

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 94-99

WASTE DISCHARGE REQUIREMENTS FOR
LAND TREATMENT OF PETROLEUM-HYDROCARBON-CONTAMINATED SOILS

DOMINGUEZ ENERGY, LIMITED PARTNERSHIP
(Dominguez Hills Oil Field-Reyes Lease Northwest
Carson California)

*original
permit*



(FILE NO. 86-75)

The California Regional Water Quality Control Board, Los Angeles Region, finds:

1. Dominguez Energy, a limited partnership, (hereinafter called Dominguez Energy L.P.) operates the Reyes Lease (about 350 acres) in the Dominguez Oil Field, located at 1556 East Victoria Street in the City of Carson. Dominguez Energy L.P. has filed a report of waste discharge for land treatment of petroleum-hydrocarbon-contaminated drilling mud and soil on the northwestern 142 acres of the Dominguez Oil Field Reyes Lease, which is an active oil and gas producing field, in operation since 1923.
2. Dominguez Energy L.P. has implemented land treatment of oil field drilling muds and petroleum hydrocarbon-contaminated soil from the Reyes Ravine of the Dominguez Oil Field under the Waste Discharge Requirements of Order No. 89-042, adopted by this Board on April 24, 1989. In addition, Dominguez Energy L.P. has implemented land treatment of similar materials on the west side of Wilmington Avenue under Board Order No. 88-110 adopted on October 24, 1988, and from the Reyes Well No. 27 under General Waste Discharge Requirements, Order No. 90-148, adopted on October 20, 1990.
3. Dominguez Energy L.P. proposes to land treat approximately 80,000 cubic yards of oil field drilling muds and petroleum hydrocarbon-contaminated soil excavated from the northwestern portion of the Reyes Lease. The primary purpose for this activity is to clean up contaminated soil on site resulting from previous oil-production operations.
4. Reyes Well Number 27 was located about 80 feet west of the centerline of Wilmington Avenue and 2,400 feet south of Victoria Street. The well was excavated in 1991 for abandonment in accordance with California Division of Oil and Gas requirements. The excavation area associated with the

September 26, 1994

abandonment of the well was about 90 feet by 200 feet by 60 feet below street level. An 8 feet by 8 feet area immediately around the well was extended to 90 feet below street level. The excavation grew to this size to remove hydrocarbon contaminated soils. The excavation was discontinued due to safety concerns associated with the stability of the excavation adjacent to Wilmington Avenue, a major thoroughfare for the area.

- Investigation of the remaining contamination underlying and adjacent to the Reyes Well No. 27 excavation identified two zones of contamination, the first, estimated to be about 16,000 cubic yards, extended from 60 feet (the bottom for most of the excavation) to about 110 feet below street level over an area of about 80 feet by 105 feet. The second, estimated to be about 64,000 cubic yards, extended from 130 feet to 240 feet below street level over an area of about 120 feet by 130 feet. The maximum soil contamination identified in these two zones are tabulated below:

Zone Depth range below street in feet)	Maximum TRPH (mg/kg)	Maximum TPH- Gasoline (mg/kg)	Maximum Benzene (mg/kg)	Maximum Toluene (mg/kg)	Maximum Ethylbenzene (mg/kg)	Maximum Xylene (mg/kg)
First (60 - 110)	43,000	770	1.4	7.0	13	19
Second (130 - 240)	35,000	1,300	2.4	3.1	12	23

Also, halogenated VOCs, including carbon tetrachloride, chlorobenzene, chloroform, 1,1-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene, trichloroethylene, and 1,1,1-trichloroethane, were identified in boring 3 - 105 feet below street level. No other samples at the site contained halogenated VOCs, except methylene chloride which was reported to be a laboratory contaminant.

- Dominguez Energy L.P. concluded that the remaining contamination posed no immediate risk to the ground water or human health if allowed to remain in place, and that in-situ remediation will be the only practical means for remediation of this material. On November 20, 1992, staff concurred with this conclusion and allowed Dominguez Energy L.P. to backfill the excavation.
- Ground water was encountered at about 235 feet below street level in boring number 4 near the Reyes 27 Well. Analyses of this water identified 600 mg/l TRPH, 2.0 mg/l TPH-gasoline, and benzene 1.5 µg/l. Dominguez Energy L.P. stated that this

may be perched water and could have been impacted by the large volume of fresh water and drilling mud injected during the abandonment of the Reyes 27 well. On July 25, 1994, Dominguez Energy L.P. was directed to determine if the ground water identified is in fact perched, and determine the impact of the above contaminants on the ground water.

8. Ground water was reported on the Los Angeles County Department of Public Works Coastal Plain Fall 1993 ground water contour map to be at -50 feet mean sea level or at about 225 feet below ground surface (bgs) near and east of the site. However, a restriction or barrier to ground water movement runs through the site. The depth to ground water at a well (LACDPW Flood Control District Well 853) about 1,500 feet northwest of the site was 224.7 feet bgs when it was last gauged on April 9, 1979. Ground water in the vicinity of the site flows to the south and southeast.
9. The Reyes Lease is believed to be underlain by at least two ground water aquifers: a merged Lynwood/Silverado aquifer¹, the principal ground water source for the region, at a depth of about 270 feet bgs and the deeper Sunnyside aquifer at about 600 feet bgs. Between the Silverado and Sunnyside aquifers is a 150 foot thick blue clay layer that functions as an aquitard.
10. The Regional Board adopted a revised Water Quality Control Plan for the Los Angeles River Basin (4B) on June 3, 1991. The Plan contains water quality objectives for ground waters in the Coastal Plain of Los Angeles County where the Reyes Lease is located. The requirements contained in this Order, as they are met, will be in conformance with the goals of the Water Quality Control Plan.
11. Ground water in the Coastal Plain is beneficially used for municipal and domestic supply, agricultural supply, and industrial service and process supply. Ground water in the lower aquifers is usually of the best quality and quantity.
12. Section 2532(b)(5) of Chapter 15, Division 3, Title 23 of the California Code of Regulations, requires Regional Boards to specify, in Waste Discharge Requirements, the elements of land treatment programs by dischargers who treat or dispose of

¹ Woodward-Clyde, "Land Treatment Site Closure Report", page 2-2, April 1994.

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wastes in land treatment waste management units. The requirements contained in this Order, as they are met, will be in conformance with the goals of Chapter 15 regulations for land treatment units.

13. This project involves an action taken for the protection of the environment and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, commencing with Section 21100) in accordance with Section 15321, Chapter 3, Title 14, of the California Code of Regulations.

The Regional Board has notified Dominguez Energy L.P. and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

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

IT IS HEREBY ORDERED that the Dominguez Energy, Limited Partnership, 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. Waste discharge requirements:

1. Wastes discharged at the Northwestern Reyes Lease site for biodegradation by a land treatment process shall be limited to oil field drilling mud and petroleum hydrocarbon-contaminated soil, as proposed. The land treatment process, which includes nutrients and/or bacterial addition to soil, and soil aeration, shall be conducted in such a way that no contaminants are added to surface water or ground waters.
2. Neither the disposal nor any handling of waste shall cause pollution, or nuisance odor at the Northwestern Reyes Lease boundary.
3. No off-site soils shall be imported for treatment at this site unless specifically approved by the Executive Officer. Treated soils may be reused at the Reyes Lease, after achieving specified cleanup values, or at other specific locations following prior written approval by the Executive Officer.

4. The following cleanup values shall apply for backfill at the site:

<u>Parameter</u>	<u>Limit</u> (mg/kg)
Total Petroleum Hydrocarbons (EPA Method 8015 - Diesel and C ₄ -C ₂₈ HC Scan)	1,000
(EPA Method 8015 - Gasoline)	100
Aromatic Volatile Organic Compounds (VOCs)	
Benzene	0.30
Toluene	1.18 ¹
Ethylbenzene	0.81 ¹
Xylene	0.48 ¹
Halogenated VOCs	
Carbon tetrachloride	0.14 ¹
Chlorobenzene	0.14 ¹
Chloroform	0.14 ¹
Dichlorobenzene (total)	0.14 ¹
Dichloroethane (total)	0.14 ¹
Dichloroethylene (total)	0.14 ¹
Methylene Chloride	0.50
Tetrachloroethylene	0.14 ¹
Trichloroethylene	0.14 ¹
1,1,1-Trichloroethane	0.20
Semi-Volatile Organic Compounds	
Di-n-butylphthalate	35.0 ²
bis (2-Ethylhexyl)Phthalate	5.0 ³

¹ Limits based on the August 1994 draft attenuation factor method using an attenuation factor of 28. The site has generally 11 feet of gravel, 202 feet of sand, and 22 feet of silt above ground water at 235 feet below ground surface.

² Cleanup level determined using an attenuation of ten times the RfD concentration level in water, assuming an ingestion of 2 liters per day of drinking water and a body weight of 70 kg.

³ Cleanup limit derived using an attenuation factor of one-hundred times the *de minimis* risk concentration level, assuming an ingestion of 2 liters per day of drinking water and a body weight of 70 kg.

5. Adequate facilities shall be provided to divert away from the treatment area all storm water runoff.
6. The treatment area shall be bermed in such a way that storm water falling directly on the treatment area will be contained. Standing water within the contained treatment area shall be pumped down and removed to treatment facilities on site or disposed of at a legal disposal site. For the purpose of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been established by a California Regional Water Quality Control Board and which is in full compliance therewith.

B. Provisions:

1. This Order includes "Standard Provisions Applicable to Waste Discharge Requirements". If there is any conflict between provisions stated herein and the "Standard Provisions Applicable to Waste Discharge Requirements", these provisions stated herein will prevail.
2. A copy of these requirements shall be maintained at Dominguez Energy L.P.'s on-site office and be available at all times to operating personnel.
3. In the event of any change in name, ownership, or control of these facilities, Dominguez Energy L.P. shall notify this Board in writing and shall notify the succeeding owner or operator of the existence of this order by letter, a copy of which shall be forwarded to the Board.
4. Dominguez Energy L.P. must notify this Board by telephone within 24 hours, followed by written notification within one week, in the event they are unable to comply with any of the conditions of this Order due to:
 - a. Breakdown of waste treatment equipment,
 - b. Accidents caused by human error or negligence,
 - c. Other causes such as acts of nature, or
 - d. Reyes Lease operations.
5. A plan for remediation of the contamination remaining near Reyes Well Number 27, if required, shall be

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submitted to this Regional Board before any development on this site is initiated during the life of this Order.

6. At least 180 days prior to closure of the land treatment units, Dominguez Energy, L.P. shall submit operation plans for precipitation and drainage controls, any required cover, a closure and post-closure maintenance plan acceptable to the Executive Officer as set forth in Article 5 and Sections 2581, 2594 through 2597 of Chapter 15, Title 23, California Code of Regulations.
7. In accordance with Section 13260 of the California Water Code, Dominguez Energy L.P. shall file a report with this Regional Board of any material change or proposed change in the character, location or volume of the discharge.
8. In accordance with Section 13267 of the California Water Code, Dominguez Energy L.P. shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer. The specifications are subject to periodic revisions as may be warranted.
9. The Regional Board and other authorized representative shall be allowed:
 - 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 copy any records that are kept under the conditions of this order;
 - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this order; and
 - d. To photograph, sample, and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the California Water Code.
10. In accordance with Section 13263 of the Water Code, these waste discharge requirements are subject to periodic review and revision by this Regional Board.
11. These requirements do not exempt the discharger from compliance with any other laws, regulations, or

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ordinances which may be applicable. They do not legalize these waste treatment and disposal facilities and they leave unaffected any further restraints on those facilities that may be contained in other statutes or required by other agencies.

I, Robert P. Ghirelli, 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, Los Angeles Region on September 26, 1994.



ROBERT P. GHIRELLI, D.Env.
Executive Officer

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI 7438
FOR
DOMINGUEZ ENERGY, LIMITED PARTNERSHIP
LAND TREATMENT OF PETROLEUM CONTAMINATED SOILS

(FILE NO. 86-75)

Dominguez Energy L.P. shall implement this Monitoring and Reporting Program on the date of issuance of the Waste Discharge Requirements.

The first monitoring report under this program is due on January 15, 1995, for the fourth quarter 1994. Subsequent quarterly progress and monitoring reports shall be submitted by the date in the following schedule:

<u>Reporting Period</u>	<u>Report Due</u>
January - March	April 15
April - June	July 15
July - September	October 15
October - December	January 15

I. GROUND WATER MONITORING

The land treatment activity specified in these waste discharge requirements are not expected to impact the quality of ground water identified at least 235 feet below ground surface. Therefore, ground water monitoring is not a part of these waste discharge requirements.

II. LAND TREATMENT FACILITY SOIL MONITORING

A soil sampling grid shall be established for the land treatment units (LTUs) and the sampling locations shall be located where representative soil samples can be obtained. Soil samples shall be collected and analyzed for the following Parameters:

<u>Parameter</u>	<u>Unit</u>	<u>Frequency</u> ¹
Bacteria Plate Count	Colonies/gm	Quarterly
Soil Moisture content	%	Quarterly

¹ Final verification samples shall be collected from each 550 cubic yards of treated soil at the end of treatment and just prior to removal and reuse. In the event the land treatment of a lift is completed prior to the due date of the first monitoring report, then final verification samples for the lift shall be collected and analyzed in lieu of the sampling frequency of this Order.

<u>Parameter</u>	<u>Unit</u>	<u>Frequency</u>
Total Petroleum Hydrocarbons (EPA Method 8015-Gasoline, EPA Method 8015-Diesel, and EPA Method 8015-(C ₄ to C ₂₈ Hydrocarbon Scan)	mg/kg	Quarterly ¹

Priority Pollutants

Volatile Organic Compounds (EPA Method 8240 or EPA Methods 8010/8020)	µg/kg	As described ²
Semivolatile Organic compounds (EPA Method 8270)	mg/kg	As described ²

III. GENERAL PROVISIONS FOR SAMPLING AND ANALYSIS

- A. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services, or approved by the Executive Officer. No changes shall be made in sampling points without prior approval of the Executive Officer.
- C. All verification sampling require 72 hours written and verbal notice to the Board in order for staff to participate in the sampling.

IV. SPECIFIC REPORTING REQUIREMENTS

- A. The following technical reports shall be filed with the Regional Board:
 - 1. A work plan and time schedule to characterize all remaining sumps and pits on the Lease must be submitted within 60 days of the adoption of these Waste Discharge Requirements.

¹ Final verification samples shall be collected from each 550 cubic yards of treated soil at the end of treatment and just prior to removal and reuse. In the event the land treatment of a lift is completed prior to the due date of the first monitoring report, then final verification samples for the lift shall be collected and analyzed in lieu of the sampling frequency of this Order.

² Final verification samples shall be collected from each 1,000 cubic yards of treated material at the end of treatment and just prior to removal and reuse.

2. The fourth quarter report of each year, beginning in 1994, shall also serve as an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the year. In addition, Dominguez Energy L.P. shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the waste discharge requirements.
 3. A "Final Closure Report" shall be submitted within 30 days of completing all treatment in the land treatment units. This report shall include analyses of soil samples underlying the treatment cells documenting that any contaminants that may have been released during its life have been remediated.
- B. All technical reports submitted shall contain the following minimum information:
1. Quantity of waste material treated during the reporting period.
 2. Analytical results, from:
 - a. Land treatment zone soil sampling,
 - b. Soil monitoring in the excavated areas, and
 - c. If a lift was removed, all data collected during the reporting period verifying that cleanup levels set by the Executive Officer have been met.
 3. Estimated time until completion of the next lift in each LTU and final disposition of any soils removed from the treatment cells during the reporting period.
 4. A statement certifying that storm water runoff was prevented from entering the land treatment area, other than rainfall directly on the LTUs, and that no wastes material was carried away from the land treatment area by rainfall runoff.
- C. All technical reports prepared for submittal to the Regional Board shall be signed by either a California registered Civil Engineer, a registered geologist, or certified engineering geologist.

- D. In reporting the monitoring data, Dominguez Energy L.P. shall arrange the data in tabular form so that the data, the constituents, and the concentrations are readily discernible. The data shall be summarized to determine compliance with waste discharge requirements and, where applicable, shall include receiving ground water observations. In addition, quarterly monitoring reports shall describe the facility name, location, and location at the facility where any contaminated soil originated (including a site map), verify that all contaminated soil has been removed for land treatment or document the contaminants remaining, and including all soil verification data supporting the nature and extent of removed soil and nature and extent of contaminated soils to remain in place. In addition, the report shall state the volume of contaminated soils placed into each treatment cell.
- E. For every item where the requirements are not met Dominguez Energy L.P. shall submit a statement of the actions undertaken or proposed, together with a timetable, to bring the discharge back into full compliance with the requirements at the earliest time.
- F. Monitoring reports submitted to the Regional Board shall be signed by:
1. In the case of a corporation, the principal executive officer, at least of 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;
 2. In case of a partnership, a general partner;
 3. In case of a sole proprietorship, the proprietor;
 4. In the case of a municipal, state or public facility, either a principal executive officer, ranking elected official, or other duly authorized employee.

Each report shall contain the following completed declaration:

" I declare under penalty of perjury that the foregoing is true and correct.

Executed on the day of _____ at _____

_____ (Signature)

_____ (Title) "

Ordered by

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env. Date: September 26, 1994
Executive Officer