

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-161

SITE CLEANUP REQUIREMENTS FOR:

PINOLE POINT PROPERTIES, INC.
RICHMOND, CONTRA COSTA COUNTY

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

1. SITE DESCRIPTION Pinole Point Properties, Inc. (hereinafter called the discharger), acquired the Pinole Point Property located at 5000 Giant Road, Richmond, Contra Costa County from the Bethlehem Steel Corporation in 1979 (Attachment 1, Site location map). The site is bounded on the north and south by railroad embankments. The area extending for approximately 350 feet from north of the embankment to San Pablo Bay is wetlands. A spring fed fresh water pond is located approximately 225 feet west of the impoundment. Vacant land borders the east side.
2. SITE HISTORY Bethlehem Steel Corporation constructed a 7.25 acre industrial waste water surface impoundment to contain spent acidic effluent produced by a steel galvanizing operation. The impoundment was in operation from 1965 to 1975, during which time it received a total of approximately 4,444,000 gallons of spent, heavy metal contaminated acid effluent (pH 2.3).

The area between the railroad embankments was occupied by a tidally influenced natural drainage channel, before being cut off from the bay by the northern railroad embankment. The impoundment was constructed in this drainage channel between the railroad embankments. Water carried by the natural drainage channel was diverted into a 54" storm drain which parallels the impoundment on the east side. The east side of the unlined impoundment are chiefly fine grained sediments having higher transmissivity than displayed elsewhere.

3. SITE GEOLOGY AND HYDROGEOLOGY Much of the bottom of the unlined impoundment consists of bay mud produced by tidal intrusion into the estuarine drainage. The discharger closed the pond in 1986. A total of 5,700,000 gallons of stored liquid waste was pumped out of the impoundment and the sludges were left in place. A clay cap to prevent rain water infiltration was constructed over a soil foundation layer in late 1986, to complete closure.

Monitoring wells drilled through the cap of the impoundment indicate the presence of hydraulic head beneath the cap of the closed impoundment, with water levels ranging from 3 to 8

feet above the surrounding water table. This head serves as a driving force for movement of contaminated groundwater away from the pond site and into the surrounding sediments. This head has decreased since the cap was installed. This head could continue to decrease until it is stabilized. Fine grained and sandy sediments within the shallow groundwater zone may serve as pathways for migration of waste constituents.

There is a potential for leaching of metals from the sludges left in the impoundment due to acidic conditions present in the soils under and the sludges within the impoundment.

4. SITE INVESTIGATIONS Soil contamination by zinc and lead in a pH environment below 7, has been detected from the near surface to an approximate depth of 14 feet. Levels of zinc in soils up to 1,630 mg/kg (milligrams per kilogram) and lead to 96 mg/kg were reported at a pH range of 3.7 to 6.1 on the southeast corner of the impoundment (Attachment 3). Contamination has been detected in wells W-1 and BC-10 with up to 1,225 mg/l of zinc in well W-1 in November of 1987 and up to 300 mg/l of zinc reported in well BC-10 in February 1990.
5. REGULATORY STATUS The facility is subject to the regulations adopted pursuant to the Toxic Pits Cleanup Act (TPCA) of 1984 as contained in Section 25208, Article 9.5 of Division 20 of the Health and Safety Code, and to the Land Disposal regulations as contained in Title 23, Division 3, Chapter 15 of the California Code of Regulations (CCR).

The Board adopted Waste Discharge Requirements for the site in Order No. 86-40. The Order includes Water Quality Protection Standards (WQPS) for zinc and lead and requirements for closure of the surface impoundment and post-closure monitoring.

Pursuant to TPCA, the discharger ceased discharge and closed the surface impoundment in 1986 in accordance with Board Order No. 86-40. However, subsequent groundwater monitoring shows zinc contamination in wells W-1 and BC-10 with concentrations exceeding the WQPS. Upon compliance with the additional groundwater monitoring required by this Order, the discharger is expected to complete the Hydrogeological Assessment Report required under the TPCA.

The existing detection monitoring program is deficient because the shallow unconfined aquifer which has shown contamination in two wells has not been adequately monitored pursuant to Section 2556, Chapter 15 of CCR.

6. SCOPE OF THIS ORDER Nine additional groundwater monitoring wells must be installed to identify any contaminant pathways and to delineate the vertical and horizontal extent of groundwater pollution in the shallow zone at the periphery of

the pond. Further work may be required if contamination is encountered. The discharger must demonstrate to the satisfaction of the Board that no significant release of contaminated groundwater from the closed surface impoundment is occurring.

7. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. This Order implements the water quality objectives stated in the Basin Plan.
8. The existing and potential beneficial uses of San Pablo Bay in the vicinity of the site are:
 - a. Industrial service supply
 - b. Navigation
 - c. Commercial and sport fishing
 - d. Contact and non-contact water recreation
 - e. Wildlife and estuarine habitat
 - f. Fish migration and spawning
 - g. Preservation of rare and endangered species
 - h. Shellfish harvesting
9. The potential beneficial uses of the groundwater underlying and adjacent to the site are:
 - a. Industrial service supply
 - b. Agricultural supply
10. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
11. This Order is an enforcement action which is exempt from the California Environmental Quality Act (Public Resources Section 2100 et. seq.) in accordance with Section 15321 of the California Administrative Code.
12. The Board notified the discharger and interested agencies and persons of its intent to prescribe Site Cleanup Requirements for this closed impoundment site and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
13. The Board in a public hearing heard and considered all comments pertaining to monitoring and cleanup of the site.

IT IS HEREBY ORDERED pursuant to section 13304 of the California Water Code, that Pinole Point Properties, shall cleanup and abate the effects of pollution described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharger shall conduct site investigation and monitoring activities as needed to further define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization of pollutant extent may be required. The discharger must follow methodologies acceptable to the Board staff in all field investigation.
3. The discharger's submittal of technical reports evaluating immediate, interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The reports shall consider the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".
4. If groundwater extraction and treatment is considered an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger control prevent the discharger from attaining this goal, provided the discharger have made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be

required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted, and must include the evaluation of the feasibility of alternatives to direct surface water discharge, such as water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications of this Order in accordance with the following tasks, and time schedules.

- a. Submit for review a detailed work plan for defining the extent of groundwater pollution and determining the groundwater flow direction in the shallow zone.

The plan must propose the installation of at least 9 shallow groundwater monitoring wells both on the immediate periphery of the impoundment and within the surrounding site to monitor the uppermost, unconfined groundwater zone of the site, to establish the groundwater gradient and for use in groundwater monitoring. The wells must monitor all cardinal directions from the impoundment.

COMPLIANCE DATE: March 1, 1991

- b. Submit for review a Sampling and Analysis plan detailing methods of soil and groundwater collection, methods and equipment to be used for well evacuation and sample withdrawal, sample preservation, shipment and maximum holding time.

The plan must detail proposed analytical methods to be used and the quality assurance and quality control programs in force at the laboratory to assure analytic reliability. Methods of preparing and handling check samples, trip and field blanks, duplicate samples and chain of custody protocol must be described.

COMPLIANCE DATE: April 15, 1991.

- c. Submit a final report furnishing all information and data obtained pursuant to Provision C.1.a and a proposal for remedial actions to cleanup groundwater pollution if found necessary.

COMPLIANCE DATE: 120 days after approval of work plan.

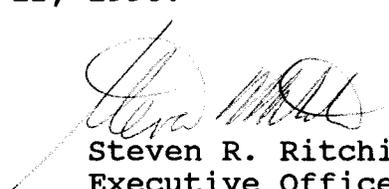
2. Copies of all correspondence, reports and documents pertaining to this investigation shall be provided to the following agency:

Department of Health Services, Toxic Substances

Control Division.

3. This Order 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.
4. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code, the following:
 - (1) Entry upon premises in which any pollution sources exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order;
 - (2) Access to copy any records required to be kept under the terms and conditions of this Order;
 - (3) Inspection of any monitoring equipment or methodology implemented in response to this Order; and
 - (4) Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

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 December 12, 1990.



Steven R. Ritchie
Executive Officer

Attachments:

1. Site Location Map
2. Site Map
3. Soil Contamination Maps

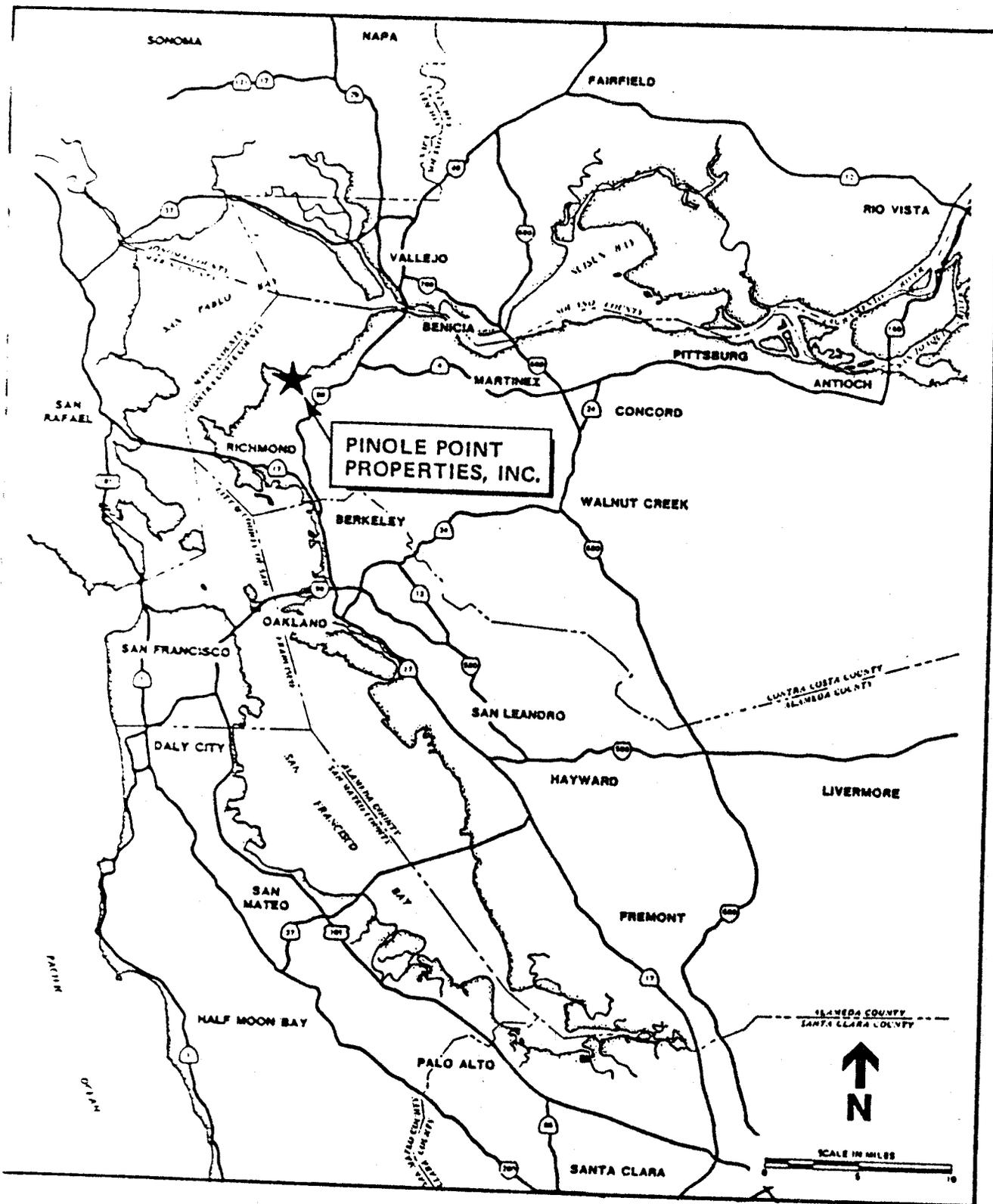


Figure 1 Site Location Map

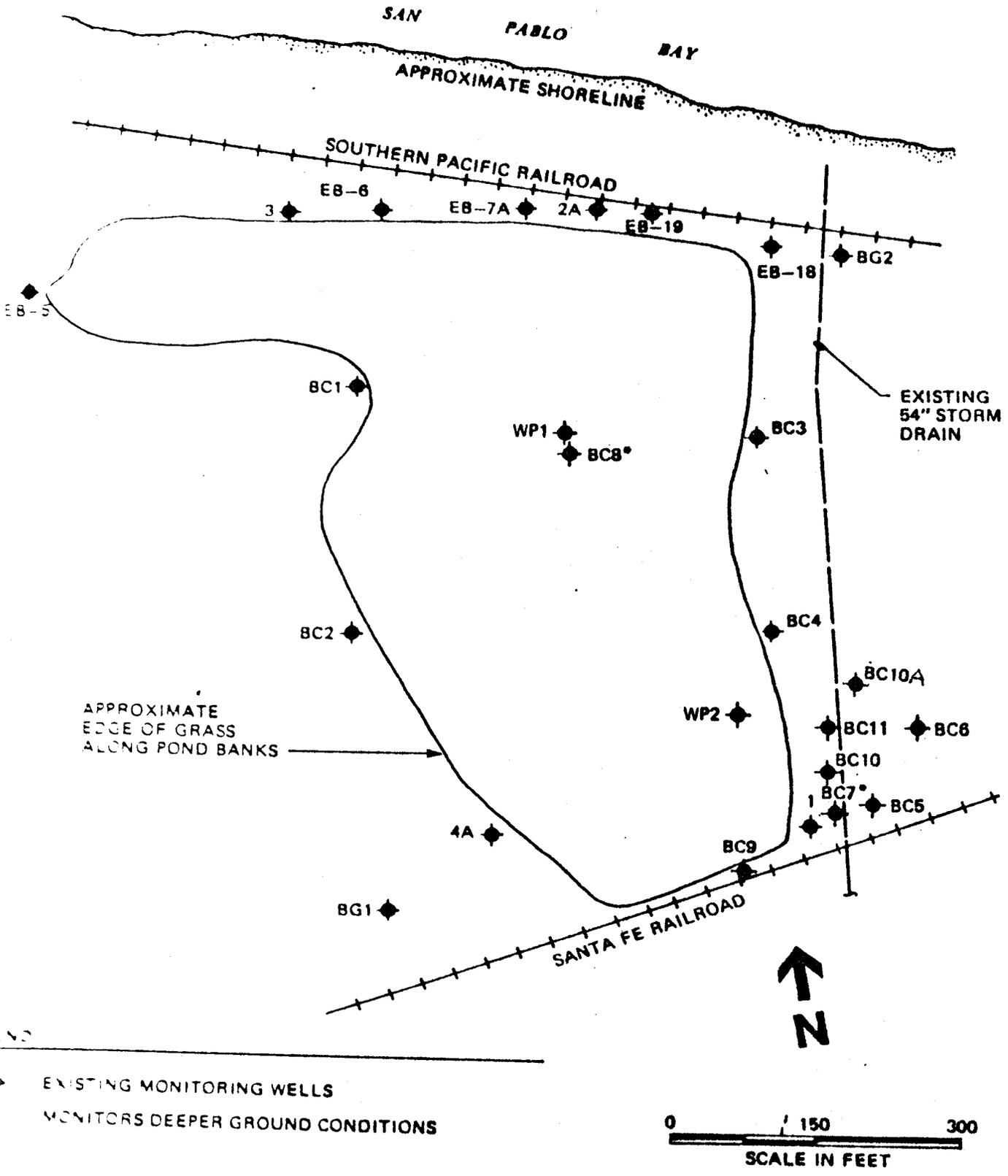


Figure 2 Monitoring Well Locations

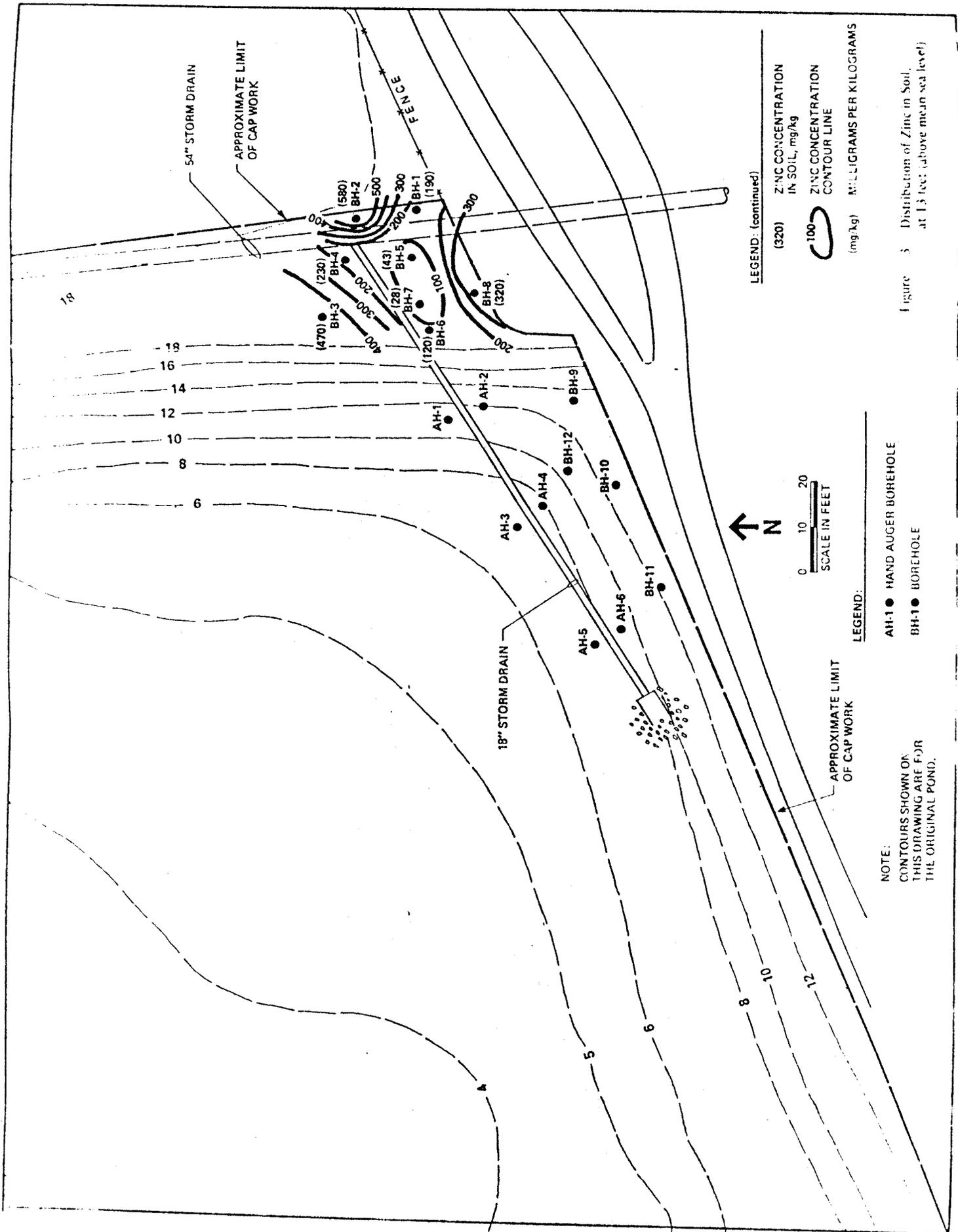
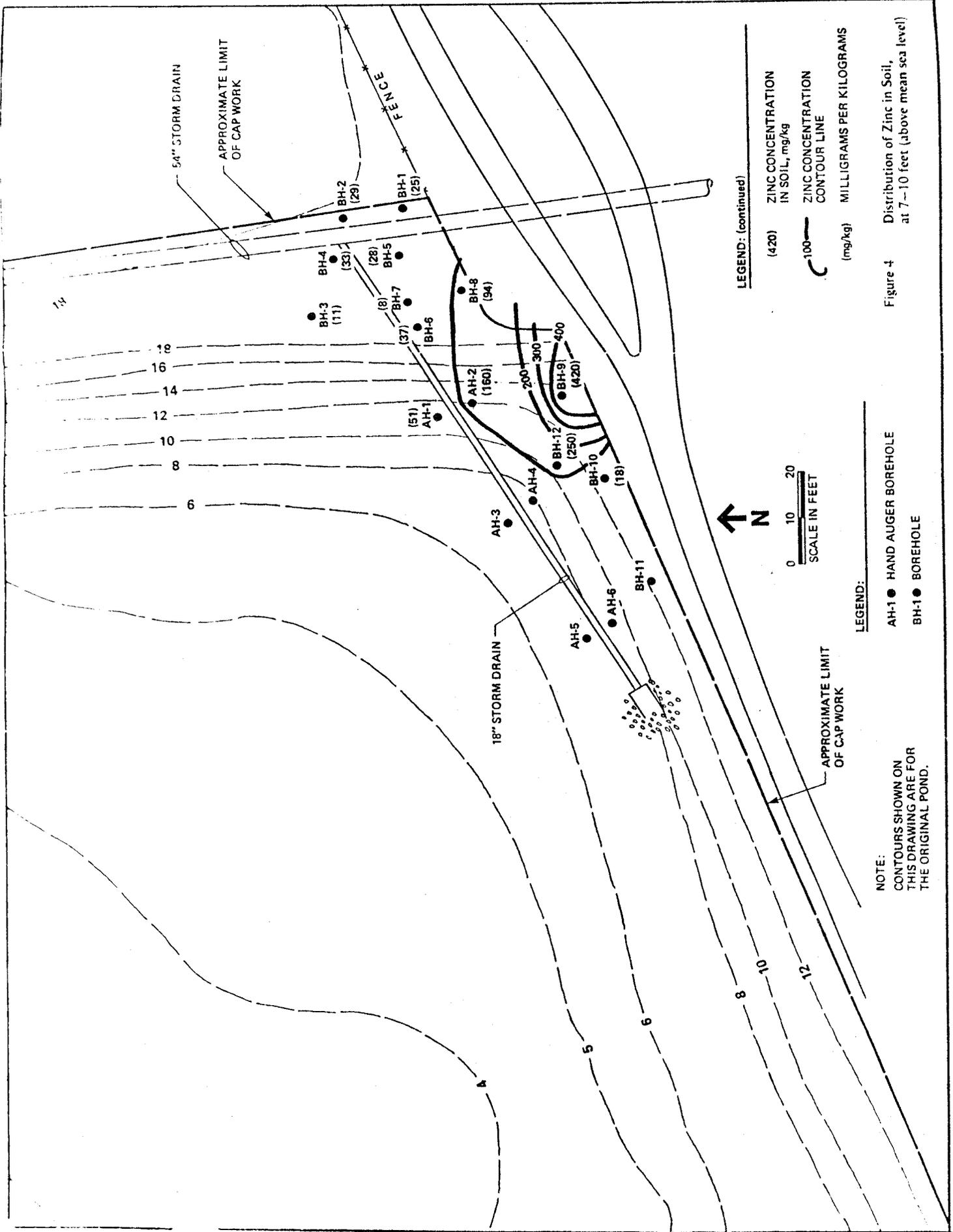


Figure 3 Distribution of Zinc in Soil, at 1.3 feet above mean sea level)



LEGEND: (continued)

- (420) ZINC CONCENTRATION IN SOIL, mg/kg
- 100 ZINC CONCENTRATION CONTOUR LINE (mg/kg)
- MILLIGRAMS PER KILOGRAMS

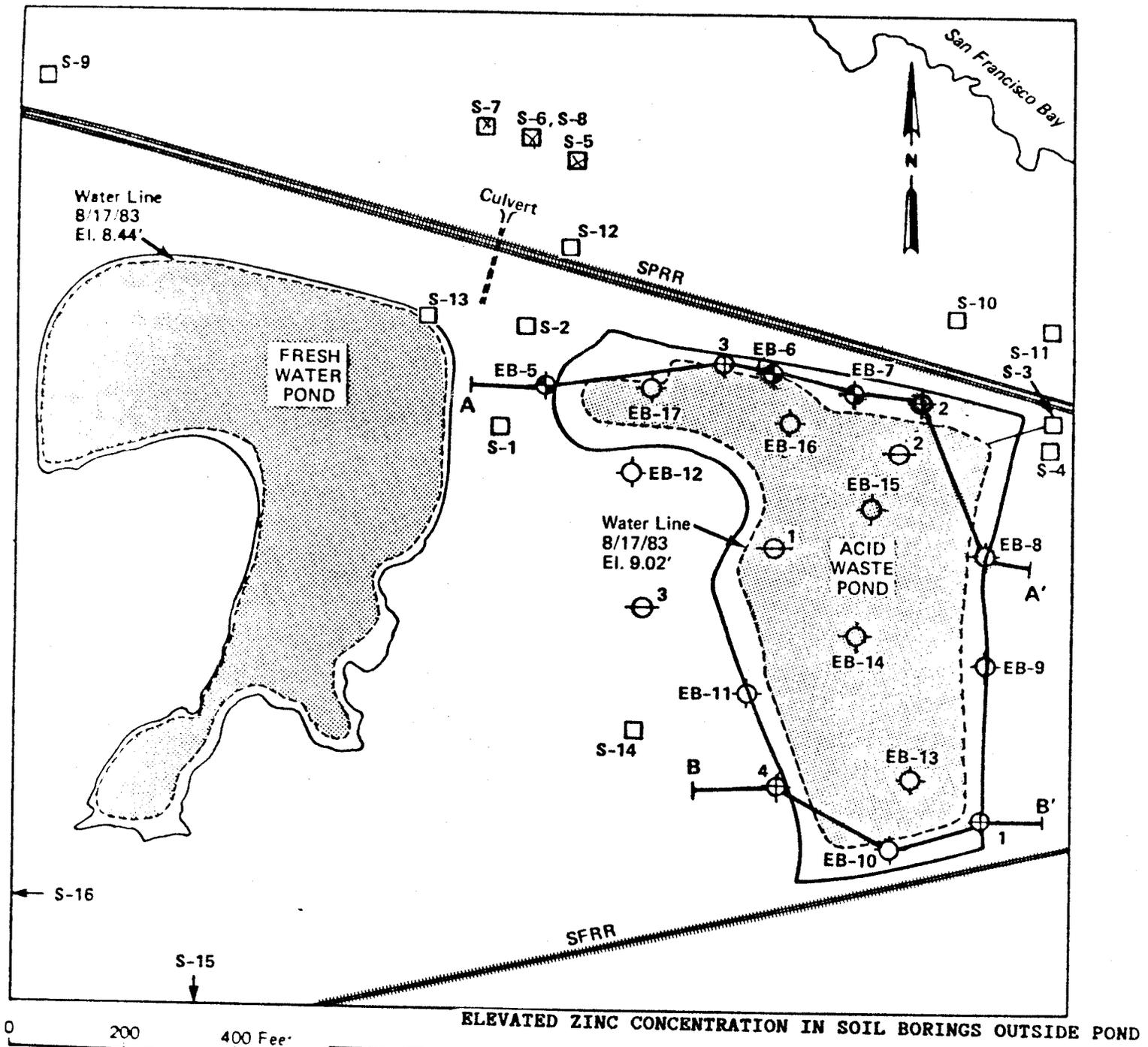
Figure 4

Distribution of Zinc in Soil, at 7-10 feet (above mean sea level)

LEGEND:

- AH-1 ● HAND AUGER BOREHOLE
- BH-1 ● BOREHOLE

NOTE:
CONTOURS SHOWN ON THIS DRAWING ARE FOR THE ORIGINAL POND.



ELEVATED ZINC CONCENTRATION IN SOIL BORINGS OUTSIDE POND

EXPLANATION	Soil Sample	Depth (feet)	Concentrations Exceeding 200 mg/kg
Monitoring well installed 8/83			
Monitoring wells installed 5/82	EB 6-6-2	8.0	230
Soil boring drilled 8/83			
Soil boring drilled 12/80	EB 7-4-4	6.0	580
Surface soil sample locations	EB 8-8-4	14.5	570
	EB 9-6-3	8.0	810

Point Pinole Waste Pond	SITE MAP WITH SOIL BORING AND MONITORING WELL LOCATIONS	Figure 1