CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NUMBER: 90-113

WASTE DISCHARGE REQUIREMENTS FOR WATER RECLAMATION FOR:

CHEVRON USA FUEL TERMINAL # 1001272
1020 BERRYESSA ROAD
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Chevron USA, hereinafter called the discharger, by application dated September 5, 1989, has applied for issuance of waste discharge requirements for irrigation of up to 6400 gallons per day from cleanup of onsite polluted groundwater.

2. The discharger owns the site located at 1020 Berryessa Road, Santa Clara County near the intersection of U.S. Highway 101 and Berryessa Road.

3. The discharger operates a transfer station at the site. Fuel pipelines deliver petroleum products to a terminal on the site. Fifteen above ground tanks and two below ground tanks store various types of petroleum fuels and lubricating oil.

4. Several spills and leaks were reported for this site between February, 1984 and July, 1986. Subsurface investigations have revealed dissolved and separate-phase petroleum hydrocarbons (HCs) in the soil and groundwater onsite. Metals and VOCs have also been detected in the groundwater onsite. Dissolved and separate-phase Hcs which appear to have migrated from Chevron USA have also been detected at an adjacent facility, Solvent Service Inc.

5. Under Site Cleanup Order 90-015, the discharger has installed a groundwater extraction system as an interim measure to control migration of polluted groundwater onsite. The system includes ten extraction wells and an onsite treatment system (Figure 1). The extraction system will pump at an estimated rate of 6400 gallons per day. The treatment system consists of an oil/water separator, air stripper, and carbon adsorption beds. The treatment system does not include a metals extraction component.

6. Sampling of individual extraction wells was performed in April, 1990. Diesel concentrations were reported as high as 9600 ppb, gasoline concentrations as high as 86000 ppb and

benzene as high as 7600 ppb. 1,2-dichloroethane was reported as high as 29 ppb. Analysis for metals was also performed. Inorganic concentrations were reported as high as 100 ppb arsenic, 240 ppb nickel, 81 ppb chromium, 590 ppb zinc, and 70 ppb lead.

7. The discharger has considered the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. Discharge to a POTW is not feasible since the City of San Jose does not allow the long term discharge of treated groundwater into their system. The discharger has determined that reuse is feasible and proposes to operate onsite landscape irrigation on an interim basis for a period of one year per plan submitted on December 14, 1990. A landscape irrigation system has been installed along the western, northern and eastern perimeters of the site (Figure 1) and is capable of reusing 100 percent of the treated groundwater. While the Board supports the proposed reuse of treated groundwater, the intent will be to further pursue a form of reuse that will be **in place of** other potable water uses.

8. A landscape irrigation system as proposed may contribute further pollution to the groundwater by percolation through an unsaturated zone containing pollution. In this regard, the discharger has submitted an evaluation of infiltration capacity for onsite soil and have recommended a maximum irrigation rate.

9. The discharger has submitted a proposed plan, dated June 19, 1990 for baseline soil, groundwater and soil moisture sampling in the area to be irrigated to evaluate the impact of irrigation on groundwater quality. Regional Board staff has reviewed the plan, has made modifications, and finds it acceptable as modified. Sampling will begin prior to onset of irrigation, and will continue per the schedule of Table 1. of the attached Self-Monitoring Program. Results shall be reported per Provision 8 and in quarterly self-monitoring reports.

10. The discharger has submitted a proposed contingency plan, dated June 19, 1990 for disposal of treated groundwater if soil saturation occurs. Regional Board staff has reviewed the plan, has made modifications and finds the plan acceptable as modified. The plan includes decreasing extraction volumes, increasing storage capacity, and temporary sanitary sewer discharge. Temporary termination of extraction is not an acceptable contingency plan.

11. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 as well as several subsequent amendments. The Basin

Plan contains water quality objectives for Coyote Creek, South San Francisco Bay, and the groundwater.

12. The existing and potential beneficial uses of the closest surface water, Coyote Creek, include:

    a. Marine habitat
    b. Agricultural supply
    c. Navigation
    d. Contact water recreation
    e. Warm fresh water habitat
    f. Wildlife habitat
    g. Industrial process supply
    h. Ocean commercial and sport fishing
    i. Preservation of areas of special biological significance
    j. Fish migration

13. The existing and potential beneficial uses of South San Francisco Bay include:

    a. Contact and non-contact water recreation
    b. Wildlife habitat
    c. Preservation of rare and endangered species
    d. Estuarine habitat
    e. Fish spawning and migration
    f. Industrial service supply
    g. Shellfish fishing
    h. Navigation
    i. Ocean commercial and sport fishing

14. The existing and potential beneficial uses of the underlying groundwaters are:

    a. municipal and domestic supply
    b. industrial supply
    c. agricultural supply

15. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any non-tidal water, dead-end slough, similar confined water, or any immediate tributary thereof".

16. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 15 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.

17. Exceptions to the prohibitions referred to in Finding 16 are warranted because this discharge is an integral part of a

program to cleanup polluted ground water and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would affect beneficial uses. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon Section B.1.e.

18. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The discharger's ground water extraction and treatment systems and associated operation, maintenance, and monitoring plans constitute an acceptable control program for minimizing the discharge of toxicants to waters of the State.

19. Effluent limitations of this Order are based on the Basin Plan, State and U. S. Environmental Protection Agency (EPA) plans and policies, and best engineering and geologic judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document" was also considered in the determination of effluent limits.

20. The project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act in accordance with Section 15304, Title 14, of the California Administrative Code.

21. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

22. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder shall comply with the following:

A. <u>EFFLUENT LIMITATIONS</u>

1. Purge water will be generated during quarterly groundwater sampling. This purge water may be introduced into the groundwater treatment system.

2. Upon adoption, effluent discharge shall not contain constituents in excess of the limits contained in Table 1 below:

TABLE 1

Constituent	Instantaneous Maximum (ug/l)
VOCs	
1,1-dichloroethene	5
(cis + trans)-1,2-dichloroethene	5
1,2-dichloroethane	0.5
acetone	50
total VOCs	50
Aromatics	
total petroleum hydrocarbons as gasoline and diesel	50
Metals	
arsenic	200
cadmium	100
chromium	110
copper	200
cyanide	25
lead	56
mercury	10
nickel	71
silver	23
zinc	580

3. The Ph of the discharges shall not exceed 8.5 nor be less than 6.5.

B. PROHIBITIONS

1. The treatment, storage and discharge of treated waste groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more

stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

3. The treatment or storage of waste shall not degrade the quality of any usable groundwater.

4. There shall be no bypass or overflow of untreated or inadequately treated waste groundwater to waters of the State from the dischargers' wastewater collection, treatment or distribution facilities.

5. No waste groundwater shall be allowed to escape from the designated disposal areas as either surface flow or as airborne spray.

6. The discharge of waste other than treated waste groundwater, as defined in this Order, is prohibited.

7. The discharge of waste groundwater to disposal areas other than those stipulated in this Order is prohibited.

8. Irrigation of property perimeter shall not exceed the field capacity of the soil in any given area. A network of permanently fixed lysimeters or tensiometer shall be installed prior to start-up of irrigation to measure field capacity of the soil.

C. PROVISIONS

1. The discharger shall comply with all sections of this order immediately upon adoption by the Board and upon starting any discharge.

2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

3. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

4. Any discharge to a location other than the discharge point(s) specified in this Order will require a modification to this Order or submission of a second WDR application.

5. The discharger shall maintain a copy of this order at the site so as to be available at all times to site operators.

6. The discharger has installed a landscape irrigation system capable of reusing 100 percent of the treated groundwater.

   The discharger shall submit a proposal of water reclamation that will reuse treated groundwater **in place of** other potable water uses. The discharger has proposed the following reclamation options:

   -washing down loading racks
   -washing out trucks
   -flushing toilets

   The water reclamation proposal shall be acceptable to the Executive Officer and submitted by February 28, 1991. The proposal shall include a schedule for implementation of water reclamation to begin by August 15, 1991.Upon implementation of water reclamation on August 15, 1991, landscape irrigation referred to in Finding 7. and Provision 6. above, shall become a contingency plan for reuse of treated groundwater.

7. The public shall be effectively excluded from the irrigation disposal area by irrigation at night or early morning when wind velocity is minimal.

8. The discharger shall submit a technical report, acceptable to the Executive Officer, by September 1, 1990, presenting and discussing pre-irrigation sampling data as proposed in Finding 9. Discharge will not be permitted prior to this initial soil condition characterization.

   Results of sampling and analyses carried out during the course of the interim irrigation period shall be included in the quarterly self-monitoring reports. A summary report, acceptable to the Executive Officer, presenting all analytical results and evaluating impact of irrigation on groundwater quality shall be submitted by September 30, 1991.

9. The public shall be notified of the use of treated waste groundwater through use of warning signs or similar to comply with this requirement.

10. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be

performed. All laboratories shall maintain quality assurance/quality control records for Board review.

11. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this order.

12. The discharger shall permit the Board or its authorized representatives in accordance with California Water Code Section 13267(c):

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this order;

    b. Access to any records that must be kept under the conditions of this order;

    c. To sample and monitor for the purpose of assuring compliance with this order.

13. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to the following:

    a. This Regional Board at (415) 464-1255; and,

    b. The Office of Emergency Services at (800) 852-7550.

14. The Board will review this order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on August 15, 1990.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Self-Monitoring Program
Site Map

California Regional Water Quality Control Board
San Francisco Bay Region

Self-Monitoring Program
for
Chevron USA Fuel Terminal #1001272
1020 Berryessa Road
San Jose, Santa Clara County

Waste Discharge Requirements
Order No. 90-113

A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16.

2. The principal purposes of a self-monitoring program by a waste discharger are to document compliance with waste discharge requirements and prohibitions established by the Board; to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge; to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

B. Sampling and Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.

2. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health Services. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Specifications for Sampling and Analysis

1. The discharger is required to perform sampling and analysis at the points listed below and according to the schedule in Table 1. All soil sampling shall be conducted coincidentally.

2. <u>Effluent</u>-water sampling points:

E-1 At a point in the effluent conveyance line immediately prior to discharge into the landscape irrigation system.

3. Soil-soil sampling points:

S-1 to S-14 At fixed points spaced equidistantly around areas of irrigation. Discrete samples shall be taken per the schedule at the same or adjacent locations, at a depth of about 4 inches.

S-1' to S-12' At same fixed points as referenced above. Discrete samples for fixed points S-1', S-4', S-8', and S-12' shall be taken at 4 inches and at depths of 2 feet, 4 feet and 6 feet.

TABLE 1

	E-1	S-1 to S-14	S-1'to S-12'
Wastewater flowrate (gal./day)	D		
Soil moisture (tensiometer)	I/D/1st Q		
Surface run-off*	D		
TPH as gasoline, diesel	I/M/Q		
Ph, units	I/Q		
EPA 8240	I/Q		
Priority metals**	I/W/Q	I/Q	I/A

D=daily
I/Q= initially upon initial discharge and then quarterly
I/A= initially upon initial discharge and then annually
I/W/Q= initially upon initial discharge, then weekly, then quarterly
I/M/Q= initially upon initial discharge, then monthly, then quarterly

* daily visual confirmation that surface run-off is not occurring

** antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc

D. Records to be Maintained

1. Written reports, calibration and maintenance records, sampling and analytical records, and other compliance records shall be maintained by the dischargers at their facility. The records shall be available at the dischargers' facility for a period equal to the length of this Order. The retention time may be extended due to unresolved litigation or by request from the Regional Board.

2. Tabulation of flow data to include total flow volume per day and minimum/maximum daily flows.

E. Reports to be Filed with the Regional Board

Report of Permit Violations
In the event discharger violates or threatens to violate the conditions of the waste discharge requirements, the discharger shall notify the Regional Board immediately. Notice by telephone may be made to (415) 464-1255, with a written confirmation report forwarded within five working days of the violation.

Self-Monitoring Reports
Written reports shall be filed regularly for each calendar quarter, and shall be submitted by the last day of the month following the quarter.

Written reports shall include:

1) Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report shall accompany each report. Include any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If no violations have occurred in the current report period this shall be stated in the letter of transmittal. Include reference to past reporting violations and corrective measures taken.

2) Data - Include flowrate data, sampling methodologies, analytical results for the sampling schedule of Table 1. Analytical results shall be presented in tabular form by station, date and type of sample.

3) Site map - A site map for all discharge areas shall accompany quarterly reports. Show locations of sample and observation stations, and any violation locations and effects.

4) Discussion of Irrigation Impact- A discussion of irrigation impact to affected soil and groundwater shall accompany each report. Included in the self-monitoring report for the first full calendar quarter shall be proposals for modification of monitoring procedures, sample intervals, sample locations and the irrigation systems to be considered during wet season reclaimed water use. Include soil and groundwater sampling analytical results and soil moisture measurements presented in cumulative tabular form. Sample collection and soil moisture measurements to be made as proposed in the June 19, 1990 plan.

5) Signature - All reports shall be signed by a principal executive at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification: " I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Annual Reporting

By January 31 of each year, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the dischargers into full compliance with the waste discharge requirements. The annual report may include the quarterly report due concurrently.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 90-113;

2. Effective on the date shown below; and,

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.

Steven R. Ritchie
Executive Officer

August 15, 1990
Date Ordered

CONTROL REGISTER
FOR
PRIORITY CORRESPONDENCE

I. SUBJECT/ITEM: CHEVRON USA, WASTE DISCHARGE REQ. File No. 2189.8309(SK)

II. RATIONALE/REASON FOR ACTION AND ADDITIONAL NOTES:

Adoption and transmittal of waste discharge requirements for Chevron Fuel Terminal at 1020 Berryessa Road, San Jose. Adopts waste discharge limitations for ~~gr~~ extracted and treated groundwater and describes water reuse plan, sampling points and self-monitoring schedule.

III. DRAFT PREPARATION/REVIEW/APPROVAL

PREPARED BY MDG DATE 8/24/90

REVIEWED/APPROVED BY MDK DATE 8/27/90

REVIEWED/APPROVED BY [signature] DATE 8/28/90

REVIEWED/APPROVED BY _____ DATE _____

REVIEWED/APPROVED BY _____ DATE _____

IV. CLERICAL PROCESSING

TYPED BY _____ DATE _____

PROOFED WITH _____ DATE _____

V. ORIGINATORS FINAL REVIEW FOR COMPLETENESS & ACCURACY

BY _____ DATE _____

VI. DATE MAILED _____