2047-00-66

EPA REGION-9 SUPERFUND RECORDS CENTER

2047-00066

WASTE DISPOSAL INC

PROPERTY OF EPA REGION 9

HAZARDOUS WASTE MANAGEMENT DIVISION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PLEASE RETURN TO RECORDS CENTER

215 FREMONT STREET

SAN FRANCISCO, CALIFORNIA 94105

SFUND RECORDS CTR
2047-00066

AR0054

SUMMARY OF FINDINGS
PRELIMINARY SITE CHARACTERIZATION
WASTE DISPOSAL, INC. SITE
FOR REDEVELOPMENT AGENCY,
CITY OF SANTA FE SPRINGS, CALIFORNIA

DAMES & MOORE JOB NO. 13262-005-01
SANTA BARBARA, CALIFORNIA
DECEMBER 7, 1984

Dames & Moore

21S/13-COVER

Dames & Moore

812 Anacapa Street, Suite A
Santa Barbara, CA 93101
(805) 963-9676 / 963-5976

December 7, 1984

Redevelopment Agency
City of Santa Fe Springs
11710 Telegraph Road
Santa Fe Springs, California 90670

Attention: Mr. Richard H. Weaver
Director

Gentlemen:

Summary of Findings
Preliminary Site Characterization
Waste Disposal, Inc. Site
For Redevelopment Agency,
City of Santa Fe Springs, California

We are pleased to transmit the above referenced summary report of our preliminary investigation of the former Waste Disposal, Inc. site in Santa Fe Springs, California. Should you have any questions concerning this summary, please contact us. We look forward to assisting you in the future.

Very truly yours,

DAMES & MOORE

Thomas A. Vinckier

Thomas A. Vinckier
Associate

TAV:RET:dah
21S/13-ltr

TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION..... 1

1.1 BACKGROUND..... 1

2.0 PURPOSE AND SCOPE..... 2

2.1 PURPOSE OF INVESTIGATION..... 2
2.2 SCOPE OF SERVICES..... 2

3.0 INVESTIGATIVE METHODS..... 3

3.1 HEALTH AND SAFETY PLAN..... 3
3.2 DRILLING AND SAMPLING PROGRAM..... 3
3.3 ANALYTICAL TESTING PROGRAM..... 4

4.0 INVESTIGATIVE RESULTS..... 5

4.1 DRILLING AND SAMPLING PROGRAM..... 5
4.2 ANALYTICAL RESULTS..... 6

4.2.1 CAM Inorganics..... 6
4.2.2 Priority Pollutant Organic Compounds..... 6

TABLES
FIGURES
APPENDIX A: Analytical Results
California Analytical Laboratories

LIST OF TABLES

Table

1 SUMMARY OF ANALYTICAL RESULTS FOR CAM INORGANIC COMPOUNDS (METALS)

2 SUMMARY OF ANALYTICAL RESULTS FOR IDENTIFIED PRIORITY POLLUTANTS (EPA METHODS 624 AND 625)

LIST OF FIGURES

Figure

1 BORING LOCATION MAP

2 LOG OF BORINGS DMEB-1 AND DMEB-2

3 LOG OF BORINGS DMEB-3 AND DMEB-4

1.0 INTRODUCTION

This report presents a summary of the results of our initial investigation of subsurface conditions at the former Waste Disposal Inc. site in Santa Fe Springs, California. Presently, the site is an undeveloped tract of land situated north of Los Nietos Road, west of Greenleaf Avenue and east of Santa Fe Springs Road (Figure 1). This initial investigation has been conducted for the Redevelopment Agency of the City of Santa Fe Springs in order to assess whether potentially hazardous materials are present in site soils.

1.1 BACKGROUND

The following site-use history is based on information assembled by the California Department of Health Services (DHS). This information indicates that the subject site contains a buried, concrete-lined reservoir (approximately 500 feet in diameter) that was probably used initially for petroleum storage. In the late 1920s or early 1930s, the reservoir was decommissioned. From the 1930s to the late 1950s, the decommissioned reservoir was used for the disposal of a variety of materials including:

- petroleum refinery tank bottoms;
- steel mill slag;
- brewery wastes;
- cesspool sewage; and,
- miscellaneous solid and liquid wastes.

In the late 1950s and early 1960s, the disposal site received principally spent drilling muds from oil field drilling operations. Minor amounts of construction debris (wood debris and concrete rubble) were also believed to be disposed of at the site during this time. Disposal activities declined in the 1960s, and by 1965 the reservoir and surrounding area were covered by a mantle of fill soil.

Historical aerial photographs indicate that several unlined sumps were present around the periphery of the reservoir. These sumps were considerably smaller in volume than the main disposal reservoir and probably received fluids

(largely water) which were apparently drained intermittently from the reservoir. Aerial photographs also show what appear to be small outwash features originating at the northwest and southeast margins of the reservoir.

2.0 PURPOSE AND SCOPE

2.1 PURPOSE OF INVESTIGATION

Available data suggest that some of the materials disposed of in the main reservoir and peripheral sumps contain potentially hazardous compounds. In order to assess whether hazardous compounds are present, and if so, their chemical composition, we conducted a limited program of soil and waste sampling and sample analysis. We point out that our investigation is not intended to be an exhaustive evaluation of the complete chemical composition and distribution of all wastes or waste constituents in the subsurface at the site. Rather, the investigation has been designed to:

- provide a generalized vertical profile of the chemical character of materials encountered in a single boring in the main reservoir; and,

- provide an indication of the presence and chemical characteristics of waste and/or waste constituents which may be present at three boring locations adjacent to the perimeter of the reservoir.

The scope of the investigation is outlined below.

2.2 SCOPE OF SERVICES

In order to accomplish the objectives of this investigation, we have completed the following tasks:

- Preparation of a health and safety plan that was followed during the field activities of this investigation;

- Collection of soil and/or waste samples from a total of four borings within and adjacent to the main disposal reservoir;

- Chemical testing of selected samples or sample composites for both priority pollutant organics (U.S. EPA) and total CAM* inorganics; and,

- Preparation of a report that contains a summary of field and laboratory methods, logs of the subsurface borings, and a summary of the results of chemical analyses of selected samples.

The four borings were drilled at the locations shown on Figure 1. Boring DMEB-1 was positioned near the center of the former reservoir. Borings DMEB-2, -3, and -4 were were located immediately northwest, northeast, and southeast of the reservoir perimeter.

3.0 INVESTIGATIVE METHODS

3.1 HEALTH AND SAFETY PLAN

A Health and Safety Plan was established prior to implementation of site activities. The purpose of the plan was to assign responsibilities, establish personnel protection protocol and safety procedures, and provide for contingencies in the event that unanticipated hazards arise during the course of field operations.

3.2 DRILLING AND SAMPLING PROGRAM

During the week of September 28, 1984, undisturbed soil and/or waste samples were collected from Borings DMEB-1 through DMEB-4 (Figure 1). The borings were drilled under the technical supervision of a Dames & Moore geologist utilizing 8-inch diameter hollow stem auger drilling equipment. A detailed log of the materials encountered during drilling was recorded at each boring location (Figures 2 and 3). Undisturbed samples were obtained, where possible, at 2-1/2 foot intervals using a Dames & Moore U-type sampler fitted with stainless steel sample sleeves. Upon recovery of each sample, the concentration of organic vapors emitted from the soil/waste sample was measured using a portable HNu photoionization detector. Two 3-inch-long sample sleeves

---

* CAM Inorganics: California Assessment Manual (January 11, 1984) list of persistent and bioaccumulative inorganic compounds (metals).

were immediately capped with aluminum foil, sealed within a polyurethane bag and placed inside a PVC sample container with plastic end caps. All samples were appropriately labeled and stored in ice chests cooled with blue ice. Refrigerated samples along with chain of custody documents were shipped by overnight courier to California Analytical Laboratories in Sacramento, California.

Prior to drilling each boring, all downhole drilling and sampling equipment was steam cleaned to reduce the potential for cross-hole contamination. In addition, the samplers were washed with detergent and rinsed in distilled water prior to each sampling interval. Upon completion of the drilling program, the borings were backfilled with cement in order to prevent downhole migration of near-surface waste materials. All drill cuttings were placed inside 55-gallon drums and temporarily stored in a secured location on site for future disposal at an appropriate waste facility.

3.3 ANALYTICAL TESTING PROGRAM

Selected samples and sample composites were analyzed by California Analytical Laboratories in Sacramento, California for CAM inorganics (metals) and U.S. EPA priority pollutant organics. All analyses were performed according to procedures specified by the California Department of Health Services (CAM metals) or the U.S. EPA (methods 624 and 625 for priority pollutants). It should be noted that the detection limits for priority pollutants vary considerably from sample to sample (Appendix A). This variation in detection limits is related to the total organic content of each sample; that is, detection limits for a sample consisting of clean sand (DMEB-3-9) are markedly lower than for a sample consisting primarily of waste material with a high organic content (DMEB-1-3) (Appendix A). This occurs because samples that contain relatively high levels of organics must be diluted in order to achieve adequate resolution of component organic species in the sample. This dilution factor results in an increase of the detection limits for that particular sample.

4.0 INVESTIGATIVE RESULTS

4.1 DRILLING AND SAMPLING PROGRAM

Detailed logs of the materials encountered in the four borings are presented in Figures 2 and 3. Also shown on the logs are the measured concentrations of organic vapors emitted from each sample. A brief narrative description of the materials encountered in each boring follows.

Boring DMEB-1 - This boring, located roughly in the center of the former disposal reservoir (Figure 1), encountered 2 to 3 feet of fill soil underlain by a thin layer of concrete. Soil intermixed with waste material, consisting of a black oily and/or tarry substance, was encountered from approximately 3 to 5 feet and from about 10 feet to the bottom of the boring at 22 feet (Figure 2). Below about 20 feet, the waste material, graded to a soft, black viscous liquid. The boring was terminated at the top of a layer of concrete at 22.5 feet which may represent the base of the concrete-lined reservoir.

Boring DMEB-2 - Boring DMEB-2 was located to the northwest of the main reservoir (Figure 1). Soil mixed with waste material similar to that found in Boring DMEB-1 was encountered between depths of 3.5 to 14 feet (Figure 2). These materials are overlain by a layer of concrete above which is about 3 feet of fill soil. The boring was terminated at a depth of about 19 feet in dense clayey soils.

Boring DMEB-3 - Boring DMEB-3, located near the northeastern boundary of the site, encountered loose sandy fill material (silty sand as well as asphalt and metal debris) down to a total depth of about 9 feet (Figure 3). Soils penetrated below this depth consisted of silty clay to clayey silt and, below 21 feet, clean fine- to medium-grained sand. No visible waste materials were encountered; however a slight odor was detected in sample 10 (11 feet) which was collected below the base of the surficial fill materials.

Boring DMEB-4 - Boring DMEB-4, located southeast of the perimeter of the reservoir (Figure 1), encountered a 2- to 3-foot-thick layer of black oily silty clay beneath approximately four feet of fill soil (Figure 3). From a depth of about 7 feet down to the bottom of the boring at 20 feet, the soils encountered consisted of silty clay grading downward to clayey sand.

4.2 ANALYTICAL RESULTS

4.2.1 CAM Inorganics

The results for the chemical analyses for CAM inorganics (metals) are shown on Table 1. The DHS considers any waste which contains a substance listed in Table 1 to be a hazardous waste if: (1) the total concentration of any listed inorganic compound exceeds the Total Threshold Limit Concentration (TTLC) for that compound; or, (2) the extractable concentration (in mg/l), as determined by a Waste Extraction Test (WET), of any listed inorganic compound exceeds the respective Soluble Threshold Limit Concentration (STLC) for that compound. It should be noted that the samples were analyzed only for total concentrations; WET tests were not performed. None of the samples analyzed contained inorganic compounds at total concentrations in excess of the respective TTLCs. Underlined values in Table 1 represent cases in which the total concentration of a metal exceeds its respective STLC. In these cases, WET tests must be performed and the results compared to listed STLC values in order to assess whether the sample would be considered a hazardous waste.

4.2.2 Priority Pollutant Organic Compounds

The results of the chemical analyses of samples for U.S. EPA priority pollutant organics are summarized in Table 2. Only those compounds which were detected in one or more samples are listed in Table 2; a complete listing of the analytical results is presented in Appendix A. The DHS may determine that a waste is hazardous if it contains any of the priority pollutant organic compounds. The California Administrative Code (Title 22, Division 4, Chapter 30, Article 9, Section 66680) states that a waste that "...contains a material cited in the List of Chemical Names or the List of Common Names presented in this Article shall be considered a hazardous waste...". Compounds that have been detected in the samples (Table 2) and that appear on the List of Chemical Names include benzene, trans-1,2 dichloroethene, ethylbenzene, methylene chloride, toluene, trichloroethene, and naphthalene.

TABLE 1

SUMMARY OF ANALYTICAL RESULTS FOR CAM* INORGANIC COMPOUNDS (METALS)[1]
(Results in mg/kg)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	DMEB-1 Sample 3	DMEB-1 Composite	DMEB-2 Composite	DMEB-2 Sample 6	DMEB-3 Sample 9	DMEB-3 Sample 10	DMEB-4 Sample 2
Arsenic	500	5	<5	<5	<5	<5	30	<5	<5
Antimony	500	15	<5	<5	<5	<5	<5	<5	<5
Barium	10,000	100	80	310	930	120	53	95	320
Beryllium	75	0.75	<0.5	<0.5	<0.5	0.65	<0.5	<0.5	<0.5
Cadmium	100	1	2.5	2.6	1.9	2.0	0.5	1.6	1.9
Chromium III/IV[2]	2500/500	560/5	21	310	24	30	7.1	18	27
Cobalt	8000	80	4.6	5.0	3.9	12	3.6	7.6	9.2
Copper	2500	25	44	57	28	28	9.4	17	34
Lead	1000	5	130	250	280	<5	<5	<5	17
Mercury	20	0.2	0.25	0.19	0.22	0.1	<0.1	<0.1	<0.1
Molybdenum	3500	350	<10	<10	<10	<10	<10	<10	<10
Nickel	2000	20	17	38	27	22	6.6	14	23
Selenium	100	1	<1	<1	<1	<1	<1	<1	<1
Silver	500	5	500	<2	<2	<2	<2	<2	<2
Thalium	700	7	<5	<5	30	<5	<5	<5	<5
Vanadium	2400	24	22	45	24	49	14	32	32
Zinc	5000	250	150	2300	130	57	22	42	220

[1] Samples were analyzed only for total concentration of metals; underlined values signify that total concentration found exceeds the Soluble Threshold Limit Concentrations.

[2] Reported as Cr III plus Cr IV.

* CAM: California Assessment Manual, California Department of Health Services

TABLE 2

SUMMARY OF ANALYTICAL RESULTS FOR IDENTIFIED PRIORITY POLLUTANTS
(EPA METHODS 624 and 625)[1]
(micrograms/kilogram)

Identified Priority Pollutant	DMEB-1 Sample 3	DMEB-1 Composite	DMEB-2 Composite	DMEB-2 Sample 6	DMEB-3 Samples 9 and 10	DMEB-4 Sample 2
Volatiles (EPA Method 624)						
4V benzene	ND	5100	ND	ND	ND	ND
30V trans-1, 2, dichloroethene	ND	1100	ND	ND	ND	ND
38V ethylbenzene	1800	25000	1900	ND	ND	ND
44V methylene chloride	ND	7000	ND	ND	ND	ND
85V tetrachloroethene	ND	22000	ND	ND	ND	ND
86V toluene	3100	57000	ND	ND	ND	ND
87V trichloroethene	ND	13000	ND	ND	ND	ND
Hazardous Substances[2] (EPA Method 624)						
CL14 2-butanone	ND	5100	ND	ND	ND	ND
CL20 total xylenes	15000	120000	4800	ND	ND	ND
Base/Neutral Compounds (EPA Method 625)						
39B flouranthene	ND	ND	ND	ND	ND	210
55B naphthalene	29000	66000	13000	ND	ND	ND
72B benzo (a) anthracene	ND	ND	ND	ND	ND	380
73B benzo (a) pyrene	ND	ND	ND	ND	ND	1100
75B benzo (k) flouranthene	ND	ND	ND	ND	ND	1500
76B chrysene	ND	ND	ND	ND	ND	460
79B benzo (phi) perylene	ND	ND	ND	ND	ND	200
81B phenanthrene	24000	30000	ND	ND	ND	ND
83B indeno (1,2,3-cd) pyrene	ND	ND	ND	ND	ND	300
84B pyrene	ND	ND	ND	ND	ND	160

[1] Results are given only for those compounds which were detected in one or more samples; detection limits vary as shown in Appendix.
[2] Butanone and xylenes are non-priority pollutants.
ND: Not detected (see Appendix for detection limits)
21/S13-T2

DAMES & MOORE ENVIRONMENTAL BORING #2

Sample Number	Sample Depth(s)
DMEB-2 Composite	
1	5 feet
2	7.5 feet
3	10 feet
4	12.5 feet
DMEB-2-6	17.5 feet

C.A.M. METALS

Data Sheet

SAMPLE ID: DMEB-2-1,2,3,4 CAL ID: 19403,8,9,10,11

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	930	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	1.9	1	xxx
*Chromium III/VI	2500/500	24	560/5	xxx
Cobalt	8000	3.9	80	xxx
Copper	2500	28	25	xxx
Lead	1000	280	5	xxx
Mercury	20	0.22	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	27	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	30	7	xxx
Vanadium	2400	24	24	xxx
Zinc	5000	130	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MM

APPROVED BY [illegible] DATE 11/2/84

California Analytical Laboratories, Inc.

C.A.M. METALS
Data Sheet

SAMPLE ID: DMEB-2-6 CAL ID: 19403-13

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	120	100	xxx
Beryllium	75	0.65	0.75	xxx
Cadmium	100	2.0	1	xxx
*Chromium III/VI	2500/500	30	560/5	xxx
Cobalt	8000	12	80	xxx
Copper	2500	28	25	xxx
Lead	1000	<5	5	xxx
Mercury	20	0.1	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	22	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	49	24	xxx
Zinc	5000	57	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MM
APPROVED BY [illegible] DATE 4/2/84

California Analytical Laboratories, Inc.

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID: DMEB-2 COMPOSITE CAL LAB NO: 19403-C2

PP#	VOLATILES	ug/Kg
2V	acrolein	<10000
3V	acrylonitrile	<10000
4V	benzene	<2000
6V	carbon tetrachloride	<2000
7V	chlorobenzene	<2000
10V	1,2-dichloroethane	<2000
11V	1,1,1-trichloroethane	<2000
13V	1,1-dichloroethane	<2000
14V	1,1,2-trichloroethane	<2000
15V	1,1,2,2-tetrachloroethane	<2000
16V	chloroethane	<2000
19V	2-chloroethylvinyl ether	<10000
23V	chloroform	<2000
29V	1,1-dichloroethene	<2000
30V	trans-1,2-dichloroethene	<2000
32V	1,2-dichloropropane	<2000
33V	1,3-dichloropropene	<2000
38V	ethylbenzene	1900
44V	methylene chloride	<5000
45V	chloromethane	<2000
46V	bromomethane	<2000
47V	bromoform	<2000
48V	bromodichloromethane	<2000
49V	fluorotrichloromethane	<2000
50V	dichlorodifluoromethane	<2000
51V	chlorodibromomethane	<2000
85V	tetrachloroethene	<2000
86V	toluene	<2000
87V	trichloroethene	<2000
88V	vinyl chloride	<2000

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<50000
CL14	2-butanone	<50000
CL15	carbondisulfide	<20000
CL16	2-hexanone	<50000
CL17	4-methyl-2-pentanone	<50000
CL18	styrene	<20000
CL19	vinyl acetate	<10000
CL20	total xylenes	4800

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: Lym

Approved by: [illegible]

Date: 11/7/84

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID:DMED-2-6 CAL LAB NO:19403-13

PP#	VOLATILES	ug/Kg
2V	acrolein	<1000
3V	acrylonitrile	<1000
4V	benzene	<200
6V	carbon tetrachloride	<200
7V	chlorobenzene	<200
10V	1,2-dichloroethane	<200
11V	1,1,1-trichloroethane	<200
13V	1,1-dichloroethane	<200
14V	1,1,2-trichloroethane	<200
15V	1,1,2,2-tetrachloroethane	<200
16V	chloroethane	<200
19V	2-chloroethylvinyl ether	<1000
23V	chloroform	<200
29V	1,1-dichloroethene	<200
30V	trans-1,2-dichloroethene	<200
32V	1,2-dichloropropane	<200
33V	1,3-dichloropropene	<200
38V	ethylbenzene	<500
44V	methylene chloride	<500
45V	chloromethane	<200
46V	bromomethane	<200
47V	bromoform	<200
48V	bromodichloromethane	<200
49V	fluorotrichloromethane	<200
50V	dichlorodifluoromethane	<200
51V	chlorodibromomethane	<200
85V	tetrachloroethene	<200
86V	toluene	<200
87V	trichloroethene	<200
88V	vinyl chloride	<200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<500
CL14	2-butanone	<500
CL15	carbondisulfide	<200
CL16	2-hexanone	<500
CL17	4-methyl-2-pentanone	<500
CL18	styrene	<200
CL19	vinyl acetate	<1000
CL20	total xylenes	<200

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: [illegible]

Date: 10/25/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID: DMEB -2 COMPOSITE CAL LAB No: 19403-C2

PP#	ACID COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<20000
22A	p-chloro-m-cresol	<20000
24A	2-chlorophenol	<20000
31A	2,4-dichlorophenol	<20000
34A	2,4-dimethylphenol	<20000
57A	2-nitrophenol	<40000
58A	4-nitrophenol	<100000
59A	2,4-dinitrophenol	<100000
60A	4,6-dinitro-o-cresol	<40000
64A	pentachlorophenol	<20000
65A	phenol	<20000

PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
1B	acenaphthene	<20000
5B	benzidine	<80000
8B	1,2,4-trichlorobenzene	<20000
9B	hexachlorobenzene	<20000
12B	hexachloroethane	<20000
18B	bis(2-chloroethyl)ether	<20000
20B	2-chloronaphthalene	<20000
25B	1,2-dichlorobenzene	<20000
26B	1,3-dichlorobenzene	<20000
27B	1,4-dichlorobenzene	<20000
28B	3,3'-dichlorobenzidine	<40000
35B	2,4-dinitrotoluene	<40000
36B	2,6-dinitrotoluene	<40000
37B	1,2-diphenylhydrazine (as azobenzene)	<40000
39B	fluoranthene	<20000
40B	4-chlorophenyl phenyl ether	<20000
41B	4-bromophenyl phenyl ether	<20000
42B	bis(2-chloroisopropyl) ether	<40000
43B	bis(2-chloroethoxy) methane	<40000
52B	hexachlorobutadiene	<20000
53B	hexachlorocyclopentadiene	<20000
54B	isophorone	<20000
55B	naphthalene	13000
56B	nitrobenzene	<20000
62B	N-nitrosodiphenylamine	<20000
63B	N-nitrosodipropylamine	<20000
66B	bis(2-ethylhexyl)phthalate	<20000
67B	benzyl butyl phthalate	<20000
68B	di-n-butyl phthalate	<20000
69B	di-n-octyl phthalate	<20000
70B	diethyl phthalate	<20000
71B	dimethyl phthalate	<20000
72B	benzo(a)anthracene	<20000
73B	benzo(a)pyrene	<40000
74B	benzo(b)fluoranthene	<40000*
75B	benzo(k)fluoranthene	<40000*
76B	chrysene	<40000
77B	acenaphthylene	<20000
78B	anthracene	<20000
79B	benzo(ghi)perylene	<40000
80B	fluorene	<20000
81B	phenanthrene	<20000
82B	dibenzo(a,h)anthracene	<40000
83B	indeno(1,2,3-cd)pyrene	<40000
84B	pyrene	<20000

1.	aldrin	<500	8.	dieldrin	<500
2.	B-BHC	<500	9.	endosulfan sulfate	<1000
3.	D-BHC	<5000	10.	endrin aldehyde	<1000
4.	chlordane	<5000	11.	heptachlor	<500
5.	4,4'-DDD	<500	12.	heptachlor epoxide	<500
6.	4,4'-DDE	<500	13.	PCB	<5000
7.	4,4'-DDT	<500	14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: bjm

Approved by: [illegible] Date: 11/7/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID:DMEB-2-6 CAL LAB No: 19403-13

PP#	ACID COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<400
22A	p-chloro-m-cresol	<400
24A	2-chlorophenol	<400
31A	2,4-dichlorophenol	<400
34A	2,4-dimethylphenol	<400
57A	2-nitrophenol	<800
58A	4-nitrophenol	<2000
59A	2,4-dinitrophenol	<2000
60A	4,6-dinitro-o-cresol	<800
64A	pentachlorophenol	<400
65A	phenol	<400

PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
1B	acenaphthene	<400
5B	benzidine	<1600
8B	1,2,4-trichlorobenzene	<400
9B	hexachlorobenzene	<400
12B	hexachloroethane	<400
18B	bis(2-chloroethyl)ether	<400
20B	2-chloronaphthalene	<400
25B	1,2-dichlorobenzene	<400
26B	1,3-dichlorobenzene	<400
27B	1,4-dichlorobenzene	<400
28B	3,3'-dichlorobenzidine	<800
35B	2,4-dinitrotoluene	<800
36B	2,6-dinitrotoluene	<800
37B	1,2-diphenylhydrazine (as azobenzene)	<800
39B	fluoranthene	<400
40B	4-chlorophenyl phenyl ether	<400
41B	4-bromophenyl phenyl ether	<400
42B	bis(2-chloroisopropyl) ether	<800
43B	bis(2-chloroethoxy) methane	<800
52B	hexachlorobutadiene	<400
53B	hexachlorocyclopentadiene	<400
54B	isophorone	<400
55B	naphthalene	<400
56B	nitrobenzene	<400
62B	N-nitrosodiphenylamine	<400
63B	N-nitrosodipropylamine	<400
66B	bis(2-ethylhexyl)phthalate	<400
67B	benzyl butyl phthalate	<400
68B	di-n-butyl phthalate	<400
69B	di-n-octyl phthalate	<400
70B	diethyl phthalate	<400
71B	dimethyl phthalate	<400
72B	benzo(a)anthracene	<400
73B	benzo(a)pyrene	<800
74B	benzo(b)fluoranthene	<800*
75B	benzo(k)fluoranthene	<800*
76B	chrysene	<800
77B	acenaphthylene	<400
78B	anthracene	<400
79B	benzo(ghi)perylene	<800
80B	fluorene	<400
81B	phenanthrene	<400
82B	dibenzo(a,h)anthracene	<800
83B	indeno(1,2,3-cd)pyrene	<800
84B	pyrene	<400

1.	aldrin	<500	8.	dieldrin	<500
2.	B-BHC	<500	9.	endosulfan sulfate	<1000
3.	D-BHC	<500	10.	endrin aldehyde	<1000
4.	chlordane	<5000	11.	heptachlor	<500
5.	4,4'-DDD	<500	12.	heptachlor epoxide	<500
6.	4,4'-DDE	<500	13.	PCB	<5000
7.	4,4'-DDT	<500	14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: Lym

Approved by: MDM Date: 11/7/84

DAMES & MOORE ENVIRONMENTAL BORING #3

Sample Number	Sample Depth(s)
DMEB-3-10*	11 feet
DMEB-3-9	22 feet

* Boring 3 was redrilled to collect sample number 10 at 11 feet.

C.A.M. METALS
Data Sheet

SAMPLE ID: DMEB-3-10 CAL ID: 19403-20

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	95	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	1.6	1	xxx
*Chromium III/VI	2500/500	18	560/5	xxx
Cobalt	8000	7.6	80	xxx
Copper	2500	17	25	xxx
Lead	1000	<5	5	xxx
Mercury	20	<0.1	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	14	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	32	24	xxx
Zinc	5000	42	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MM

APPROVED BY [illegible] DATE 11/2/84

California Analytical Laboratories, Inc.

C.A.M. METALS

Data Sheet

SAMPLE ID: DMEB-3-9 CAL ID: 19403-19

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	30	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	53	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	0.5	1	xxx
*Chromium III/VI	2500/500	7.1	560/5	xxx
Cobalt	8000	3.6	80	xxx
Copper	2500	9.4	25	xxx
Lead	1000	<5	5	xxx
Mercury	20	<0.1	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	6.6	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	14	24	xxx
Zinc	5000	22	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MW

APPROVED BY [illegible] DATE 11/21/84

California Analytical Laboratories, Inc.

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID:DMEB-3-10 CAL LAB NO:19403-20

PP#	VOLATILES	ug/Kg
2V	acrolein	<1000
3V	acrylonitrile	<1000
4V	benzene	<200
6V	carbon tetrachloride	<200
7V	chlorobenzene	<200
10V	1,2-dichloroethane	<200
11V	1,1,1-trichloroethane	<200
13V	1,1-dichloroethane	<200
14V	1,1,2-trichloroethane	<200
15V	1,1,2,2-tetrachloroethane	<200
16V	chloroethane	<200
19V	2-chloroethylvinyl ether	<1000
23V	chloroform	<200
29V	1,1-dichloroethene	<200
30V	trans-1,2-dichloroethene	<200
32V	1,2-dichloropropane	<200
33V	1,3-dichloropropene	<200
38V	ethylbenzene	<500
44V	methylene chloride	<500
45V	chloromethane	<200
46V	bromomethane	<200
47V	bromoform	<200
48V	bromodichloromethane	<200
49V	fluorotrichloromethane	<200
50V	dichlorodifluoromethane	<200
51V	chlorodibromomethane	<200
85V	tetrachloroethene	<200
86V	toluene	<200
87V	trichloroethene	<200
88V	vinyl chloride	<200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<500
CL14	2-butanone	<500
CL15	carbondisulfide	<200
CL16	2-hexanone	<500
CL17	4-methyl-2-pentanone	<500
CL18	styrene	<200
CL19	vinyl acetate	<1000
CL20	total xylenes	<200

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MM

Date: 10/25/84

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID: DMEB-3-9 CAL LAB NO:19403-19

PP#	VOLATILES	ug/Kg
2V	acrolein	<1000
3V	acrylonitrile	<1000
4V	benzene	<200
6V	carbon tetrachloride	<200
7V	chlorobenzene	<200
10V	1,2-dichloroethane	<200
11V	1,1,1-trichloroethane	<200
13V	1,1-dichloroethane	<200
14V	1,1,2-trichloroethane	<200
15V	1,1,2,2-tetrachloroethane	<200
16V	chloroethane	<200
19V	2-chloroethylvinyl ether	<1000
23V	chloroform	<200
29V	1,1-dichloroethene	<200
30V	trans-1,2-dichloroethene	<200
32V	1,2-dichloropropane	<200
33V	1,3-dichloropropene	<200
38V	ethylbenzene	<500
44V	methylene chloride	<500
45V	chloromethane	<200
46V	bromomethane	<200
47V	bromoform	<200
48V	bromodichloromethane	<200
49V	fluorotrichloromethane	<200
50V	dichlorodifluoromethane	<200
51V	chlorodibromomethane	<200
85V	tetrachloroethene	<200
86V	toluene	<200
87V	trichloroethene	<200
88V	vinyl chloride	<200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<500
CL14	2-butanone	<500
CL15	carbondisulfide	<200
CL16	2-hexanone	<500
CL17	4-methyl-2-pentanone	<500
CL18	styrene	<200
CL19	vinyl acetate	<1000
CL20	total xylenes	<200

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MM

Date: 10/25/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID: DMEB-3-10 CAL LAB No: 19403-20

PP#	ACID COMPOUNDS	ug/Kg	PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<200	40B	4-chlorophenyl phenyl ether	<200
22A	p-chloro-m-cresol	<200	41B	4-bromophenyl phenyl ether	<200
24A	2-chlorophenol	<200	42B	bis(2-chloroisopropyl) ether	<400
31A	2,4-dichlorophenol	<200	43B	bis(2-chloroethoxy) methane	<400
34A	2,4-dimethylphenol	<200	52B	hexachlorobutadiene	<200
57A	2-nitrophenol	<400	53B	hexachlorocyclopentadiene	<200
58A	4-nitrophenol	<1000	54B	isophorone	<200
59A	2,4-dinitrophenol	<1000	55B	naphthalene	<200
60A	4,6-dinitro-o-cresol	<400	56B	nitrobenzene	<200
64A	pentachlorophenol	<200	62B	N-nitrosodiphenylamine	<200
65A	phenol	<200	63B	N-nitrosodipropylamine	<200
			66B	bis(2-ethylhexyl)phthalate	<200
	BASE/NEUTRAL COMPOUNDS		67B	benzyl butyl phthalate	<200
			68B	di-n-butyl phthalate	<200
1B	acenaphthene	<200	69B	di-n-octyl phthalate	<200
5B	benzidine	<800	70B	diethyl phthalate	<200
8B	1,2,4-trichlorobenzene	<200	71B	dimethyl phthalate	<200
9B	hexachlorobenzene	<200	72B	benzo(a)anthracene	<200
12B	hexachloroethane	<200	73B	benzo(a)pyrene	<400
18B	bis(2-chloroethyl)ether	<200	74B	benzo(b)fluoranthene	<400*
20B	2-chloronaphthalene	<200	75B	benzo(k)fluoranthene	<400*
25B	1,2-dichlorobenzene	<200	76B	chrysene	<400
26B	1,3-dichlorobenzene	<200	77B	acenaphthylene	<200
27B	1,4-dichlorobenzene	<200	78B	anthracene	<200
28B	3,3'-dichlorobenzidine	<400	79B	benzo(ghi)perylene	<400
35B	2,4-dinitrotoluene	<400	80B	fluorene	<200
36B	2,6-dinitrotoluene	<400	81B	phenanthrene	<200
37B	1,2-diphenylhydrazine		82B	dibenzo(a,h)anthracene	<400
	(as azobenzene)	<400	83B	indeno(1,2,3-cd)pyrene	<400
39B	fluoranthene	<200	84B	pyrene	<200

1.	aldrin	<500	8.	dieldrin	<500
2.	B-BHC	<500	9.	endosulfan sulfate	<1000
3.	D-BHC	<500	10.	endrin aldehyde	<1000
4.	chlordane	<5000	11.	heptachlor	<500
5.	4,4'-DDD	<500	12.	heptachlor epoxide	<500
6.	4,4'-DDE	<500	13.	PCB	<5000
7.	4,4'-DDT	<500	14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: lym

Approved by: MMM Date: 11/7/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID:DMEB-3-9 CAL LAB No: 19403-19

PP#	ACID COMPOUNDS	ug/Kg	PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<200	40B	4-chlorophenyl phenyl ether	<200
22A	p-chloro-m-cresol	<200	41B	4-bromophenyl phenyl ether	<200
24A	2-chlorophenol	<200	42B	bis(2-chloroisopropyl) ether	<400
31A	2,4-dichlorophenol	<200	43B	bis(2-chloroethoxy) methane	<400
34A	2,4-dimethylphenol	<200	52B	hexachlorobutadiene	<200
57A	2-nitrophenol	<400	53B	hexachlorocyclopentadiene	<200
58A	4-nitrophenol	<1000	54B	isophorone	<200
59A	2,4-dinitrophenol	<1000	55B	naphthalene	<200
60A	4,6-dinitro-o-cresol	<400	56B	nitrobenzene	<200
64A	pentachlorophenol	<200	62B	N-nitrosodiphenylamine	<200
65A	phenol	<200	63B	N-nitrosodipropylamine	<200
			66B	bis(2-ethylhexyl)phthalate	<200
	BASE/NEUTRAL COMPOUNDS		67B	benzyl butyl phthalate	<200
			68B	di-n-butyl phthalate	<200
1B	acenaphthene	<200	69B	di-n-octyl phthalate	<200
5B	benzidine	<800	70B	diethyl phthalate	<200
8B	1,2,4-trichlorobenzene	<200	71B	dimethyl phthalate	<200
9B	hexachlorobenzene	<200	72B	benzo(a)anthracene	<200
12B	hexachloroethane	<200	73B	benzo(a)pyrene	<400
18B	bis(2-chloroethyl)ether	<200	74B	benzo(b)fluoranthene &	<400*
20B	2-chloronaphthalene	<200	75B	benzo(k)fluoranthene	<400*
25B	1,2-dichlorobenzene	<200	76B	chrysene	<400
26B	1,3-dichlorobenzene	<200	77B	acenaphthylene	<200
27B	1,4-dichlorobenzene	<200	78B	anthracene	<200
28B	3,3'-dichlorobenzidine	<400	79B	benzo(ghi)perylene	<400
35B	2,4-dinitrotoluene	<400	80B	fluorene	<200
36B	2,6-dinitrotoluene	<400	81B	phenanthrene	<200
37B	1,2-diphenylhydrazine		82B	dibenzo(a,h)anthracene	<400
	(as azobenzene)	<400	83B	indeno(1,2,3-cd)pyrene	<400
39B	fluoranthene	<200	84B	pyrene	<200
1.	aldrin	<500	8.	dieldrin	<500
2.	B-BHC	<500	9.	endosulfan sulfate	<1000
3.	D-BHC	<500	10.	endrin aldehyde	<1000
4.	chlordane	<5000	11.	heptachlor	<500
5.	4,4'-DDD	<500	12.	heptachlor epoxide	<500
6.	4,4'-DDE	<500	13.	PCB	<5000
7.	4,4'-DDT	<500	14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MM Date: 10/25/84

DAMES & MOORE ENVIRONMENTAL BORING #4

Sample Number	Sample Depth(s)
DMEB-4-2	5 feet

C.A.M. METALS
Data Sheet

SAMPLE ID: DMEB-4-2 CAL ID: 19403-22

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	320	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	1.9	1	xxx
*Chromium III/VI	2500/500	27	560/5	xxx
Cobalt	8000	9.2	80	xxx
Copper	2500	34	25	xxx
Lead	1000	17	5	xxx
Mercury	20	<0.1	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	23	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	32	24	xxx
Zinc	5000	220	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY _____

APPROVED BY _____ DATE 11/2/84

California Analytical Laboratories, Inc.

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID:DMEB-4-2 CAL LAB NO:19403-22

PP#	VOLATILES	ug/Kg
2V	acrolein	<1000
3V	acrylonitrile	<1000
4V	benzene	<200
6V	carbon tetrachloride	<200
7V	chlorobenzene	<200
10V	1,2-dichloroethane	<200
11V	1,1,1-trichloroethane	<200
13V	1,1-dichloroethane	<200
14V	1,1,2-trichloroethane	<200
15V	1,1,2,2-tetrachloroethane	<200
16V	chloroethane	<200
19V	2-chloroethylvinyl ether	<1000
23V	chloroform	<200
29V	1,1-dichloroethene	<200
30V	trans-1,2-dichloroethene	<200
32V	1,2-dichloropropane	<200
33V	1,3-dichloropropene	<200
38V	ethylbenzene	<500
44V	methylene chloride	<500
45V	chloromethane	<200
46V	bromomethane	<200
47V	bromoform	<200
48V	bromodichloromethane	<200
49V	fluorotrichloromethane	<200
50V	dichlorodifluoromethane	<200
51V	chlorodibromomethane	<200
85V	tetrachloroethene	<200
86V	toluene	<200
87V	trichloroethene	<200
88V	vinyl chloride	<200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<500
CL14	2-butanone	<500
CL15	carbondisulfide	<200
CL16	2-hexanone	<500
CL17	4-methyl-2-pentanone	<500
CL18	styrene	<200
CL19	vinyl acetate	<1000
CL20	total xylenes	<200

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MDM Date: 10/25/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID:DMEB-4-2 CAL LAB No: 19403-22

PP#	ACID COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<200
22A	p-chloro-m-cresol	<200
24A	2-chlorophenol	<200
31A	2,4-dichlorophenol	<200
34A	2,4-dimethylphenol	<200
57A	2-nitrophenol	<400
58A	4-nitrophenol	<1000
59A	2,4-dinitrophenol	<1000
60A	4,6-dinitro-o-cresol	<400
64A	pentachlorophenol	<200
65A	phenol	<200

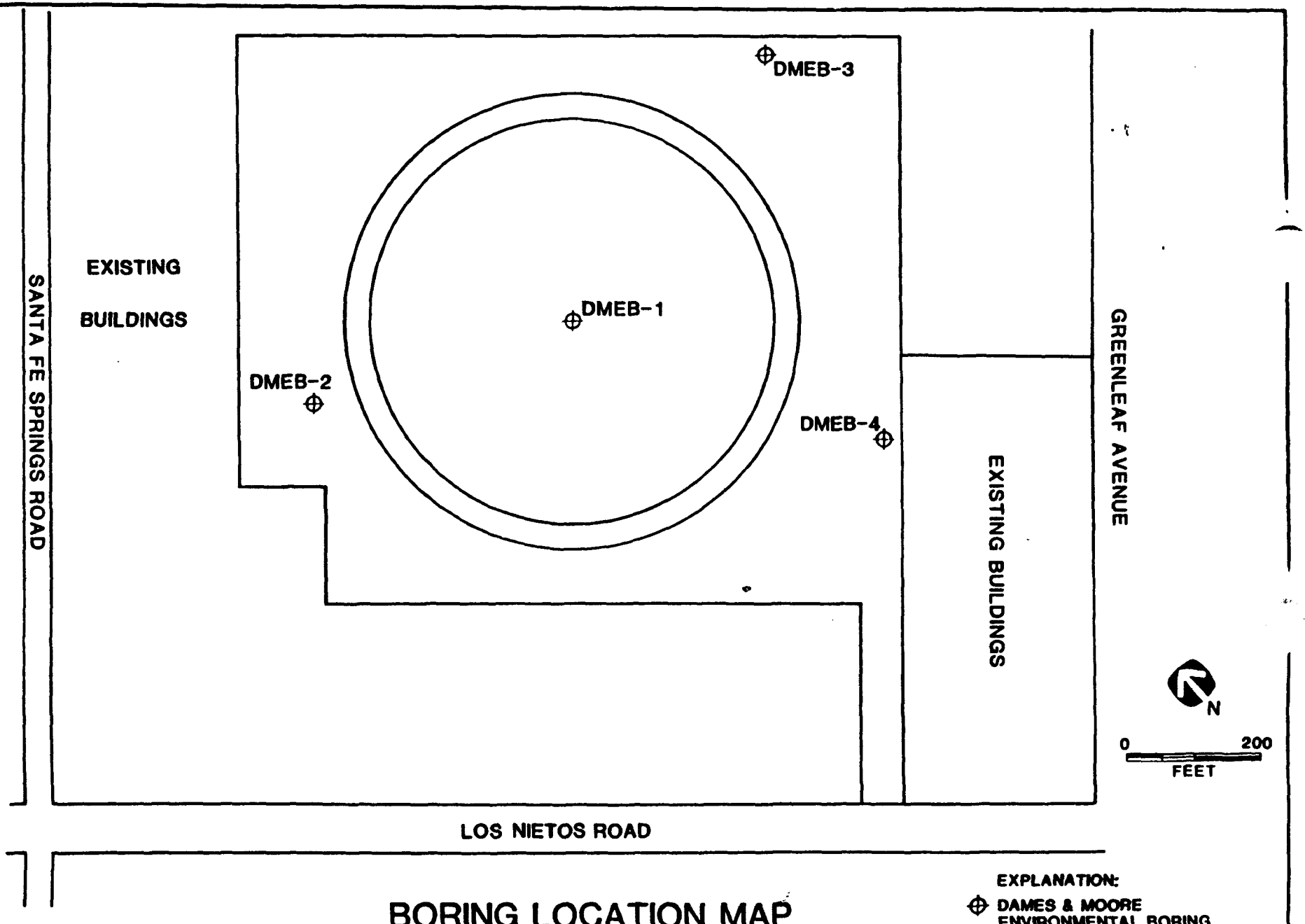
PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
1B	acenaphthene	<200
5B	benzidine	<800
8B	1,2,4-trichlorobenzene	<200
9B	hexachlorobenzene	<200
12B	hexachloroethane	<200
18B	bis(2-chloroethyl)ether	<200
20B	2-chloronaphthalene	<200
25B	1,2-dichlorobenzene	<200
26B	1,3-dichlorobenzene	<200
27B	1,4-dichlorobenzene	<200
28B	3,3'-dichlorobenzidine	<400
35B	2,4-dinitrotoluene	<400
36B	2,6-dinitrotoluene	<400
37B	1,2-diphenylhydrazine (as azobenzene)	<400
39B	fluoranthene	210
40B	4-chlorophenyl phenyl ether	<200
41B	4-bromophenyl phenyl ether	<200
42B	bis(2-chloroisopropyl) ether	<400
43B	bis(2-chloroethoxy) methane	<400
52B	hexachlorobutadiene	<200
53B	hexachlorocyclopentadiene	<200
54B	isophorone	<200
55B	naphthalene	<200
56B	nitrobenzene	<200
62B	N-nitrosodiphenylamine	<200
63B	N-nitrosodipropylamine	<200
66B	bis(2-ethylhexyl)phthalate	<200
67B	benzyl butyl phthalate	<200
68B	di-n-butyl phthalate	<200
69B	di-n-octyl phthalate	<200
70B	diethyl phthalate	<200
71B	dimethyl phthalate	<200
72B	benzo(a)anthracene	380
73B	benzo(a)pyrene	1100
74B	benzo(b)fluoranthene	<400*
75B	benzo(k)fluoranthene	1500
76B	chrysene	460
77B	acenaphthylene	<200
78B	anthracene	<200
79B	benzo(ghi)perylene	200
80B	fluorene	<200
81B	phenanthrene	<200
82B	dibenzo(a,h)anthracene	<400
83B	indeno(1,2,3-cd)pyrene	300
84B	pyrene	160

1.	aldrin	<500
2.	B-BHC	<500
3.	D-BHC	<500
4.	chlordane	<5000
5.	4,4'-DDD	<500
6.	4,4'-DDE	<500
7.	4,4'-DDT	<500
8.	dieldrin	<500
9.	endosulfan sulfate	<1000
10.	endrin aldehyde	<1000
11.	heptachlor	<500
12.	heptachlor epoxide	<500
13.	PCB	<5000
14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MM Date: 10/25/84



BORING LOCATION MAP

Dames & Moore

FIGURE 1

BORING DMEB-1

DRILLING METHOD: 8 INCH DIAMETER HOLLOW STEM AUGER

DEPTH IN FEET	SAMPLES ANALYZED	ORGANIC VAPOR CONCENTRATION* (HNu DETECTOR) (ppm)	BLOWS/6"	SAMPLE NO.	SAMPLE	SYMBOLS	DESCRIPTION
0						SM	CONCRETE LAYER (UNABLE TO SAMPLE)
		2	10/13/17	1	■	CL/WST	DARK BROWN CLAY AND BLACK OILY WASTE MATERIAL WITH TRACE BRICK FRAGMENTS
5							CONCRETE LAYER (UNABLE TO SAMPLE)
		2	3/16/34	2	■	CL	DARK BROWN TO BLACK SILTY CLAY WITH BRICK AND CONCRETE FRAGMENTS
10	DMEB 1-3	65	8/10/20	3	■	CL/WST	GRADES TO DARK BROWN TO BLACK SILTY CLAY AND (OILY) WASTE MATERIAL
		2	13/11/28	4	■		
15	DMEB-1 (COMPOSITE)	15	8/12/10	5	■		GRADING TO MOSTLY SOFT, BLACK (OILY AND/OR TARRY) WASTE MATERIAL
		3	2/3/3	6	■	WST (CL)	
20		3	0	7	■		GRADING TO VERY SOFT, VISCOUS LIQUID WASTE
25							CONCRETE LAYER

BORING TERMINATED AT 22.5 FEET ON SEPTEMBER 25, 198-

WST: WASTE MATERIAL

* FIELD MEASUREMENT

BORING DMEB-2

DRILLING METHOD: 8 INCH DIAMETER HOLLOW STEM AUGER

DEPTH IN FEET	SAMPLES ANALYZED	ORGANIC VAPOR CONCENTRATION* (HNu DETECTOR) (ppm)	BLOWS/6"	SAMPLE NO.	SAMPLE	SYMBOLS	DESCRIPTION
0						GM	LIGHT BROWN SILTY SAND GRAVEL TO 1 INCH
							(UNABLE TO SAMPLE)
							CONCRETE LAYER
5		3	4/5/5	1	■	CL/WST	BLACK CLAYEY (OILY) WASTE MATERIAL, SOFT
	DMEB-2 (COMPOSITE)	3	4/4/5	2	■		
10		3	4-18"	3	■		AS ABOVE
		6	1/1/2	4	■		
15		3	8/19/25	5	■	CL	MEDIUM BROWN SLIGHTLY SANDY SILTY CLAY, STIFF
	DMEB 2-6	3	16/24/40	6	■		GRADING DENSER
20							

BORING TERMINATED AT 18.5 FEET ON SEPTEMBER 25, 1984

WST: WASTE MATERIAL

* FIELD MEASUREMENT

Dames & Moore

FIGURE 2

BORING DMEB-3

DRILLING METHOD: 8 INCH DIAMETER HOLLOW STEM AUGER

DEPTH IN FEET	SAMPLES ANALYZED	ORGANIC VAPOR CONCENTRATION* (HNu DETECTOR) (ppm)	BLOWS/6"	SAMPLE NO.	SAMPLE	SYMBOLS	DESCRIPTION	
0						SM	LIGHT BROWN SILTY SAND WITH SOME GRAVEL AND ASPHALT FRAGMENTS	
		2	5/7/12-4"	1	■			
5				(2)	□		AS ABOVE	(SAMPLE NOT RECOVERED)
				(3)	□	CL/ML	ENCOUNTERED ASPHALT AND METAL FRAGMENTS	(UNABLE TO SAMPLE)
10			8/13/8	(4)	□			(SAMPLE NOT RECOVERED)
	DMEB 3-10	2		10*	■		DARK BROWN SILTY CLAY TO CLAYEY SILT (WITH SLIGHT ODOR)	
		2	5/11/9	5	■		AS ABOVE WITHOUT ODOR	
15		2	11/7/9	6	■			
		2	18/45/50-4"	7	■		GRADING VERY DENSE	
20		2	12/18/29	8	■		GRADING WITH TRACE SAND	
	DMEB 3-9	2	9/12/15	9	■	SP	LIGHT BROWN CLEAN FINE TO MEDIUM SAND	
25								

BORING TERMINATED AT A DEPTH OF 23.5 FEET ON SEPTEMBER 26, 1984

*FIELD MEASUREMENT

* BORING REDRILLED TO COLLECT SAMPLE NUMBER 10 AT 11 FEET

BORING DMEB-4

DRILLING METHOD: 8 INCH DIAMETER HOLLOW STEM AUGER

DEPTH IN FEET	SAMPLES ANALYZED	ORGANIC VAPOR CONCENTRATION* (HNu DETECTOR) (ppm)	BLOWS/6"	SAMPLE NO.	SAMPLE	SYMBOLS	DESCRIPTION
0						SM	
		2	50/63	1	■		LIGHT TO DARK BROWN SILTY SAND AND GRAVEL
5	DMEB 4-2	4	7/7/9	2	■	ML/CL	GRAY CLAYEY SILT GRADING DOWNWARD TO BLACK (OILY) SILTY CLAY
		2	6/9/11	3	■	ML	BLUISH TO GREENISH CLAYEY SILT
10		2	5/7/9	4	■		BLUISH GRAY SILTY CLAY WITH SOME BLACK (OILY) CLAY BLEBS
		3	5/14/20	5	■	CL	DARK GRAY SILTY CLAY
15		2	8/16/29	6	■		ORANGISH BROWN STIFF SILTY CLAY
		2	12/21/35	7	■		
20		2	8/9/16	8	■	SC	GREENISH GRAY CLAYEY SAND
25							

BORING TERMINATED AT 21 FEET ON SEPTEMBER 26, 1984

*FIELD MEASUREMENT

Dames & Moore

FIGURE 3

APPENDIX A

ANALYTICAL RESULTS
CALIFORNIA ANALYTICAL LABORATORIES

APPENDIX

California Analytical Laboratories, Inc.
2544 Industrial Boulevard • West Sacramento, CA 95691 • (916) 372-1393

October 31, 1984
Lab No. 19403
Received: 9/28/84
Job No. 13262-005-01

Robert E. Troutman
812 Anacapa St. Suite A
Santa Barbara, CA 93101

Twenty-eight soil samples received in six inch plastic core tubes to be analyzed for CAM metals, EPA Method 624 and 625.

CAL I.D.	Sample I.D.					
19403-1	DMEB-1-1	3.5	soil	9/24/84	14:50	HOLD
-2	DMEB-1-2	7.5	soil	9/24/84	15:05	HOLD
-3	DMEB-1-3	10.0	soil	9/24/84	15:15	
-4	DMEB-1-4	12.5	soil	9/24/84	15:40	
-5	DMEB-1-5	15	soil	9/24/84	16:00	COMPOSITED
-6	DMEB-1-6	17.5	soil	9/24/84	16:15	
-7	DMEB-1-7	20	soil	9/24/84	16:40	
-8	DMEB-2-1	5	soil	9/25/84	10:30	
-9	DMEB-2-2	7.5	soil	9/25/84	10:45	COMPOSITED
-10	DMEB-2-3	10	soil	9/25/84	11:00	
-11	DMEB-2-4	12.5	soil	9/25/84	11:10	
-12	DMEB-2-5	15	soil	9/25/84	11:15	HOLD
-13	DMEB-2-6	17.5	soil	9/25/84	11:25	
-14	DMEB-3-1	2.5	soil	9/26/84	08:15	HOLD
-15	DMEB-3-5	12.5	soil	9/26/84	10:25	HOLD
-16	DMEB-3-6	15	soil	9/26/84	10:35	HOLD
-17	DMEB-3-7	17.5	soil	9/26/84	10:45	HOLD
-18	DMEB-3-8	20	soil	9/26/84	11:35	HOLD
-19	DMEB-3-9	22.5	soil	9/26/84	11:45	
-20	DMEB-3-10	11	soil	9/26/84	14:50	
-21	DMEB-4-1	2.5	soil	9/26/84	12:35	HOLD
-22	DMEB-4-2	5	soil	9/26/84	12:45	
-23	DMEB-4-3	7.5	soil	9/26/84	12:55	HOLD
-24	DMEB-4-4	10	soil	9/26/84	13:10	HOLD
-25	DMEB-4-5	12.5	soil	9/26/84	13:30	HOLD
-26	DMEB-4-6	15	soil	9/26/84	13:40	HOLD
-27	DMEB-4-7	17.5	soil	9/26/84	13:50	HOLD
-28	DMEB-4-8	20	soil	9/26/84	14:05	HOLD

Charles J. Soderquist, PhD
Vice President

Mark Masino
Director of Inorganic Services

jb

This report is for the sole and exclusive use of the client to whom it is addressed.
Samples not destroyed in testing are retained a maximum of thirty (30) days unless otherwise requested.

DAMES & MOORE ENVIRONMENTAL BORING #1

Sample Number	Sample Depth(s)
DMEB-1-3	10 feet
DMEB-1 Composite	
4	12.5 feet
5	15 feet
6	17.5 feet
7	20 feet

C.A.M. METALS

Data Sheet

SAMPLE ID: DMEB-1-3 CAL ID: 19403-3

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	80	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	2.5	1	xxx
*Chromium III/VI	2500/500	21	560/5	xxx
Cobalt	8000	4.6	80	xxx
Copper	2500	44	25	xxx
Lead	1000	130	5	xxx
Mercury	20	0.25	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	17	20	xxx
Selenium	100	<1	1	xxx
Silver	500	500	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	22	24	xxx
Zinc	5000	150	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MN

APPROVED BY [illegible] DATE 11/2/84

California Analytical Laboratories, Inc.

C.A.M. METALS

Data Sheet

SAMPLE ID: DMEB-1-4, 5, 6 & 7 CAL ID: 19403-4,5,6,7

Element	Total (TTLC) Regulatory Values (mg/Kg wet wt.)	Total Found (mg/Kg)	Leachable (STLC) Regulatory Values (mg/L in leachate)	Leachable Found (mg/L)
Arsenic	500	<5	5	xxx
Antimony	500	<5	15	xxx
Barium	10000	310	100	xxx
Beryllium	75	<0.5	0.75	xxx
Cadmium	100	2.6	1	xxx
*Chromium III/VI	2500/500	310	560/5	xxx
Cobalt	8000	5.0	80	xxx
Copper	2500	57	25	xxx
Lead	1000	250	5	xxx
Mercury	20	0.19	0.2	xxx
Molybdenum	3500	<10	350	xxx
Nickel	2000	38	20	xxx
Selenium	100	<1	1	xxx
Silver	500	<2	5	xxx
Thallium	700	<5	7	xxx
Vanadium	2400	45	24	xxx
Zinc	5000	2300	250	xxx

Regulatory values from January 1984 CAM (California Department of Health Services).

*Reported as Cr III plus Cr VI.

PREPARED BY MW

APPROVED BY [illegible] DATE 11/2/84

California Analytical Laboratories, Inc.

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID: DMEB-1-3 CAL LAB NO:19403-3

PP#	VOLATILES	ug/Kg
2V	acrolein	<10000
3V	acrylonitrile	<10000
4V	benzene	<2000
6V	carbon tetrachloride	<2000
7V	chlorobenzene	<2000
10V	1,2-dichloroethane	<2000
11V	1,1,1-trichloroethane	<2000
13V	1,1-dichloroethane	<2000
14V	1,1,2-trichloroethane	<2000
15V	1,1,2,2-tetrachloroethane	<2000
16V	chloroethane	<2000
19V	2-chloroethylvinyl ether	<10000
23V	chloroform	<2000
29V	1,1-dichloroethene	<2000
30V	trans-1,2-dichloroethene	<2000
32V	1,2-dichloropropane	<2000
33V	1,3-dichloropropene	<2000
38V	ethylbenzene	1800
44V	methylene chloride	<5000
45V	chloromethane	<2000
46V	bromomethane	<2000
47V	bromoform	<2000
48V	bromodichloromethane	<2000
49V	fluorotrichloromethane	<2000
50V	dichlorodifluoromethane	<2000
51V	chlorodibromomethane	<2000
85V	tetrachloroethene	<2000
86V	toluene	3100
87V	trichloroethene	<2000
88V	vinyl chloride	<2000

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<50000
CL14	2-butanone	<50000
CL15	carbondisulfide	<20000
CL16	2-hexanone	<50000
CL17	4-methyl-2-pentanone	<50000
CL18	styrene	<20000
CL19	vinyl acetate	<10000
CL20	total xylenes	15000

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: DB

Approved by: MM

Date: 10/25/84

EPA METHOD 624 (EXPANDED)
Data sheet

CLIENT ID: DMEB - 1 COMPOSITE CAL LAB NO: 19403-C1

PP#	VOLATILES	ug/Kg
2V	acrolein	<1000
3V	acrylonitrile	<1000
4V	benzene	5100
6V	carbon tetrachloride	<200
7V	chlorobenzene	<200
10V	1,2-dichloroethane	<200
11V	1,1,1-trichloroethane	<200
13V	1,1-dichloroethane	<200
14V	1,1,2-trichloroethane	<200
15V	1,1,2,2-tetrachloroethane	<200
16V	chloroethane	<200
19V	2-chloroethylvinyl ether	<1000
23V	chloroform	<200
29V	1,1-dichloroethene	<200
30V	trans-1,2-dichloroethene	1100
32V	1,2-dichloropropane	<200
33V	1,3-dichloropropene	<200
38V	ethylbenzene	25000
44V	methylene chloride	7400
45V	chloromethane	<200
46V	bromomethane	<200
47V	bromoform	<200
48V	bromodichloromethane	<200
49V	fluorotrichloromethane	<200
50V	dichlorodifluoromethane	<200
51V	chlorodibromomethane	<200
85V	tetrachloroethene	22000
86V	toluene	57000
87V	trichloroethene	13000
88V	vinyl chloride	<200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL13	acetone	<500
CL14	2-butanone	5100
CL15	carbondisulfide	<200
CL16	2-hexanone	<500
CL17	4-methyl-2-pentanone	<500
CL18	styrene	<200
CL19	vinyl acetate	<1000
CL20	total xylenes	120000

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: bym

Approved by: MDM

Date: 11/7/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID: DMEB-3 CAL LAB No: 19403-3

PP#	ACID COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<20000
22A	p-chloro-m-cresol	<20000
24A	2-chlorophenol	<20000
31A	2,4-dichlorophenol	<20000
34A	2,4-dimethylphenol	<20000
57A	2-nitrophenol	<40000
58A	4-nitrophenol	<100000
59A	2,4-dinitrophenol	<100000
60A	4,6-dinitro-o-cresol	<40000
64A	pentachlorophenol	<20000
65A	phenol	<20000

PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
1B	acenaphthene	<20000
5B	benzidine	<80000
8B	1,2,4-trichlorobenzene	<20000
9B	hexachlorobenzene	<20000
12B	hexachloroethane	<20000
18B	bis(2-chloroethyl)ether	<20000
20B	2-chloronaphthalene	<20000
25B	1,2-dichlorobenzene	<20000
26B	1,3-dichlorobenzene	<20000
27B	1,4-dichlorobenzene	<20000
28B	3,3'-dichlorobenzidine	<40000
35B	2,4-dinitrotoluene	<40000
36B	2,6-dinitrotoluene	<40000
37B	1,2-diphenylhydrazine (as azobenzene)	<40000
39B	fluoranthene	<20000
40B	4-chlorophenyl phenyl ether	<20000
41B	4-bromophenyl phenyl ether	<20000
42B	bis(2-chloroisopropyl) ether	<40000
43B	bis(2-chloroethoxy) methane	<40000
52B	hexachlorobutadiene	<20000
53B	hexachlorocyclopentadiene	<20000
54B	isophorone	<20000
55B	naphthalene	29000
56B	nitrobenzene	<20000
62B	N-nitrosodiphenylamine	<20000
63B	N-nitrosodipropylamine	<20000
66B	bis(2-ethylhexyl)phthalate	<20000
67B	benzyl butyl phthalate	<20000
68B	di-n-butyl phthalate	<20000
69B	di-n-octyl phthalate	<20000
70B	diethyl phthalate	<20000
71B	dimethyl phthalate	<20000
72B	benzo(a)anthracene	<20000
73B	benzo(a)pyrene	<40000
74B	benzo(b)fluoranthene	<40000*
75B	benzo(k)fluoranthene	<40000*
76B	chrysene	<40000
77B	acenaphthylene	<20000
78B	anthracene	<20000
79B	benzo(ghi)perylene	<40000
80B	fluorene	<20000
81B	phenanthrene	24000
82B	dibenzo(a,h)anthracene	<40000
83B	indeno(1,2,3-cd)pyrene	<40000
84B	pyrene	<20000

1.	aldrin	<500
2.	B-BHC	<500
3.	D-BHC	<500
4.	chlordane	<5000
5.	4,4'-DDD	<500
6.	4,4'-DDE	<500
7.	4,4'-DDT	<500
8.	dieldrin	<500
9.	endosulfan sulfate	<1000
10.	endrin aldehyde	<1000
11.	heptachlor	<500
12.	heptachlor epoxide	<500
13.	PCB	<5000
14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: JB

Approved by: MM Date: 10/25/84

EPA METHOD 625 PRIORITY POLLUTANTS
Data Sheet

CLIENT ID: DMEB -1 COMPOSITE CAL LAB No: 19403-C1

PP#	ACID COMPOUNDS	ug/Kg	PP#	BASE/NEUTRAL COMPOUNDS	ug/Kg
21A	2,4,6-trichlorophenol	<40000	40B	4-chlorophenyl phenyl ether	<40000
22A	p-chloro-m-cresol	<40000	41B	4-bromophenyl phenyl ether	<40000
24A	2-chlorophenol	<40000	42B	bis(2-chloroisopropyl) ether	<40000
31A	2,4-dichlorophenol	<40000	43B	bis(2-chloroethoxy) methane	<40000
34A	2,4-dimethylphenol	<40000	52B	hexachlorobutadiene	<40000
57A	2-nitrophenol	<80000	53B	hexachlorocyclopentadiene	<40000
58A	4-nitrophenol	<200000	54B	isophorone	<40000
59A	2,4-dinitrophenol	<200000	55B	naphthalene	66000
60A	4,6-dinitro-o-cresol	<80000	56B	nitrobenzene	<40000
64A	pentachlorophenol	<40000	62B	N-nitrosodiphenylamine	<40000
65A	phenol	<40000	63B	N-nitrosodipropylamine	<40000
			66B	bis(2-ethylhexyl)phthalate	<40000
	BASE/NEUTRAL COMPOUNDS		67B	benzyl butyl phthalate	<40000
			68B	di-n-butyl phthalate	<40000
1B	acenaphthene	<40000	69B	di-n-octyl phthalate	<40000
5B	benzidine	<160000	70B	diethyl phthalate	<40000
8B	1,2,4-trichlorobenzene	<40000	71B	dimethyl phthalate	<40000
9B	hexachlorobenzene	<40000	72B	benzo(a)anthracene	<40000
12B	hexachloroethane	<40000	73B	benzo(a)pyrene	<40000
18B	bis(2-chloroethyl)ether	<40000	74B	benzo(b)fluoranthene	<80000*
20B	2-chloronaphthalene	<40000	75B	benzo(k)fluoranthene	<80000*
25B	1,2-dichlorobenzene	<40000	76B	chrysene	<80000
26B	1,3-dichlorobenzene	<40000	77B	acenaphthylene	<40000
27B	1,4-dichlorobenzene	<40000	78B	anthracene	<40000
28B	3,3'-dichlorobenzidine	<80000	79B	benzo(ghi)perylene	<80000
35B	2,4-dinitrotoluene	<80000	80B	fluorene	<40000
36B	2,6-dinitrotoluene	<80000	81B	phenanthrene	30000
37B	1,2-diphenylhydrazine		82B	dibenzo(a,h)anthracene	<80000
	(as azobenzene)	<80000	83B	indeno(1,2,3-cd)pyrene	<80000
39B	fluoranthene	<40000	84B	pyrene	<40000

1.	aldrin	<500	8.	dieldrin	<500
2.	B-BHC	<500	9.	endosulfan sulfate	<1000
3.	D-BHC	<500	10.	endrin aldehyde	<1000
4.	chlordane	<5000	11.	heptachlor	<500
5.	4,4'-DDD	<500	12.	heptachlor epoxide	<500
6.	4,4'-DDE	<500	13.	PCB	<5000
7.	4,4'-DDT	<500	14.	toxaphene	<10000

* - compounds co-elute - analysed as a single compound
The less-than (<) symbol means "not present at or above the indicated value (detection limit)".

Prepared by: [signature]

Approved by: [signature] Date: 11/7/84