

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 83-17
WASTE DISCHARGE REQUIREMENTS FOR:

SHELL OIL COMPANY
MARTINEZ MANUFACTURING COMPLEX
CONTRA COSTA COUNTY

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

1. Shell Oil Company (hereinafter discharger) owns and operates a petroleum refinery in Martinez, Contra Costa County. The discharger filed a Report of Waste Discharge dated May 12, 1982 for the on-site discharge of wastes from the refinery wastewater treatment system to sludge-drying ponds. Submitted as attachments to the Report of Waste Discharge, were a report titled "Final Report Ecological Study of Sludge Processing" dated January 1982 for the sludge drying ponds, a report titled "Geohydrological Assessment-Proposed Sludge Drying Pond," and a report titled "Laboratory Simulation of Sludge Treatment Process" which included a detailed sludge analysis. On July 30, 1982, the discharger submitted a revised sludge analysis and a report titled "Soil Investigation" by Harding-Lawson Associates with design of a slurry cut-off wall for pond perimeter dikes.
2. The discharger proposes to discharge certain Group 1 wastes into 15 acres of ponds labeled A, B and C (hereinafter treatment site) as shown on Attachment A which is made a part of this Order. The wastes will consist of solids, semi-solids and water from the refinery wastewater treatment system which as described in the Report of Waste Discharge and its attachments, contain: significant concentrations of heavy metals, and oil and grease. The discharge of up to approximately 13,000 cubic yards of sludge per year plus water is proposed for the purpose of waste treatment, decantation of liquid back to the refinery wastewater treatment system and solar evaporation prior to removal of sludge from the treatment site for ultimate disposal of dried sludge at an approved disposal facility.
3. The wastes as described in Finding 2 are classified as Group 1 wastes as defined in the California Administrative Code. These wastes can be treated in the above described ponds if the ponds can provide containment equivalent to that of a Class II-1 disposal site.
4. A geotechnical report and a soil investigation report for the discharger's treatment site indicate that the proposed sludge drying ponds overlie a thin layer of hydraulic fill, approximately two feet thick composed of clay, silt, and sand, and then, more than 5 feet of bay mud with a permeability of less than 1×10^{-6} cm/sec. Sand lenses occur in the pond dikes and may be present in the underlying bay muds.

Subsurface water occurs within five feet of ground surface but is not useable because it is saline and tightly held by low permeability bay mud. However, potentially useable ground water may exist underlying 40 to 60 feet of bay mud.

5. The information described in Finding 4 indicates that the treatment site does not meet criteria contained in the California Administrative Code, Title 23, Chapter 3, Subchapter 15 for a Class II-1 disposal site, and the Board has determined that such criteria must be applied to the treatment site in order to allow receipt of the waste proposed. Therefore, the placement of wastes as proposed by the discharger cannot occur until the site is improved such that compliance with the above described containment criteria is demonstrated.
6. The discharger proposes to install a slurry cut-off wall within the perimeter dikes with these characteristics: A minimum of 24 inches thick, a permeability of less than 4×10^{-7} cm/sec. The above described slurry cut-off wall will provide containment equivalent to that described in the California Administrative Code, Title 23, Chapter 3, Subchapter 15 for a Class II-1 disposal site.
7. This order is intended only to address the treatment site described in Finding 2 and shall not be interpreted as a waiver for the need for discharge requirements for the other areas within the discharger's facility where wastes have been or are being treated, stored or disposed.
8. The Board previously adopted an NPDES Permit for this refinery, which regulates the discharge of wastewaters to the Carquinez Strait. This Order only regulates the waste discharges to the proposed sludge drying ponds.
9. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on July 21, 1982 and this Order implements the water quality objectives stated in that plan.
10. The beneficial uses of Carquinez Strait are:
 - a. Recreation;
 - b. Fish migration and habitat;
 - c. Habitat and resting for waterfowl and migratory birds;
 - d. Industrial water supply;
 - e. Esthetic enjoyment;
 - f. Navigation; and
 - g. Commercial and sport fishing.
11. The existing and potential beneficial uses of groundwaters beneath and adjacent to this disposal site are:
 - a. Industrial water supply;
 - b. Domestic water supply; and
 - c. Agricultural water supply.

12. This treatment site was used in 1970 for disposal of dredge spoils and in 1975 and 1976 for the air drying of sludges which is the activity being proposed in these requirements. The California Department of Fish and Game objected to this use in 1979 when the discharger requested administrative approval for beginning this activity again because the Department considers the area of the treatment site to be a seasonal wetlands.
13. The discharger has certified that the City of Martinez, the lead agency, has issued a negative declaration pursuant to CEQA for the proposed activity at the treatment site.
14. The use of this treatment site as proposed by the discharger would eliminate 15 acres of lands designated by the Department of Fish and Game as seasonal wetlands. The discharger has agreed to mitigate this impact by making available, permanently, by a deed and conservation easement to Mt. View Sanitary District and the California Department of Fish and Game, 22 acres of seasonal wetlands located east of Highway 680 and south of Marina Vista Blvd. (See Attachment A). This action is acceptable to the Department of Fish and Game to mitigate for the adverse impacts of using the 15 acres of seasonal wetlands which would occur if this project is implemented.
15. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge and has provided them with an opportunity for a public hearing, and an opportunity to submit their written views and recommendations.
16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Shell Oil Company shall comply with the following at the treatment site at its Martinez Refinery:

A. Waste Discharge Prohibitions

1. The treatment or handling of wastes shall not cause pollution or nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharge of any waste from the treatment site to the surface or ground waters of the State is prohibited with the exception that wastes from the treatment site may be discharged to the refinery wastewater treatment system and, subsequently, discharged to surface waters pursuant to and in compliance with an NPDES Permit. Waste material and any water that has contacted the waste material shall be contained in the treatment site unless it is transferred to the wastewater treatment system or an approved disposal site.
3. The discharge of any waste materials described in Finding 2 from the refinery wastewater treatment system anywhere other than to the treatment site or other site subject to and in compliance with waste discharge requirements or surface waters subject to and in compliance with an NPDES Permit is prohibited.

4. The discharge of wastes to the treatment site other than that described in Finding 2 is prohibited.
5. All discharge of waste is prohibited until such time that the discharger has complied with Provisions C.1. herein and the Executive Officer has given his written approval as specified.

B. Waste Disposal Specifications

1. The treatment site shall be protected to contain any washout or erosion of wastes or covering material, or from any threat of inundation, which could occur as a result of floods having a predicted frequency of once in 100 years.
2. The exterior faces of dikes shall be protected from erosion and raveling to maintain the effectiveness of the barrier.
3. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
4. Any water which has contacted waste material shall either be contained within the treatment site or be discharged to the refinery's wastewater treatment system. Any discharge shall not cause or contribute to any violations of the refinery's wastewater treatment system NPDES Permit.
5. Surface drainage from tributary areas shall not contact or percolate through Group 1 and 2 wastes deposited on the site.
6. Vertical and lateral hydraulic continuity with ground and surface waters shall be prevented by the presence of a natural clay barrier of at least 5 feet in thickness and a permeability of 1×10^{-6} cm/sec or less, or its equivalent, on the bottom and sides of the treatment site. If such natural conditions do not exist, an artificial barrier shall be constructed to meet the above specifications.
7. There shall be no seepage or overflows from the waste treatment site.
8. A minimum of eighteen inches of freeboard shall be maintained in each pond at the treatment site during the period from May 15 through September 1 of each year. During all other times a minimum of two feet of freeboard shall be maintained.

C. Provisions

1. The discharger shall submit a report which documents his ability to comply with all prohibitions and specifications of this order prior to commencing the discharge of wastes into this treatment site. This report, if acceptable, shall be approved in writing by the

Board's Executive Officer prior to commencing the discharge of wastes into this waste treatment site. The report must include an operational plan to assure compliance with Prohibition A.4. and Specification B.8. A liquid balance which shall consider the effect of rainfall and refinery treatment plant capacity, if the proposal is to handle excess water by transfer to the refinery treatment system, is required.

2. The discharger shall submit a report which documents the filing of Deed and Conservation Easement Restrictions for the 22 acres proposed for mitigation which has been found acceptable to the Department of Fish and Game. This report shall be submitted by July 15, 1983.
3. The discharger shall by December 1, 1983 submit a site closure plan to the Board. This plan shall indicate how all wastes and any residual soil contamination shall be determined and removed from the treatment site to an approved disposal site. The plan shall include an estimate of the costs required to close the site and a demonstration that such funds are or will be available at the time of closure. This closure report including cost estimates and demonstration of the availability of funds shall be updated, as needed, annually by December 1 of each year.
4. The discharger shall maintain a copy of this order at the site so as to be available at all times to site operating personnel.
5. The discharger shall maintain a legible record, using a reporting form acceptable to the Executive Officer of the volume, type and source of all wastes received at the treatment site, the manner and location of disposal of material removed to a disposal site, and the volume of material returned to the wastewater treatment system. The record shall be maintained for a period of not less than ten years, with the records to be forwarded to the Board if treatment site operations cease.
6. The discharger shall file with this Board updates of its operation plan, when substantial changes in operations are made, and a letter indicating conformance with existing plans by April 1 annually. For the purpose of these requirements, this includes any proposed change in the boundaries, contours or ownership of the treatment site.
7. This Board considers the property owner to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge of water applied to

to this property during subsequent use of the land for other purposes.

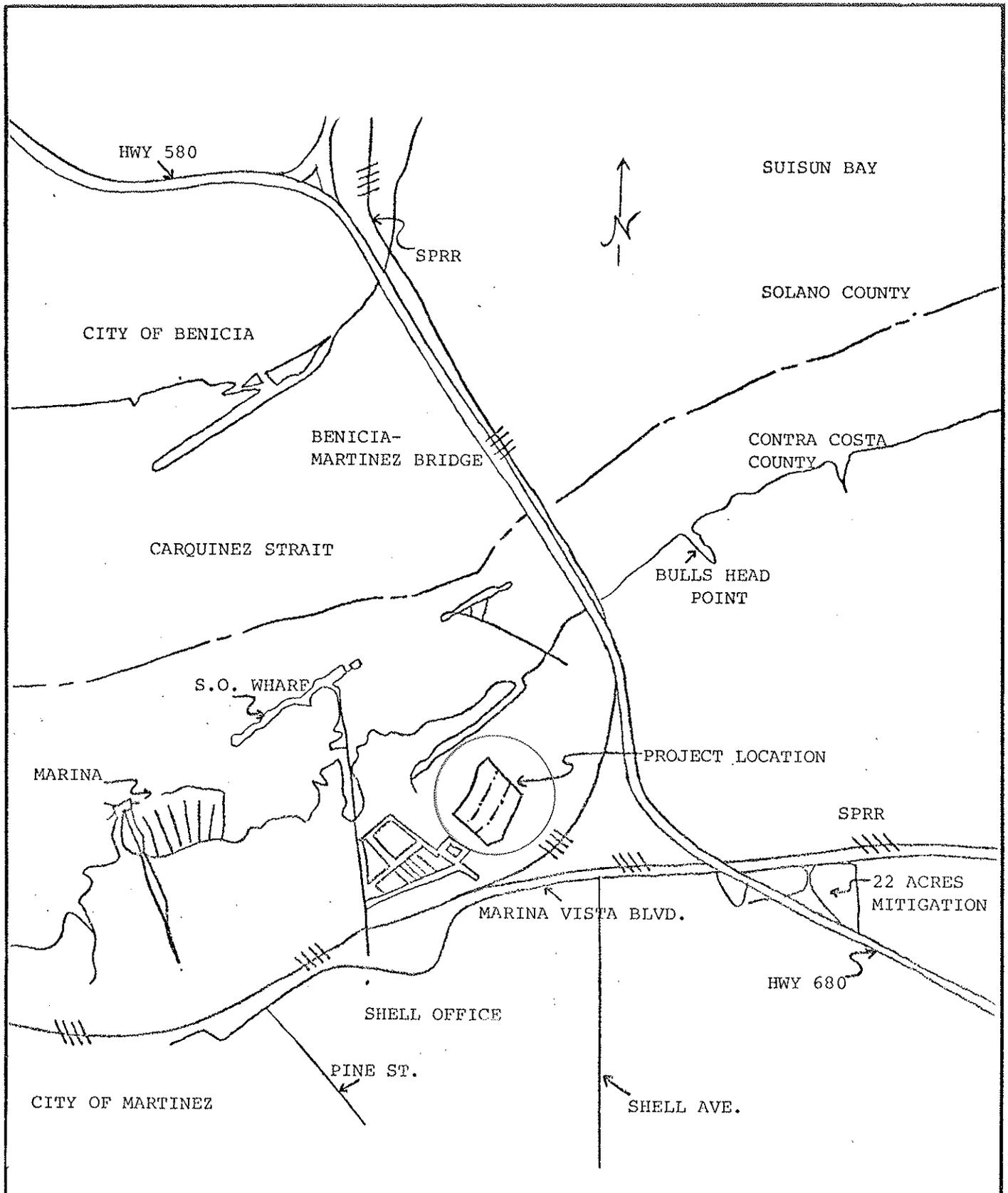
8. The discharger shall file with the Board technical reports on self-monitoring work performed according to the detailed specifications contained in any Monitoring and Reporting Program which may be directed by the Executive Officer.
9. This Order includes the attached "Standard Provisions, Reporting Requirements and Definitions" April 1977, except items A.5, B.2, and B.5.
10. The discharger shall investigate this site to determine if the prior use of this site for sludge treatment has allowed waste materials to migrate beyond the containment provided once the site is upgraded as required. This investigation shall be completed according to the following time schedule:

<u>TASK</u>	<u>COMPLIANCE DATE</u>
a. Submit proposal for investigation including implementation time schedule	by August 15, 1983
b. Submit investigation results including proposal for remedial action if waste materials are determined to have migrated beyond the containment to be provided	within 6 months of approval of 10.a above

I, Fred H. Dierker, Executive Officer, do hereby certify 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 June 23, 1983.

FRED H. DIERKER
Executive Officer

Attachments:
Attachment A



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

KEY:

<p>/// RAILROAD TRACK</p> <p>○ MONITORING WELL</p>	<p>SHELL OIL COMPANY</p> <p>MARTINEZ, CA</p>
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ATTACHMENT "A"

1,000 0 1,000 2,000

scale in feet

DRAWN BY: *RMA* DATE: 6-6-83 DRWG. NO.