OPERATIONS AND MAINTENANCE PLAN

BARBARY COAST STEEL

EMERYVILLE, CALIFORNIA

Prepared for

Barbary Coast Steel Corporation

March 25, 1997

Prepared by

EMCON
1921 Ringwood Avenue
San Jose, California 95131

Project 20G01-001.011

Operations and Maintenance Plan
Barbary Coast Steel
Emeryville, California

The material and data in this report were prepared under the supervision and direction of the undersigned.

EMCON

Mark Smolley for

Peter T. Christianson
Project Geologist

Mark Smolley

Mark Smolley
Registered Geologist No. 4650
Project Manager

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1 INTRODUCTION

On behalf of Barbary Coast Steel Corporation (BCS), EMCON has prepared this operations and maintenance plan for the former BCS facility at 4300 East Shore Highway, Emeryville, California (Site) (Figure 1). The operations and maintenance plan includes procedures for postclosure groundwater monitoring and inspection and maintenance of the cap which will cover the Site.

EMCON has prepared this operations and maintenance plan for submittal to the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), as required by Provision 15.4.2 of the March 22, 1993, Consent Order issued by DTSC to BCS (the Consent Order; Docket No. I&SE 92/93-013).

2 OPERATIONS AND MAINTENANCE ACTIVITIES

Operations and maintenance activities proposed for the postclosure period at the Site includes groundwater monitoring, laboratory analysis, cap inspection and maintenance, and reporting. These activities are outlined below.

2.1 Groundwater Monitoring

Six wells will be monitored to determine the groundwater conditions at the Site. Wells MW-8, MW-9, and MW-11 were installed in 1993 and have been previously monitored. Three new wells (MW-19, MW-20, and MW-21) were installed in January 1997 (Figure 2). EMCON proposes to sample and analyze the six wells on a quarterly basis during the first year and semiannually thereafter. This sampling is anticipated to start in the second quarter of 1997.

Before purging, depth to groundwater will be measured from the top of each well casing using an interface probe and each well will be checked for floating product. Depth to groundwater measurements will be to the nearest hundredth of a foot and will be used to calculate the groundwater gradient. Purging will be performed by removing at least four casing volumes of groundwater until the temperature, electrical conductivity, and pH of the water has stabilized. The purging will be performed using a centrifugal pump. Groundwater monitoring forms will be used to document data regarding the sampling procedures performed in the field.

Samples will be collected from each well using a Teflon bailer. The samples will be poured from the bailer into samples bottles, labeled, placed on ice, and transported to a certified laboratory for analysis. Chain-of-custody documentation will accompany the samples. The detailed sampling procedures are described in the Quality Assurance/Quality control Plan that is included in the *Workplan for Remedial Investigation and Feasibility Study-Barbary Coast Steel* Corporation (EMCON, May 1993). This workplan has been reviewed and approved by DTSC.

2.2 Laboratory Analysis

EMCON reviewed historical groundwater analytical data from wells MW-8, MW-9, and MW-11, and from wells previously located along the downgradient property boundary

(MW-4, MW-5, MW-16), to provide a basis for the following groundwater analytical program.

All wells will be analyzed for high boiling point hydrocarbons (HBHCs) by USEPA method 8015 and for total petroleum hydrocarbons as gasoline (TPHG) by USEPA method 8015 modified; and benzene, toluene, ethylbenzene, and xylenes (BTEX) by USEPA method 8020. Wells MW-19, MW-20, and MW-21 will be analyzed for lead by USEPA method 6010/7000 series. In addition, wells MW-19, MW-20, and MW-21 will be analyzed for polychlorinated biphenyls (PCBs) by USEPA method 8080. The groundwater sampling schedule and the analyses to be performed at each monitoring well are presented in Table 1.

2.3 Cap Inspection and Maintenance

During the postclosure period, the cap covering the Site will be inspected. The inspections will be performed quarterly during the first year and semiannually thereafter.

The cap will be inspected for cracking, erosional damage, animal burrows, settlement, sloughing, seepage, or any other damage to the cap. Each inspection will be recorded on an inspection form. Routine maintenance will be performed as necessary if any damage is detected. Maintenance will be performed within 30 working days of detection.

A workplan will be submitted to DTSC for review and approval at least 30 days before any planned disruption or alteration of the cap or monitoring system. The workplan will include a health and safety plan, if contaminated soil will be disturbed.

2.4 Additional Activities

The unpaved portion of the southeast corner of the site is being used by Caltrans under an easement agreement that expires in 1998. At the present time, Barbary Coast Steel does not have access to this area. This area will be capped within 90 days after the easement agreement expires and Caltrans is no longer using this area.

The Remedial Action Plan for the Barbary Coast Steel site required the removal of soils that contained compounds above established cleanup levels. This removal was completed in 1996 including the area along the northern property boundary, adjacent to Myers Drum. As required by a court-ordered stipulation in an agreement between Barbary Coast Steel and IMACC Corporation, IMACC will remediate soil on the Myers Drum property up to the limit of soil remediated by Barbary Coast Steel. Therefore, all soil near the Barbary Coast Steel/Myers Drum property boundary will be remediated.

2.5 Data Evaluation and Report Preparation

Reports will be submitted documenting each groundwater sampling and cap inspection event. The groundwater monitoring report will include groundwater elevation measurements, gradient determinations, and results of the laboratory analyses.

The groundwater monitoring reports shall be received by the Department by the 15th day of the first month after each quarter or biannual period ends and the cap inspection reports will be submitted on an annual basis. The reports shall describe:

a) Specific actions taken by or on behalf of Respondent during the previous reporting period

b) Actions expected to be undertaken during the current reporting period

c) All planned activities for the next reporting period

d) Any requirements under the Operations and Maintenance Agreement between Birmingham Steel Corporation and DTSC that were not completed

e) Any problems or anticipated problems in complying with the Operations and Maintenance Agreement

f) All results of tests, analyses, and other data generated under the Operations and Maintenance Agreement, and any significant findings from these data

Groundwater monitoring will be conducted until statistical evaluation, typically after 5 years of monitoring, indicates the required level of groundwater quality, or the stability of parameters, has been achieved. However, groundwater at the Site is not a current or potential future drinking water source. Therefore, groundwater monitoring will be used primarily to establish a statistical trend for the Site and to determine whether any significant changes occur in groundwater conditions.

2.6 Projected Costs

EMCON has prepared a cost projection for the scope of work outlined in the preceding sections. The cost estimate is presented in Table 2. The cost for the initial year is approximately $17,300. Costs for successive years are lower, due to the change in monitoring frequency, from quarterly to semiannual.

LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

Table 1

Groundwater Monitoring Program Sampling Schedule
Barbary Coast Steel Corporation
Emeryville, California

Wells	DTW[1]	PCBs[2]	Lead[3]	HBHCs[4]	TPHG/BTEX[5]
MW-8	Q,S[6]	NS[7]	NS	Q,S	A
MW-9	Q,S[6]	NS	NS	Q,S	A
MW-11	Q,S[6]	NS	NS	Q,S	A
MW-19	Q,S[6]	Q,S	Q,S	Q,S	Q,S
MW-20	Q,S[6]	A[8]	Q,S	Q,S	Q,S
MW-21	Q,S[6]	A	A	Q,S	Q,S

1 Depth to water (DTW)

2 Polychlorinated biphenyl (PCB) analyses performed by U.S. Environmental Protection Agency (USEPA) method 8080.

3 Lead analyses performed by USEPA method 6010/7000 series.

4 High-boiling-point hydrocarbon (HBHC) analyses performed by USEPA method 8015 (modified) and 3510.

5 Total petroleum hydrocarbon as gasoline (TPHG) and benzene, toluene, ethylbenzene, and xylenes (BTEX) analyses performed by USEPA methods 8015 (modified) and 8020.

6 Q,S = sampled quarterly during the first year, semiannually thereafter

7 NS = Not sampled

8 A = Annual Sampling

Table 2

O&M Projected Costs
Barbary Coast Steel Corporation
Emeryville, California

Task	Description	Projected Costs				
		Year 1	Year 2	Year 3	Year 4	Year 5
1	Sampling and Analysis	$10,900	$5,700	$6,000	$6,300	$ 6,600
2	CAP Inspection and Maintenance	900	2,000	2,100	2,200	2,300
3	Report Preparation	5,500	2,900	3,100	3,300	3,500
4	Statistical Review	0	0	0	0	6,800
	ESTIMATED PER YEAR TOTALS	$17,300	$10,600	$11,200	$11,800	$19,200

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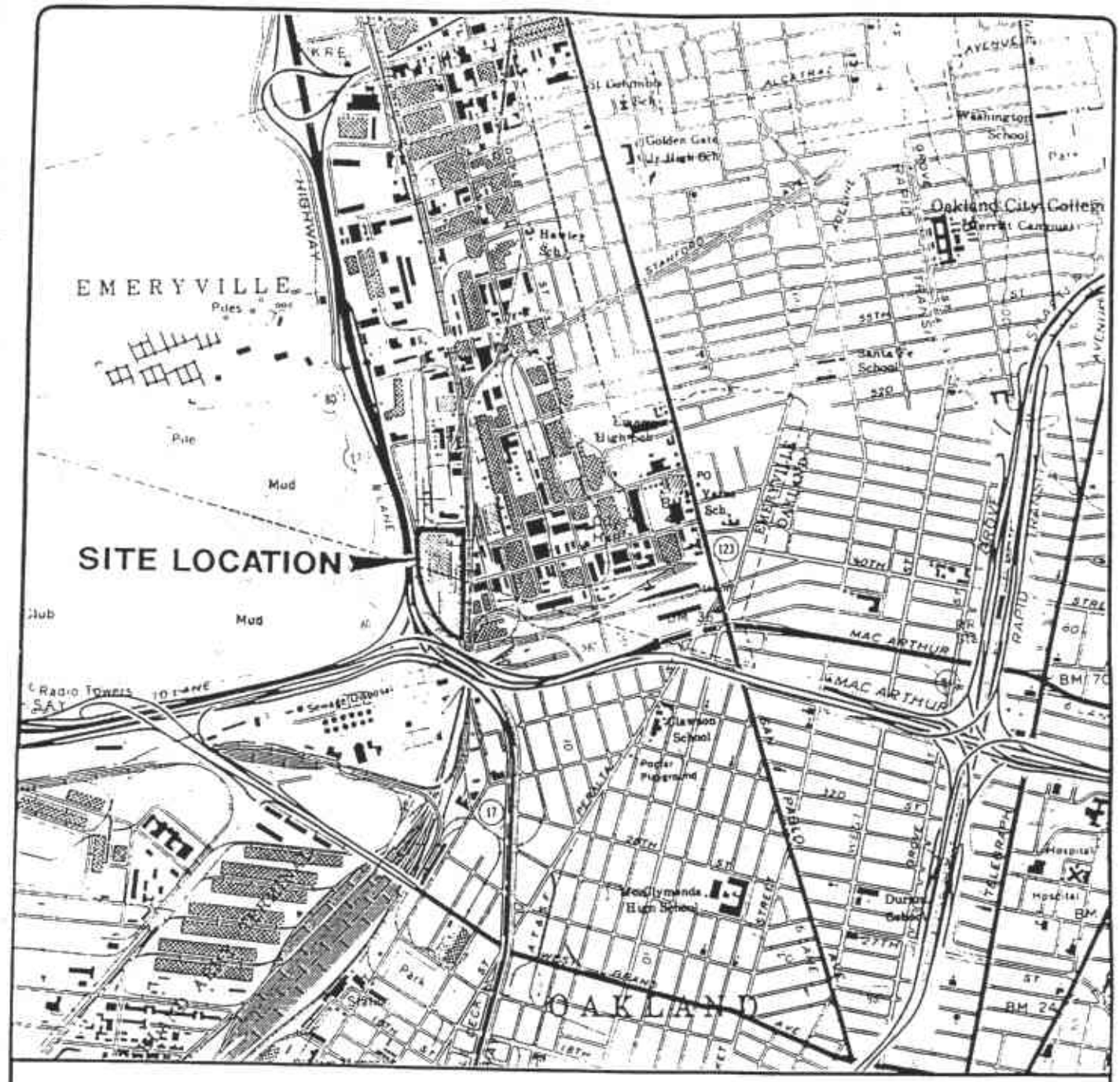

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BARBARY COAST STEEL CORPORATION
4300 EAST SHORE HIGHWAY
EMERYVILLE, CALIFORNIA

SITE LOCATION

FIGURE
1

PROJECT NO
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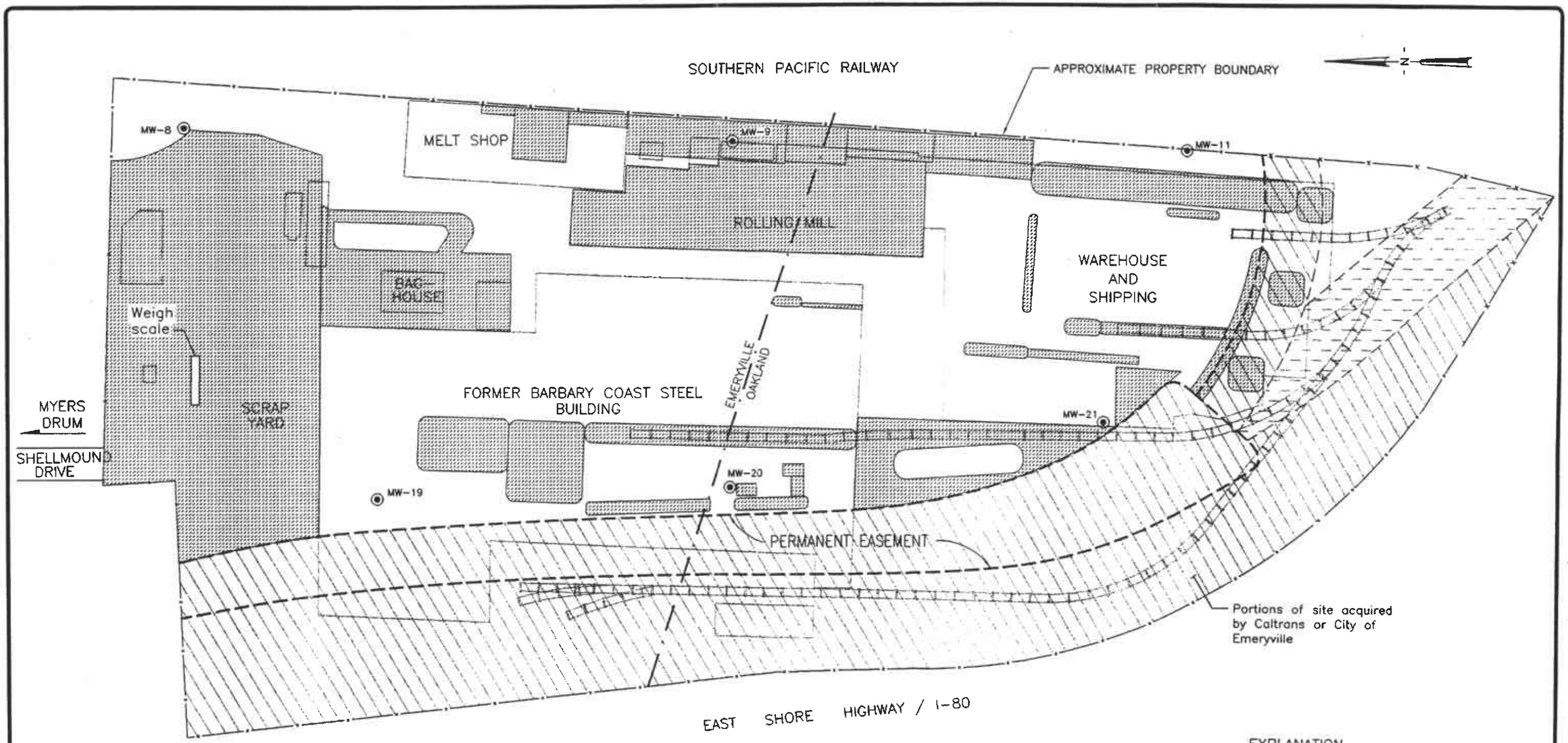

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SCALE: 0 125 250 FEET

BARBARY COAST STEEL CORPORATION
4300 EAST SHORE HIGHWAY
EMERYVILLE, CALIFORNIA

SITE PLAN

FIGURE NO.
2
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