following the first year, the dischargers shall sample all wells listed under Directive 1.b., above, and the following ground-water monitoring wells for the same constituents as listed under Directive 1.b.:

OMW-8, BW-13, CC-4, CC-15, CC-15, and any additional well(s) specifically approved by the Regional Board Executive Officer.

2. The dischargers shall continue free phase petroleum hydrocarbon removal until such time that they can demonstrate to the Regional Board Executive Officer's satisfaction that the technically recoverable free phase petroleum hydrocarbon on the ground water has been adequately removed in accordance with the directives of this cleanup and abatement order.
3. On those wells not included in the fixed extraction system that exhibit >0.5 inches of free hydrocarbon, the dischargers shall manually skim those wells on a monthly basis until January 1, 1992. At that time staff will reevaluate the efficiency of whole extraction system and determine if the monthly well skimming should continue.
4. The dischargers shall submit monitoring reports to this office, in accordance with the schedules in Directive No. 1 above, which describe the progress made in the cleanup of the free phase hydrocarbon and shall demonstrate that the dissolved petroleum hydrocarbons have not migrated and remain immobilized. The reports shall include, but not be limited to, the following information:
 - a. The amount of petroleum hydrocarbon recovered for the month, cumulative totals, and operational details pertinent to the extraction system.
 - b. Monthly water levels and product thickness in all wells (to the nearest 0.01 foot). These data shall be included in the quarterly, semi-annual, and annual reports.
 - c. A site map depicting hydrologic contours showing ground-water flow patterns.
 - d. A site map depicting the boundary of the free product and dissolved phase plumes.
 - e. Any and all additional monitoring data results not specifically directed by this Order.

Quarterly monitoring reports shall be submitted to this office in accordance with the following schedule:

<u>Sampling Period</u>	<u>Report Due Date</u>
January - March	April 30
April - June	July 30
July - September	October 30
October - December	January 30

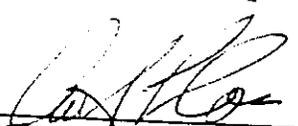
Semi-annual monitoring reports shall be submitted to this office in accordance with the following schedule:

<u>Sampling Period</u>	<u>Report Due Date</u>
January - June	July 30
July - December	January 30

Annual monitoring reports shall be submitted to this office by **January 30** of each year.

5. If, through ground-water monitoring, the dissolved phase hydrocarbon is shown to be significantly migrating, then ground-water remediation may become necessary.
6. The dischargers shall dispose of all ground water polluted with petroleum hydrocarbons in accordance with all applicable local, state, or federal laws and regulations.
7. After the dischargers demonstrate to the Regional Board Executive Officer's satisfaction that the technically recoverable free product has been removed, the dischargers shall continue to monitor the ground water and submit semi-annual monitoring reports in accordance with Directive No. 2 of this Order for a period of five years. If at any time during this post-cleanup monitoring the data indicate that the free product has not been mitigated, the discharger shall immediately resume appropriate remedial cleanup actions.
8. Upon adoption of this order, the ground-water remediation directives herein shall supersede the ground-water directives in Cleanup and Abatement Order Nos. 89-48, 89-49, 89-50, and 89-51 and addenda. Other than the ground-water remediation directives, these previously issued orders remain in effect until rescinded by the Regional Board.
9. Any necessary soil remediation shall be in accordance with the directives in each responsible parties respective Cleanup and Abatement Order.

Ordered by: _____


ARTHUR L. COE
Executive Officer

Date: MAY 13, 1991