

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-083
WASTE DISCHARGE REQUIREMENTS FOR:

TOSCO REFINING COMPANY AND TOSCO CORPORATION
AVON REFINERY
CONTRA COSTA COUNTY

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

1. Tosco Refining Company, a division of Tosco Corporation, (hereinafter called the discharger) owns and operates Avon Refinery (hereinafter called the facility) with an approximate daily throughput capacity of 145,000 barrels of petroleum crude oil and produces primarily gasoline and diesel fuels. Other products are liquid petroleum gas, heating oil, thinners and solvents, jet fuel and petroleum coke. The facility has been operating since 1913 and has been owned by the discharger since 1976.
2. The facility is about 3 miles east of the City of Martinez on the southern shore of Suisun Bay in Contra Costa County. The facility is bounded on the west by the Pacheco Creek and Walnut Creek, on the north by wetlands and Suisun Bay, on the south by Southern Pacific Pipeline facility and Highway 4, and on the east by Memory Gardens cemetery, Mallard Reservoir, Hasting Slough and wetlands.
3. The discharger utilizes a number of on-site Waste Managements Units (WMUs) for the treatment, storage, or disposal of wastes from the refinery processes. This Order addresses two closed oily waste impoundments (OWIs), eighteen WMUs and two stormwater runoff collection reservoirs. Most of these WMUs are inactive. The inactive WMUs were formerly utilized for the treatment, storage, or disposal of wastes by the owner of the facility at the time of use.
4. In compliance with Section 13267 of the California Water Code, the discharger submitted a technical report entitled "Work Plan - Oily Waste Impoundments (OWIs)" dated January 8, 1990 and its January 30, 1990 amendment. In this work plan the discharger proposed to conduct a site characterization study to determine the rate and extent of soil and ground water contamination at the OWIs. The amended Work Plan was approved by the Executive Officer on February 13, 1990, a final report is due no later than June 15, 1991. The OWIs consisted of two units, used for waste disposal of American Petroleum Institute (API) separator sludge, Dissolved Air Flootation (DAF) float, slop oil emulsion solids and crude and unleaded tank bottoms. The OWIs closure plan was submitted on November 25, 1985, and approved by Department of Health Services (DHS) and Environmental Protection Agency (EPA) on August 28, 1987. Closure construction was initiated in November 1987 and completed on September 1988. On December 6, 1988, DHS accepted the closure certification for the OWIs and considers them closed. The Closure Plan did not include the removal of all contaminated materials beneath or adjacent to the OWIs. The discharger has submitted a hydrogeological assessment report (HAR) dated December 30, 1987 pursuant to the Toxic Pits Cleanup Act (TPCA) for OWIs. The HAR is considered incomplete due to lack of an adequate ground water monitoring system.

5. In compliance with Title 23, Chapter 3, Subchapter 15 of the California Code of Regulations (hereinafter called Subchapter 15), the discharger filed a Report of Waste Discharge (ROWD) dated January 29, 1988. The ROWD described eighteen WMUs (WMU-1, WMU-2, WMU-3, WMU-4, WMU-5, WMU-6, WMU-7, WMU-8, WMU-9, WMU-10, WMU-11, WMU-12, WMU-13, WMU-14, WMU-15, WMU-16, WMU-31 and WMU-32) and two stormwater runoff collection reservoirs (Deacon's Stormwater Collection Reservoir and Cardox Stormwater Collection Reservoir). Ten of these WMUs are described in finding 6. The other eight WMUs and two stormwater runoff collection reservoirs are identified in this finding. None of these units are lined nor have leachate collection system. Ground water monitoring systems for WMU-1, WMU-14, WMU-15, WMU-16, Deacon's Pond and Cardox Reservoir are inadequate.

TEL Weathering Area
(WMU-1)

This WMU received tetraethyl lead (TEL) sludge from leaded tank bottoms and oil soaked wood.

Arsenic Trioxide Landfill
(WMU-2)

This WMU received arsenic trioxide. Approximately 4 to 10 drums of arsenic trioxide were disposed of at this WMU.

WMU-7

This area has been identified as a WMU in a previous report. However, no evidence was reported that indicate that any wastes have ever been disposed of at this site. The Alkylation Plant and the No. 2 Catalytic Reformer that now occupy this area. No soil analysis has been done in this area.

WMU-12

This area has been identified as a WMU in a previous report. However, no evidence was reported that indicate that any wastes have ever been disposed of or treated at this site. No soil analysis has been done in this area.

Sludge Disposal Ponds
(WMU-14)

This WMU is made up of 4 impoundments which receive sludge from biologically treated refinery waste water.

Surge Ponds (WMU-15)

This WMU is part of the wastewater treatment system which receives DAF effluent, ammonia recovery unit steam stripper bottoms, sanitary sewer discharge, foul water stripper effluent, sulfur plant process wastewater, coke storage pile runoff, cooling tower blowdown, sulfuric acid storage tank dike drainage.

Bio-oxidation Pond
(WMU-16)

This WMU is a wastewater storage and treatment pond which receives partially treated effluent from the No. 2 Surge Pond.

WMU-31

This WMU reportedly received dredge spoils resulting from the periodic dredging of Pacheco Slough. The most recent dredging operation took place in the early 1980's. No information regarding quantity and characterization of the dredge spoils has been reported.

Deacon's Pond

This reservoir occupies a shallow basin approximately 450 feet by 250 feet. This reservoir collects contaminated and uncontaminated stormwater from the northern drainage of the Tract 4 tank farm. The water is introduced into an oil/water separator and is then directed to the reservoir via an underflow pipe. The oils collected at the separator are directed to the facility's oily water sewer system. The contaminated and uncontaminated stormwater may be directed to the facility's oily water or clean water sewer system depending on quality and quantity.

Cardox Reservoir

This stormwater collection reservoir includes a separation pond, where any oil is separated from the runoff water, a canal, and the reservoir itself. Cardox stormwater collection reservoir receives contaminated and non-contaminated stormwater from the eastern drainage of Tract 4 and 6 tank farms.

6. In compliance with Section 13273 of the California Water Code, the discharger submitted a Solid Waste Assessment Test (SWAT) report entitled "Water Quality - Solid Waste Assessment Test Report - Ten Inactive Solid Waste Disposal Sites" dated June 30, 1989 and its January 12, 1990 addendum. These ten WMUs are reportedly inactive units. None of these units are lined nor have leachate collection system. Ground water monitoring systems for WMU-3, WMU-5, WMU-6, WMU-8, WMU-10, WMU-11, WMU-13 and WMU-32 are inadequate. The SWAT reports identified:

Waste Burial Area (WMU-3)

This WMU consists of 29 pits (cells) each approximately 6 feet by 6 feet by 8 feet deep, used for the disposal of TEL sludge, leaded tank bottoms, aluminum chloride and arsenic waste.

Inactive Landfill (WMU-4)

This WMU may have been used for the disposal of caustics, cleaning fluid, TEL sludge, oily coke, kerosene residues, and catalytic reformer bottoms.

Inactive Landfill (WMU-5)

This WMU was used for the disposal of spent catalysts, TEL sludge, and petroleum coke.

Old Oily Sewer Outfall (WMU-6)

This WMU was the location of the refinery oily sewer

outfall and therefore received refinery oily waste. It is reported that the oily material was excavated and moved to WMU-8 during construction of the Isocracker Unit in 1961. Free product gasoline was collected from a downgradient ground water.

Inactive Landfill (WMU-8)

This WMU reportedly received catalyst fines, oily waste from the excavation of WMU-6 in 1961, and litharge (a lead-based compound).

SbC1 Landfill (WMU-9)

This WMU received antimony trichloride catalyst.

Inactive Landfarm (WMU-10)

This land treatment WMU received oily wastes and material from the API Centrifuge. There is no adequate monitoring system for this WMU.

Inactive Landfarm (WMU-11)

This WMU is a land treatment WMU received oily wastes and API Separator sludge. There is no adequate monitoring system for this WMU.

Acid Sludge Landfill (WMU-13)

This WMU received acid sludge from lube agitators. Motor oil was collected from a nearby ground water monitoring well.

Drum Cleaning Area
(WMU-32)

This WMU is a landfill which received oily wastes, sludge and caustics.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 and amended it on August 19, 1987 and July 18, 1989. This Order implements the water quality objectives for Suisun Bay as stated in the Basin Plan.
9. The potential beneficial uses of the ground water in the area are:
 - a. Municipal Supply;
 - b. Industrial Process and Service Supply; and,
 - c. Agricultural Supply.
10. The existing and potential beneficial uses of the Suisun Bay are:
 - a. Industrial Process and Service Supply;
 - b. Navigation;
 - c. Water Contact Recreation;
 - d. Non-Contact Recreation;

- e. Ocean Commercial and Sport Fishing;
 - f. Wildlife Habitat;
 - g. Preservation of Rare and Endangered Species;
 - h. Fish Migration and Spawning; and,
 - i. Estuarine Habitat.
11. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
 12. The adoption of this Order is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) due to categorical exemption entitled "Replacement or Reconstruction (of Existing facilities)"; Section 15302, Title 14, California Code of Regulations.
 13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the Discharger and any other person(s) that currently or in the future own this land or operate this facility shall comply with the following:

A. Prohibitions

1. The treatment or storage of waste shall not cause pollution or nuisance as defined in Section 13050 of the California Water Code.
2. The treatment or storage of waste shall not degrade the quality of any usable ground water.
3. The installation of conduits through or under a WMU is prohibited.

B. Specifications

1. The discharger shall define the vertical and horizontal extent of the water bearing zones underlying the OWIs, the possible connection between zones and the vertical and horizontal extent of soil and ground water contamination at the OWIs.
2. The discharger shall conduct monitoring activities, as needed, to define the vertical and horizontal extent of the water bearing zones underlying the WMUs, the possible connection between zones and the vertical and horizontal extent of soil and ground water contamination at the WMUs.

C. Provisions

The discharger shall comply with the Prohibitions and Specifications above according to the following time schedule and/or tasks:

1. In compliance with the conditions of OWIs work plan as approved by the Executive

Officer the discharger will submit a technical report. This technical report shall be acceptable to the Executive Officer, documenting the current hydrogeological conditions of OWIs and effectiveness of the OWIs' ground water monitoring system.

INTERIM REPORT DUE: No later than July 9, 1990.

FINAL REPORT DUE: No later than June 15, 1991.

2. The discharger shall submit a technical report, acceptable to the Executive Officer, proposing:
 - a. Additional ground water monitoring wells for WMU-1, WMU-3, WMU-5, WMU-6, WMU-8, WMU-10, WMU-11, WMU-13, WMU-14, WMU-15, WMU-16, WMU-32, Deacon's Pond and Cardox Reservoir, and,
 - b. Soil borings as required for WMU-1, WMU-3, WMU-6, WMU-8, WMU-15 and WMU-31. Soil sampling for WMU-1 and WMU-15 may be limited to samples taken during the construction of monitoring wells.

REPORT DUE: No later than November 1, 1990.

3. The discharger shall maintain a copy of this order so as to be available at all times to site operating personnel.
4. Technical reports, submitted by the discharger, in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to the Board on the schedule specified herein. These reports shall consist of a letter report that includes the following:
 - a. A summary of work completed since submittal of the previous report and work projected to be completed by the time of the next report,
 - b. Identification of any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles;
 - c. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order, and,
 - d. In the first self-monitoring report, an evaluation of the current ground water monitoring system and a proposal for modifications as appropriate.
5. All submittal of hydrogeological plans, specifications, reports, and documents (except quarterly progress and self-monitoring reports) shall be signed by and stamped with the seal of a registered geologist, registered engineering geologist, or registered professional engineer.
6. 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.

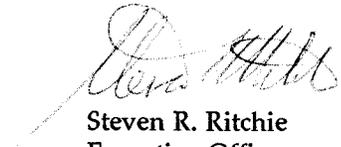
7. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
8. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, submitted by the discharger, shall also be provided to the following agencies:
 - a. Contra Costa County Health Department;
 - b. State Department of Health Services; and,
 - c. EPA Region IX.
9. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code, the following:
 - a. Entry upon the premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order;
 - b. Access to copy and records required to be kept under the terms and conditions of this Order;
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order; and,
 - d. Sampling of any ground water or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
10. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
11. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries, contours, or ownership of the disposal area. This includes any excavations in the landfill due to roadway maintenance or repair.
12. The Board considers the property owner and site owner to have a continuing responsibility for correcting any problems within their reasonable control which arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.
13. These requirements do not authorize the commission of any act causing injury to the property of another or of the public, do not convey any property rights, do not remove liability under federal, state or local laws, and do not authorize the discharge of waste without the appropriate federal, state or local permits, authorizations, or determinations.

14. Pursuant to, or unless otherwise stated in, the requirements of California Water Code Sections 13271 and 13272, if any hazardous substance is discharged in or on any waters of the state, or discharged or 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 on weekdays during office hours from 8 a.m. to 5 p.m.; and,
 - b. The Office of Emergency Services at (800) 852-7550.

A written report shall be filed with the Regional Board within five working days and shall contain information relative to the following:

- (1) The nature of waste or pollutant;
 - (2) The quantity involved and the duration of incident;
 - (3) The cause of spill;
 - (4) The estimated size of the affected area;
 - (5) The corrective measures that have been taken or planned, and a schedule of these measures; and,
 - (6) The persons/agencies notified.
15. The Board will review the Order periodically and may revise the requirements when necessary.
 16. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer and the Board shall consider revision of this Order.
 17. This Order supersedes the existing Order 87-123 and it is hereby rescinded with adoption of this Order.

I, Steven R. Ritchie, 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 20, 1990.



Steven R. Ritchie
Executive Officer

Attachments:

Figure 1: Location Map
Figure 2: WMUs Location Map
Self Monitoring Program

Base Map: USGS topographic quadrangles; Clayton, Honker Bay, Vine Hill, Walnut Creek

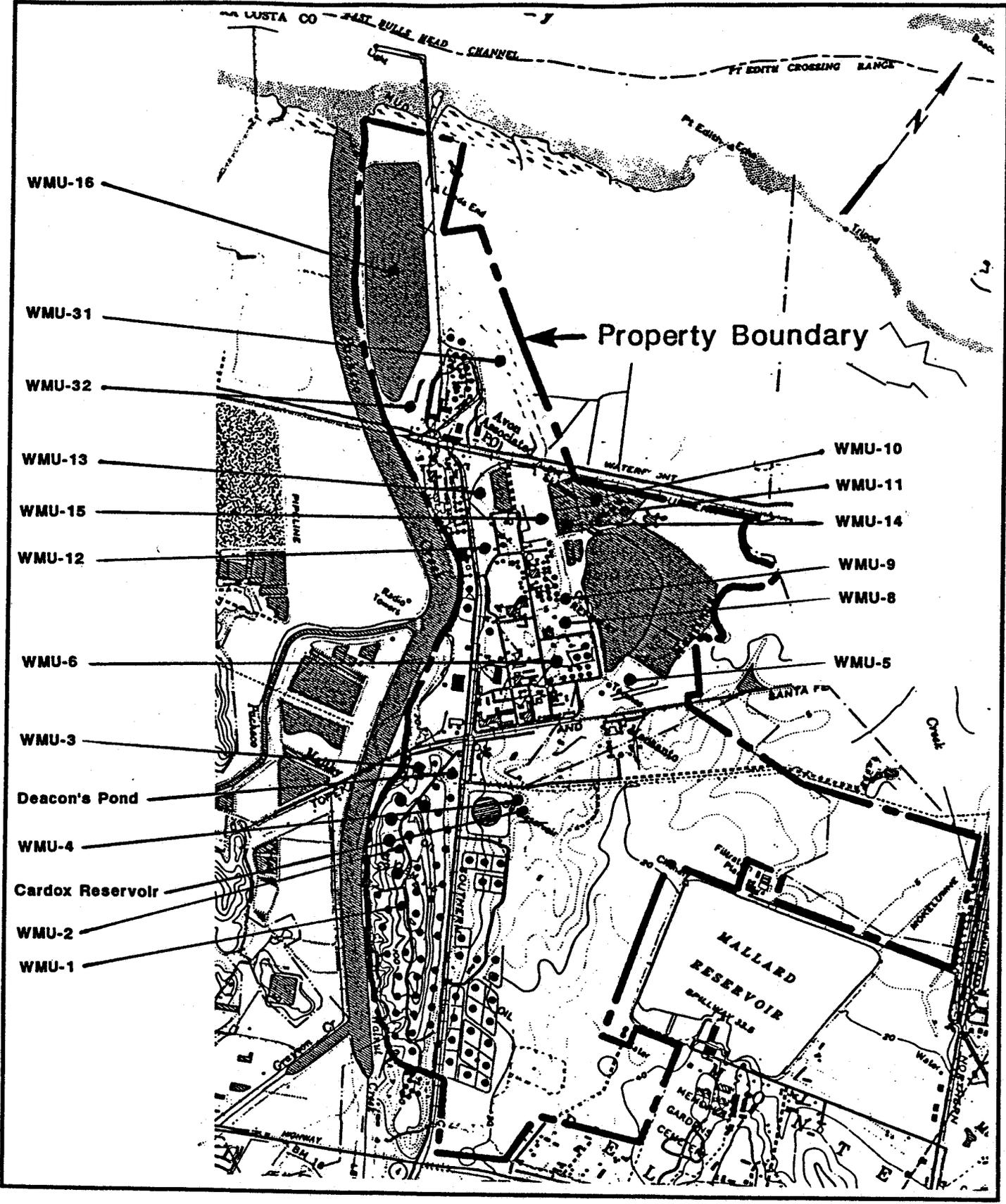


Figure 2: WMUs Location Map

PROJECT NO.

DRAWING NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

TOSCO CORPORATION
AVON REFINERY
CONTRA COSTA COUNTY

ORDER NO. 90-083

CONSISTS OF

PART A

AND

PART B

PART A

A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225 (a), 13267 (b), 13383, 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 the following:
 - a. To document compliance with waste discharge requirements and prohibitions established by the Board;
 - b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;
 - c. To develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and,
 - d. To prepare water and wastewater quality inventories.

B. Sampling and Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the most recent version of Standard Methods for the Analysis of Wastewater, and Test Methods for Evaluating Solid Waste EPA Document SW-846, or other EPA approved methods and in accordance with an approved sampling and analysis plan.
2. Water and waste analysis (TDS) shall be performed by a laboratory approved for these analyses by the State Department of Health. 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 this Regional Board.
3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Definition of Terms

1. A grab sample is a representative discrete sample collected at any time.
2. Duly authorized representative is either a named individual or any individual occupying a named position such as the following:
 - a. Authorization is made in writing by a principal executive officer, or,
 - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietorship, the position of plant manager, operator of a well or a well field,

superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

D. Schedule of Sampling, Analysis, and Observations

1. The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements in Subchapter 15.
2. A statistical analysis shall be performed and reported annually as described in the current revision of Subchapter 15.

E. Records to be Maintained by the Discharger

1. Written reports shall be maintained by the discharger for ground water monitoring and wastewater sampling, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:
 - a. Identity of sample and sample station number;
 - b. Date and time of sampling;
 - c. Date and time that analyses are started and completed, and the name of the personnel performing the analyses;
 - d. Complete procedure used, including the method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory.
 - e. Calculation of results;
 - f. Results of analyses, and detection limits for each analyses; and,
 - g. Chain of custody forms for each sample.

F. Reports to be Filed with the Board

1. The report period shall be done on a calendar quarterly basis. For quarterly ground water monitoring reports, written reports shall be filed regularly each quarter within sixty days from the end of the quarter monitored. In addition an annual report shall be filed as indicated in g.3. The fourth quarterly report may be attached as an appendix to the annual report. The reports shall include the following:
 - a. Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations, such as, operation and/or facilities modifications. If the discharger has previously submitted a detailed time schedule for correcting requirements violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer 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 of 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 certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible of gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- b. Summary Sheet - Each monitoring report shall include a compliance evaluation summary sheet. Until the Order's amended to specify ground water protection standards, the following shall apply and the compliance sheet shall contain:
 - (1) The method and time of water level measurement; the type of pump used for purging, pump placement in the well, method of purging, pumping rate; equipment and methods used to monitor field pH, temperature, turbidity, and conductivity during purging; calibration of the field equipment, results of the pH, temperature, turbidity, and conductivity testing; well recovery time, and method of disposing of the purge water; and,
 - (2) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations; and, the chain of custody record.
- c. A summary of the status of any remediation work performed during that quarter. This shall be a brief and concise summary of the work initiated and completed as follows:
 - (1) As interim corrective action measures; and,
 - (2) To define the extent and rate of migrations of waste constituents in the soil and ground water at the site.
- d. The discharger shall describe, in the quarterly report, the reasons for significant increases in a pollutant concentration at a ground water monitoring well. The description shall include the following:
 - (1) The source of the increase;

- (2) How the discharger determined or will investigate the source of the increase; and,
 - (3) What source removal measures have been completed or will be proposed.
 - e. On a semi-annual basis, a map or aerial photograph showing observation and monitoring station locations, and plume contours (if any) for each chemical in each aquifer shall be included as part of the quarterly Report.
 - f. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. The following information shall be provided:
 - (1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review; and,
 - (2) In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 90%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.
 - g. By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:
 - (1) Tabular and graphical summaries of the monitoring data obtained during the previous year;
 - (2) A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements; and,
 - (3) A written summary of the ground water analyses indicating any change in the quality of the ground water.
2. In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or

treatment unit bypass due to:

- a. Maintenance work, power failures, or breakdown of waste treatment equipment, or,
- b. Accidents caused by human error or negligence, or,
- c. Other causes, such as acts of nature.

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification. The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day. Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Quarterly Report.

PART B

A. Description of Observation Stations and Schedule of Observations

The schedule of observations and grab sampling shall be quarterly and shall be conducted within the months of March, June, September, and December.

<u>WMU</u>	<u>WELLS</u>	<u>TEST PROCEDURES *</u>
WMU-2	MK-12A	2, 3, 4, 10
WMU-3	MK-13A	2, 3, 4, 7, 9, 10
	MK-31A	2, 3, 4, 7, 9, 10
WMU-4	WCC-36S	2, 3, 4, 6, 7, 9, 10
WMU-5	WCC-33S	2, 3, 4, 7, 9, 10
	MK-38A	2, 3, 4, 7, 9, 10
	WCC-34S	2, 3, 4, 7, 9, 10
WMU-6	WCC-31S	2, 3, 4, 7, 9, 10
WMU-8	WCC-28S	2, 3, 4, 7, 9, 10
	WCC-29S	2, 3, 4, 7, 9, 10
	MK-35A	2, 3, 4, 7, 9, 10
WMU-9	MK-34A	1, 2, 3, 4, 7, 9, 10
WMU-11	WCC-24S	2, 3, 4, 7, 9, 10
	MK-16B	2, 3, 4, 7, 9, 10
	WCC-25S	2, 3, 4, 7, 9, 10
WMU-13	MK-33A	2, 3, 4, 7, 9, 10
	WCC-16S	2, 3, 4, 7, 9, 10
	MK-32A	2, 3, 4, 7, 9, 10
WMU-14	MK-17A	2, 3, 4, 7, 8, 9, 10
	MK-29B	2, 3, 4, 7, 8, 9, 10
	WCC-19M	2, 3, 4, 7, 8, 9, 10
	WCC-20S	2, 3, 4, 7, 8, 9, 10
	WCC-14M	2, 3, 4, 7, 8, 9, 10
WMU-16	MK-30A	2, 3, 4, 7, 8, 9, 10
	WCC-1M	2, 3, 4, 7, 8, 9, 10
	MK-23C	2, 3, 4, 7, 8, 9, 10
	MK-22A	2, 3, 4, 7, 8, 9, 10
	WCC-4M	2, 3, 4, 7, 8, 9, 10
	WCC-5M	2, 3, 4, 7, 8, 9, 10
	WCC-6S	2, 3, 4, 7, 8, 9, 10
	MK-21A	2, 3, 4, 7, 8, 9, 10
	MK-21B	2, 3, 4, 7, 8, 9, 10
	MK-21C	2, 3, 4, 7, 8, 9, 10

WMU-17	MK-24K	2, 3, 4, 7, 9, 10	
Oily Waste Impoundments	MK-25K	2, 3, 4, 7, 9, 10	
	MK-26K	2, 3, 4, 7, 9, 10	
	MK-27K	2, 3, 4, 7, 9, 10	
	MK-28K	2, 3, 4, 7, 9, 10	
	MK-40K	2, 3, 4, 7, 9, 10	
	MK-41K	2, 3, 4, 7, 9, 10	
	MK-42K	2, 3, 4, 7, 9, 10	
	MK-24A	2, 3, 4, 7, 9, 10	
	MK-25A	2, 3, 4, 7, 9, 10	
	MK-26A	2, 3, 4, 7, 9, 10	
	MK-28A	2, 3, 4, 7, 9, 10	
	MK-39A	2, 3, 4, 7, 9, 10	
	WMU-31		
		WCC-11S	2, 3, 4, 7, 9, 10
WMU-32			
	MK-36A	2, 3, 4, 7, 9, 10	
	MK-37A	2, 3, 4, 7, 9, 10	

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- * 1) Antimony as per EPA SW 846 Method 7041 using Atomic Absorption and Furnace or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 2) Arsenic as per EPA SW 846 Method 7060 using Atomic Absorption and Furnace or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 3) Total Chromium as per EPA SW 846 Method 7191 using Atomic Absorption and Furnace and Hexavalent Chromium Method 7195-7198 or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 4) Lead as per EPA SW 846 Method 7421 using Atomic Absorption and Furnace or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 5) Not used
- 6) Mercury as per EPA SW 846 Method 7470 using Manual Cold-Vapor Technique.
- 7) Nickel as per EPA SW 846 Method 7521 using Atomic Absorption and Furnace or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 8) Selenium as per EPA SW 846 Method 7740 using Atomic Absorption and Furnace or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 9) Zinc as per EPA SW 846 Method 7950 using Atomic Absorption and Direct Aspiration or Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).
- 10) Total Petroleum Hydrocarbons and Fuel Hydrocarbons using EPA SW 846 Method 5030/8015 (modified).

B. Observations

The observations shall consist of the following:

- a. Water elevation reported to the nearest 0.1 inch for both depth to water from the ground surface and the elevation of the ground water level;
- b. Ground water temperature measured at the time of sampling and reported in degrees Fahrenheit;
- c. Ground water conductivity measured at the time of sampling as per Standard Methods 205 using potentiometric methodology;
- d. Ground water pH measured at the time of sampling as per Standard Methods 423 using potentiometric methodology; and,
- e. Ground water turbidity measured at the time of sampling.
- f. In the event of a leachate generation, additional tests will be conducted on the leachate and monitoring wells for the following substances; PCB, other organic pollutants, and heavy metals.

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. 90-083;
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

June 20, 1990
Date Ordered