

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-40

WASTE DISCHARGE REQUIREMENTS FOR:

PINOLE POINT PROPERTIES, INC.
REMEDIAL ACTION PROGRAM
RICHMOND, CONTRA COSTA COUNTY

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

1. Pinole Point Properties, Inc. (hereinafter referred to as the discharger), by a Report of Waste Discharge application dated May 1, 1986, has submitted a remedial action plan for soil and groundwater contamination beneath and adjacent to the waste disposal pond located on their property at 5000 Giant Road in the City of Richmond, Contra Costa County.
2. The discharger purchased the waste disposal pond from Bethlehem Steel Corporation in March of 1979. In a letter dated June 30, 1978 the discharger notified this Board's Executive Officer of their intent to purchase the site from the Bethlehem Steel Corporation and that upon purchase of the site the discharger would be assuming full legal and financial responsibility for any site mitigation.
3. Bethlehem Steel Corporation constructed the impoundment by blocking off marshland. Bethlehem Steel Corporation obtained Waste Discharge Requirements (Resolution No. 711) from this Board on December 16, 1965 for the disposal of acid wastewater from their galvanizing operation.
4. The discharge of the acid wastewater, that also contained high concentrations of dissolved metals, into the pond has created an environment in which the metals have polluted the existing groundwater which are waters of the State.
5. The discharger has completed a site characterization that defines the extent of the soil and groundwater contamination. Acid wastewater, that contained high concentrations of dissolved lead and zinc, by migrating downward, has created a groundwater mound that has contaminated the underlying soils to a depth of approximately 10 feet below the pond bottom. The contamination of the underlying soils was caused by the acid wastewater coming in contact with neutral pH soils, which resulted in precipitation of lead and zinc. The rise in pH as the wastewater migrated downward also provides an environment where the lead and zinc were more readily attenuated to the soil particles.

6. On May 21, 1985 Cleanup and Abatement Order (CAO) No. 85-015 was issued to Pinole Point Properties, Inc. and Bethlehem Steel Coporation for failure to submit a closure plan and because of the continual discharge of pollutants into the underlying groundwater. This CAO required the discharger to eliminate the free liquids in the pond by June 15, 1985 and to develop and submit a closure plan for the contaminated soils/sediments by September 1, 1985. The CAO required that the Closure plan for the pond be developed pursuant to Section 2582 of Title 23, Chapter 3, Subchapter 15, of the California Administrative Code (Subchapter 15).
7. On September 18, 1985, CAO No. 85-020 was issued, amending CAO No. 85-015 to omit Bethlehem Steel Corporation's name as a party responsible under that Order. The discharger has complied with all the requirements of both Cleanup and Abatement Order Nos. 85-015 and 85-020. This Order provides for additional tasks for remedial action at this site and amends the waste discharge requirements contained in this Board's Resolution No. 711.
8. Section 2582 of Subchapter 15 requires that a surface impoundment be closed in one of two ways after the free liquids in the impoundment have been eliminated. Either the discharger must remove all residual wastes, sludges, precipitates, settled solids, and liner materials contaminated by the waste and dispose of these residual wastes in an approved Waste Management Unit (WMU), or the discharger must close the site as a landfill pursuant to Section 2581 of Subchapter 15 provided that the WMU meets all applicable standards for a landfill WMU as outlined in Articles 3 and 4 of Subchapter 15.
9. On October 1, 1985 the discharger submitted a proposal for closure that involved leaving the residual wastes in place and covering the residual wastes with a compacted clay cover that meets the construction criteria for a landfill cover outlined in Section 2581 of Subchapter 15. The free liquids in the pond were treated and completely removed from the impoundment by June 15, 1985.
10. The proposed closure plan does not meet the requirements contained in Sections 2530 and 2531 of Subchapter 15 regarding the siting and construction of a Class I Waste Management Unit. The proposed plan does not provide for a five foot separation between the wastes and the underlying groundwater and does not provide for full containment of the waste by constructing a leachate collection and removal system or lateral barriers.

11. The extent of soil and groundwater contamination, is reported in the dischargers closure plan, dated October and December 1985, and is outlined on Attachment A, which is hereby incorporated and made a part of this Order. The information contained in these reports indicates a range of concentrations at this site and because of this contamination some remedial action is necessary.
12. The metal pollutants, lead and zinc, that have contaminated the soils underneath the pond area are soluble in the groundwater if the pH of the groundwater is lower than 7.0 pH units. The lead is approximately 18% soluble at a pH of 5.0 and is essentially insoluble above detectable concentrations at a pH of 7.0. The zinc is completely soluble below a pH of 7.0 pH units.
13. The metals lead and zinc are known to be attenuated to soils when the pH of the soil and groundwater environment is near 7.0 pH units. The attenuative capacity of the soils is known to be a function of pH and that the higher the pH the greater the attenuative capacity of the soils.
14. Because the metal pollutants lead and zinc are in the mounded groundwater beneath the pond, as well as in the soils, and this mounded groundwater and soil environment has an acidic pH there is a potential for continual leaching of the metals from the soils. If the attenuative capacity of the soils is used up by the concentrations of the metals that come into contact with the soils, and if the pH remains below 7.0 pH units the metals will remain in solution in the groundwater and migrate with the groundwater.
15. Based upon current information regarding the attenuative capacity of soils for the metals lead and zinc it is reasonable to assume that there will be sufficient capacity in the soils between the pond and the marshland to attenuate the metals. This assumption appears to be supported by the fact that significant concentrations of the metals have not been found to have migrated to the monitoring wells. The groundwater monitoring at this site and the concentrations of lead and zinc that have been detected are not adequate to determine if there is actual migration of these metals from the pond or that these concentrations could have had an adverse impact on the beneficial uses of the marsh or the bay water.

16. The Beneficial Uses of the groundwater beneath the marsh located to the north of the pond area, and of San Pablo Bay and vicinity, are as follows:
 - a. Industrial Service Supply
 - b. Navigation
 - c. Water Contact Recreation
 - d. Non-Contact Water Recreation
 - e. Commercial Sport Fishing
 - f. Wildlife Habitat
 - g. Rare and Endangered Species Habitat
 - h. Marine Habitat
 - i. Fish Migration
 - j. Fish Spawning
 - k. Shellfish Harvesting
17. To protect the above cited Beneficial Uses, and to prevent further degradation of the waters of the State, the discharger proposed in the Report of Waste Discharge the following:
 - Cover the contaminated soils with a compacted clay cover that meets the requirements of Subchapter 15 to prevent infiltration of rainwater.
 - Provide drainage facilities to divert surface runoff around the pond area.
 - Maintain the cover to prevent ponding of water due to compaction and settlement of the underlying soils and fill materials.
 - Long term groundwater monitoring of the site to detect if metal pollutants are being leached from the soils and discharged from the site area above Water Quality Protection Standards established in this Order.
18. The dischargers closure plan has included a preliminary assessment of possible remedial action measures, should the detection monitoring system determine that unacceptable concentrations of pollutants. This action involves the extraction, treatment, and disposal of the contaminated groundwater so as to prevent any adverse impacts on Beneficial Uses of the waters of the State.
19. This Order implements the water quality objectives stated in the revised Water Quality Plan for the San Francisco Bay Basin adopted on July 1, 1982.

20. This project constitutes a minor modification to land and the continued operation of an existing facility with changes to meet public health and safety standards and is therefore categorically exempt from the provisions of the California Environmental Quality Control Act pursuant to Sections 15304 and 15301 of the Resources Agency Guidelines. This site closure order is not a final remedial action plan for purposes of Health and Safety Code Section 25356.1.
21. This Order constitutes an exemption to the requirements of Subchapter 15, Title 23, Chapter 3, of the California Administrative Code, for the containment at the place of release of pollutants unintentionally released into the environment, pursuant to Section 2511 (d) of Subchapter 15. This exemption applies to the requirements regarding the five foot separation between the waste and underlying groundwater and for the full containment of the waste with lateral barriers and a leachate collection and removal system. This exemption is granted based upon the findings and requirements of this Order that indicate that the proposed closure of this facility will protect the beneficial uses of the waters of the State and because this closure implements the applicable provisions of Subchapter 15 to the extent feasible.
22. The Water Quality Protection Standards (WQPS) contained in this Order are based upon data collected during the site investigation, estimates of the attenuative capacity of the soils on site for lead and zinc, chronic aquatic life toxicity criteria for these metals, and do not meet the specifications of Subchapter 15 for the establishment of background water quality. These WQPS will be evaluated, and possibly modified, after one year's worth of monitoring data has been submitted and the background groundwater quality has been established.
23. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.
24. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT PINOLE POINT PROPERTIES, INC., and any and all other owners of this property in the future, shall meet the provisions contained in Division 7 of the California Water Code and regulations thereunder and shall comply with the following:

A. PROHIBITIONS

1. The presence of lead or zinc in any of the groundwater monitoring wells located around the compliance boundary of the pond area (as shown on Attachment A), and any other monitoring wells that will have to be installed to comply with any Self-Monitoring Program (SMP) issued for this site by this Board's Executive Officer, in concentrations above the following Water Quality Protection Standards (WQPS) is prohibited.

COMPLIANCE POINTS	WATER QUALITY PROTECTION STANDARD
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Monitoring wells Nos. 1, 2, 3, 4A, EB-5, EB-6, EB-7A, EB-18, EB-19, and any other wells installed to comply with the SMP.	Lead- 0.86 mg/l Zinc- 5.80 mg/l
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2. The discharger, or any future owner of this site, shall not allow toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations, at any place outside the waste management facility.
3. Surface drainage from tributary areas, and internal site drainage from surface sources, shall not contact or percolate through the contaminated soils during the entire life of this site.

B. SPECIFICATIONS

1. The discharger shall implement the construction of the cover over the contaminated soils and complete the closure of this site, as described in their Closure Plan dated October 1985, the subsequent Supplemental Report dated December 1985, and any other report required to be submitted in compliance with this Order. Alternative capping materials may be substituted for clay if a demonstration satisfactory to the Executive Officer is made that the long term permeability of the alternative material is equivalent to that of the proposed clay cap.
2. The cover design shall provide sufficient fill material for the foundation of the cover to ensure the cover has a final slope of 3% and the foundation is a minimum of 2 feet thick, one foot of compacted clay seal material that has a permeability of 1×10^{-6} cm/sec or less, and one foot of soil containing no waste or leachate as a vegetation layer.

3. The site shall be protected from any washout or erosion of wastes or cover material and from inundation which could occur as a result of a 100 year 24 hour precipitation event.
4. The discharger shall assure that the foundation of the site, the contaminated soils, and the structures which control leachate, surface drainage, and erosion for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

C. PROVISIONS

1. The discharger shall comply with the Prohibition and Specifications of this Order according to the following time schedule:

Task	Compliance Deadline
a. Submit a post closure monitoring plan	June 20, 1986
b. Submit a preliminary design for the cover, the drainage facilities, the groundwater monitoring devices, the cover infiltration monitoring system, a map showing the boundries of the closed area and the projected contours of the closed site, and any other information required under Section 2597 of Subchapter15.	July 1, 1986
c. Submit the final design	August 1, 1986
d. Contractor procurement	August 20, 1986
e. Start construction	September 1, 1986
f. Complete construction	November 1, 1986

2. Submit as built drawings of the cover and drainage facilities, and other required information, to document compliance with the closure requirements contained in Sections 2531, 2580, 2581, and 2597 of Subchapter 15 by December 15, 1986.
3. Submit evidence of the establishment of an irrevocable post closure fund that is acceptable to the Executive Officer and complies with Section 2580 (f) of Subchapter 15 by November 1, 1986.

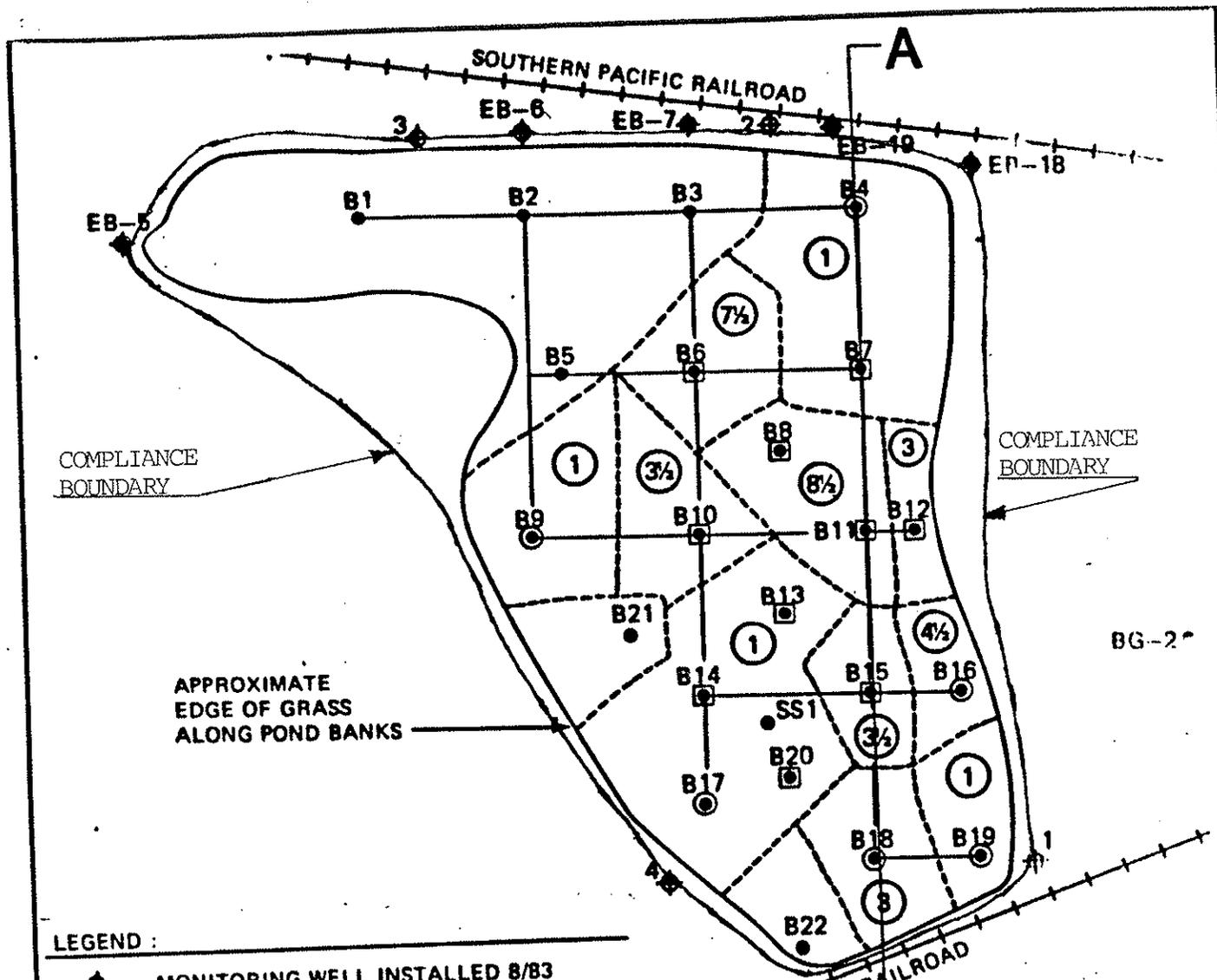
4. Prepare and submit, a Hydrogeological Assessment Report in order to document compliance with the Toxic Pits Cleanup Act. This report shall include all the information required by 1.a), 1.b), 1.c), 2, and 3 above as an appendix so as to provide one report that includes the site hydrogeological data, the depth and area of contamination data, and the closure design with the final as built drawings. This report shall also include a section that provides a slope stability analysis for the final contours of the closed site pursuant to Section 2595 (f)(5) of Subchapter 15 and be submitted by November 1, 1986.
5. The discharger shall install any additional groundwater and leachate monitoring devices required to fulfill the terms of any Self-Monitoring Program issued to the discharger in order that the Board may evaluate compliance with the conditions of this Order.
6. The discharger shall place a notice in the deed for the property which informs those who read the deed that lead and zinc, exist in the subsurface environment within specified bounds and at certain concentrations. The discharger shall also file a copy of the Hydrogeological Assessment Report, with the accompanying closure details that this Order requires the discharger to prepare and submit, with the agency responsible for recording the deed notice.
7. The discharger shall file with the Regional Board quarterly self-monitoring reports performed according to any self-monitoring program issued by the Executive Officer.
8. The discharger shall maintain all devices or designed features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.
9. The discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:
 - a. Entry upon the premises on which the closed pond is located or in which any required records are kept.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

- d. Sampling of any discharge or groundwater covered by this Order.
10. The Board considers Pinole Point Properties, Inc., and any and all future owners of this site, to have a continuing responsibility for correcting any problems which arise in the future as a result of these remedial actions or related operations.
 11. This Board's Resolution No. 711, Cleanup and Abatement Order Nos. 85-015 and 85-020, issued on December 16, 1965, May 21, 1985 and September 18, 1985, respectively, are hereby rescinded.
 12. The discharger shall notify the Regional Board of any proposed change in ownership of this facility. The discharger shall also notify the Regional Board of any future development of this site. The discharger shall demonstrate that the proposed development will not impact this remedial action. This change in site use may require amendment of these requirements.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 18, 1986.

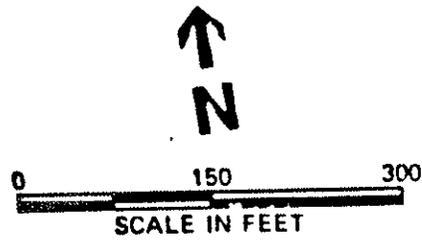

Roger B. James
Executive Officer

Attachments: A) Site map
B) Self Monitoring Program



LEGEND :

- ◆ MONITORING WELL INSTALLED 8/83
- ◆ MONITORING WELL INSTALLED 5/82
- SOIL SAMPLE
- B BOREHOLE SAMPLE LOCATION
- BG BACKGROUND SAMPLE LOCATION—APPROXIMATE AND ADJACENT TO FENCELINES
- ⊠ METAL CONCENTRATION ABOVE TTLC
- ⊙ METAL CONCENTRATION ABOVE 10X STLC
- SS SURFACE SOIL SAMPLE LOCATION
- ⊗ DEPTH OF ASSUMED CONTAMINATION IN FEET



Depth and Areas of 10 X STLC Metal Contamination

STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION		
Attachment A: Map of Pond Area		
DRAWN BY:	DATE:	DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

PINOLE POINT PROPERTIES, INC
REMEDIAL ACTION/CLOSURE PLAN

PART A

A. GENERAL

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. This Self-Monitoring Program is issued in accordance with Section C.7 of Regional Board Order No. 86-40.

The principal purposes of a self-monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to most recent version of Standard Methods for the Analysis of Wastewater.

Water and waste analysis 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 the Regional Board.

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 discrete sample collected at any time.
2. Receiving waters(s) refers to any water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the pond area and San Pablo Bay are the Receiving Waters.
3. Standard observations refer to:
 - a: pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS), Total Lead, and Total Zinc.
 - b: Water elevation in feet above Mean Sea Level.
 - c: Evidence of erosion, settlement and compaction, or ponded water.

D. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger, 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 Regional Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name off the personnel performing the analyses.
4. Complete procedure used, including 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.
5. Calculation of results.
6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

Written self-monitoring reports shall be filed each calendar quarter by the fifteenth day of the following month. In addition an annual report shall be filed as indicated in F.5. The reports shall be comprised of the following:

1. 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 past quarter and actions taken or planned for correcting the violations, such as operation modifications and/or facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last quarter this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer at the level of vicepresident 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.

2. Each report shall include a compliance evaluation summary sheet. This sheet shall contain:

- a. Results of analyses at the compliance points.
- b. A graphic description of the velocity and direction of groundwater flow based upon the water level measurements specified in Part B.

3. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

4. Laboratory statements of results of analyses specified in Part B must be included in each report. The laboratory director shall sign the laboratory statement of analytical results.

5. An evaluation to determine if the WQPS have been exceeded in any of the monitoring wells pursuant to Section 2555 (h) of Subchapter 15.

6. By January 31 of each year the discharger shall submit an annual report to the Regional Board covering the previous calendar year. This report shall contain:
 - a. Tabluar and graphical summaries of the monitoring data obtained during the previous year.
 - b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned witch may be neded to bring the discharger into full compliance with the waste discharge requirements.
7. A well drilling log shall be submitted for each sampling well established per this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS .

A. Groundwater compliance monitoring

<u>Station</u>	<u>Description</u>	<u>Observation</u>	<u>Frequency</u>
1,2,3,4A, EB-5, EB-6, EB-7A, EB-18, EB-19, and EB-20, EB-21, EB-22, EB-23 (These last four wells are to be installed on the eastern and western sides of the pond) and EB-24 (to be installed near Boring B-8 shown on Attach- ment A)	Located as shown on Attachement A to this Board's Order No. 86-40	Standard Observations a) and b)	Once per quarter

B. Background Groundwater Monitoring

<u>Station</u>	<u>Description</u>	<u>Observation</u>	<u>Frequency</u>
Two wells to be installed.	Upgradient	Standard observations a) and b)	Once per quarter

C. Site Observations

Standard observation c) performed quarterly over the entire pond area.

2. CONTINGENCY REPORTING

A. A report shall be made in writing to the Regional Board within 7 days if the presence of contaminants in excess of the the prohibited concentrations is found at any of the compliance points. The discharger shall immediately resample all compliance points where the suspected violations have occurred.

- B. If the resampling and analysis confirms the earlier finding of prohibited contaminants outside the compliance zone, the discharger must submit within 90 days an amended Report of Waste Discharge for establishment of a verification monitoring program meeting the intent of Section 2557 of Subchapter 15, Title 23, of the California Administrative Code.
- C. If the presence of prohibited contaminants outside the compliance zone is verified it will be concluded that the discharger is out of compliance with Board Order No. 86-40. In this event the discharger shall submit to the Regional Board within 180 days an amended Report of Waste discharge Requesting authorization to establish a corrective action program meeting the intent of Section 2558 of Subchapter 15.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements wstablished in Regional Board Order No. 86-40.
- 2. Is effective on the date shown below.
- 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.



Roger B. James
Executive Officer

June 19, 1986
Date Ordered