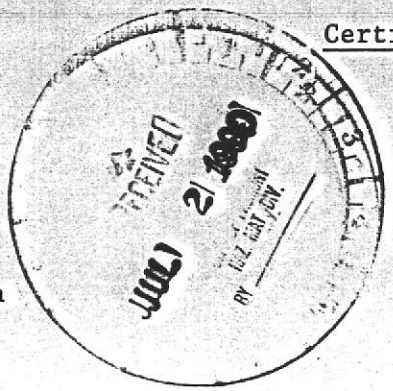
7-2 requested a signed copy of letter. LPV 7/21/90

June 29, 1990

Certified Mail



Ms. Elizabeth Stowe
City of Fremont
Hazardous Materials Division
39572 Stevenson Place
Fremont, CA 94539-3075

RE: Foundry Sand Report

Dear Ms. Stowe:

In Linda Vrable's absence, I am enclosing a copy of the Levine-Fricke Foundry Sand Report.

Please review and advise in writing to me as soon as possible if the city is going to require removal of this product from the site even though the third test is negative.

If removal is to be required, I need to know in writing, as I am going to file a lawsuit against American Brass to remove the product from the site, as it was repeatedly represented to me as non-hazardous.

Thank you for your prompt response.

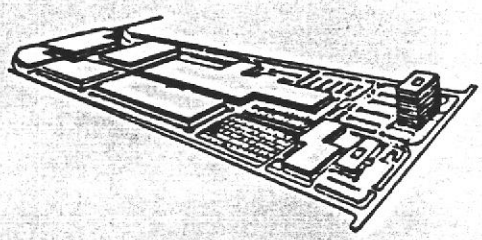
Sincerely

Dale W. Sobek
President

DWS:g

cc: G. Wolff, Esq.

Encl. (1) Foundry Sand Report



6000 S CORPORATION

6000 STEVENSON BOULEVARD FREMONT, CALIFORNIA 94538 (415) 657-7633

D R A F T

Sampling of Foundry Sands
6000 Stevenson Boulevard
Fremont, California

June 27, 1990
1983.02

Prepared for:

6000 S Corporation
6000 Stevenson Boulevard
Fremont, California 94538

JUN 28 1990
ELIZABETH STONE 9:50 L/M

LEVINE·FRICKE

C O N T E N T S

		PAGE
LISTS OF TABLES AND FIGURES		ii
1.0	INTRODUCTION	1
	1.1 Purpose	1
	1.2 Background	1
	1.3 Site Setting and Description	2
2.0	SCOPE OF WORK	3
3.0	FIELD ACTIVITIES	3
	3.1 Methodology	3
	3.2 Laboratory Analysis	4
4.0	LABORATORY ANALYSIS RESULTS	4
	4.1 Total Metals Concentrations (CAM-17)	4
	4.2 Soluble Metals Concentrations	4
5.0	DISCUSSION OF RESULTS	5
6.0	RECOMMENDATIONS	6
TABLES		
FIGURES		
APPENDIX A:	LABORATORY CERTIFICATES - FOUNDRY SAND SAMPLES	

LIST OF TABLES

Table 1: Previous Foundry Sand Analysis Results

Table 2: Total Metal Concentrations in Foundry Sand Samples, Composite 1

Table 3: Soluble Metal Concentrations in Foundry Sand Samples, Composites 1, 2, and 3

LIST OF FIGURES

Figure 1: Site Vicinity Map

Figure 2: Site Plan

Figure 3: Foundry Sand Sampling

DRAFT

LEVINE·FRICKE

June 27, 1990

LF 1983.02

**RESULTS FROM THE SAMPLING OF FOUNDRY SANDS
6000 STEVENSON BOULEVARD, FREMONT, CALIFORNIA
CONDUCTED ON BEHALF OF
6000 S CORPORATION**

1.0 INTRODUCTION

This report describes the results of sampling and analysis of foundry sands located at 6000 Stevenson Boulevard in Fremont, California ("the Site," Figure 1). The work was performed from May 5 through June 8, 1990, by Levine·Fricke, Inc., on behalf of 6000 S Corporation, the property owner. The property contains foundry sands that were imported from the American Brass and Iron Company (AB&I) of Oakland, California.

1.1 PURPOSE

Mr. Dale Sobek, owner of the 6000 S Corporation, requested that Levine·Fricke assess the concentrations of soluble lead present in foundry sands at the Site using the procedures described in the Work Plan titled "Sampling of Foundry Sands," dated April 25, 1990.

The purpose of this work was to assess the concentrations of soluble metals present in the foundry sands and to evaluate those concentrations relative to regulations for Soluble Threshold Limit Concentrations (STLCs).

1.2 BACKGROUND

History of the Foundry Sand

Approximately 2,000 cubic yards of foundry sands were transported to the Site from the American Brass and Iron Foundry (AB&I) of Oakland, California, in 1986 (Earth Metrics, Inc., February 1, 1988). (The Oakland facility of AB&I produces only cast iron pipe and does not produce brass.) Mr. Sobek reported that the foundry sands were imported to the Site for use as compacted fill because of their superior compaction properties (Earth Metrics, Inc., "Site Contaminant Characterization History at the Fremont, California Site of 6000 S Corporation," February 1, 1988). Figure 2 shows the locations of the foundry sands.

Previous Analyses

Chemical analyses for metals were previously performed on samples of the foundry sands on two separate occasions. Fredrickson Engineering conducted California Waste Extraction Tests (WET) for CAM-17 metals on May 15, 1986, for AB&I. Chemical analysis results indicated that all 17 metals were well below STLC levels and that only copper (at 0.98 ppm) was detected (Table 1).

Ensco collected one additional sample from the on-site foundry sands on March 30, 1989, as part of a Preliminary Site Assessment for the City of Fremont. NET Laboratories performed WET analysis on the sample. The laboratory reported detectable concentrations of arsenic (0.057 ppm), barium (5 ppm), chromium (0.67 ppm), lead (10 ppm), vanadium (0.18 ppm), and zinc (4.1 ppm) (Table 1). Of these six metals, only lead (10 mg/l) exceeded its STLC of 5 mg/l. Detection limits for the March 1989 analysis were lower than the detection limits for the May 1986 analysis. This allowed detection in the March 1989 analysis of arsenic, barium, chromium, and vanadium, which were not previously detected.

Because of the discrepancies between the two sets of analysis results, the City of Fremont requested further assessment of the concentration of lead in the foundry sands. Levine·Fricke conducted additional sampling to assess concentrations of soluble lead in the foundry sands as well as the total and soluble metal concentrations in the sands. This information was collected to help assess options for use or disposal of the sand.

1.3 Site Setting and Description

The Site, which covers approximately 40 acres, is located at 6000 Stevenson Boulevard in Fremont, California (Figure 1). The Site is bounded by Stevenson Boulevard to the west, Albrae Street to the north, and Encyclopedia Circle to the south. Additional industrial property lies to the east. The Site lies approximately 1,000 feet southwest of Interstate 880.

The central portion of the Site is covered by five buildings and accompanying parking lots. The northeastern portion of the Site is covered by construction debris and foundry sands. Visual inspection of the sands in March 1990 by Levine·Fricke personnel indicated that the reported 2,000 cubic yards of sand are present in discrete piles, about 8 to 10 feet high, over an area roughly 240 feet by 300 feet, or about 72,000 square feet. The sands consist of glassy, large grains as well as some small (1- to 3-inch-diameter) pieces of iron slag. Figure 2 shows the locations of the buildings, debris, and sands.

2.0 SCOPE OF WORK

The scope of work included the following tasks:

- Randomly generating sampling locations
- Marking sampling locations on the foundry sand piles
- Collecting duplicate samples from each location
- Combining the twelve samples into three composite samples (performed by a State-certified laboratory)
- Analyzing one composite sample for total and dissolved CAM-17 metals and the other two composite samples for soluble lead concentrations

3.0 FIELD ACTIVITIES

following SW846??

3.1 Methodology

Sampling locations were randomly generated. The area where the foundry sands are located was divided into a grid. The west corner of the foundry sands was chosen as the grid origin. Twelve x and y coordinate pairs were determined, using the random number generator on an HP-15c calculator. Each coordinate pair within the foundry sand was located using a tape measure. The foundry sand pile nearest each chosen grid point was marked with a flag. Figure 3 shows the 12 sampling locations.

Twelve foundry sand samples were collected in duplicate from the twelve random locations, using a shovel and a stainless steel trowel. The samples were placed in laboratory-supplied glass containers and sealed. Samples were labeled with the location number, date, time, analyses required, and sampler's initials. The samples were stored in a chilled ice chest and were transported to BC Analytical of Emeryville, California (a State-certified laboratory), for chemical analysis. All samples were transported to BC Analytical under strict chain-of-custody protocol. Prior to collection of each sample, the shovel and trowel were washed with Alconox, a laboratory-grade detergent, and rinsed with distilled water prior to collection of each sample.

3.2 Laboratory Analysis

Samples were composited and analyzed by BC Analytical of Emeryville, California (a State-certified laboratory). The laboratory combined three groups of four samples each into three composite samples. Composite 1 included samples from locations 1, 4, 11, and 12; Composite 2 included samples from locations 2, 5, 7, and 8; and Composite 3 included samples from locations 3, 6, 9, and 10. The combination of samples for each composite sample was chosen randomly.

Composite Sample 1 was analyzed for total metals concentrations using nitric acid digestion, and for soluble metals concentrations using the WET analysis as specified in Title 22, California Code of Regulations, Sections 66699-66700. Composite Samples 2 and 3 were analyzed for soluble lead concentrations using the WET analysis. Duplicate samples were retained for possible future chemical analysis.

Sample #1 - TTLC+STLC all metals

" 2,3 - WET Pb, only

4.0 LABORATORY ANALYSIS RESULTS

4.1 Total Metal Concentrations (CAM-17)

One composite sample was analyzed for total CAM-17 metals to provide information regarding the presence of total metals in the foundry sands. Analysis results were compared to Total Threshold Limit Concentration (TTLC) levels designated by the State of California for the identification of hazardous waste. Analysis results for total metals are summarized in Table 2 along with TTLC levels. Laboratory certificates and chain-of-custody forms are included in Appendix A.

Metals which were detected include arsenic (11 mg/kg), barium (370 mg/kg), beryllium (1.9 mg/kg), cadmium (12 mg/kg), chromium (82 mg/kg), cobalt (3.3 mg/kg), copper (120 mg/kg), lead (2,500 mg/kg), molybdenum (7 mg/kg), nickel (18 mg/kg), selenium (0.6 mg/kg), silver (2.4 mg/kg), vanadium (24 mg/kg), and zinc (1,400 mg/kg). Of these 15 detected metals, only lead was detected at a level greater than its TTLC of 1,000 ppm. All other concentrations were below TTLC levels.

4.2 Soluble Metals Concentrations

One composite sample was analyzed for soluble CAM-17 metals concentrations, and two other composite samples were analyzed for soluble lead concentrations. Analysis results were compared to STLCs designated by the State of California for the identification of hazardous waste.

Table 3 shows analysis results for soluble metals along with STLC levels. Metals which were detected in Composite Sample 1 include antimony (0.76 mg/l), arsenic (0.14 mg/l), barium (6.9 mg/l), beryllium (0.02 mg/l), cadmium (0.1 mg/l), cobalt (0.04 mg/l), chromium (1.4 mg/l), molybdenum (0.12 mg/l), nickel (0.45 mg/l), lead (2.3 mg/l), vanadium (0.51 mg/l), and zinc (62 mg/l). None of these concentrations exceed their respective STLC levels.

Soluble lead was below laboratory detection levels in Composite Samples 2 and 3.

5.0 DISCUSSION OF RESULTS

The results of the WET analyses indicate that the soluble portion of lead in the foundry sand samples is below the current State of California STLC levels in all three composite samples. Based on the laboratory detection limit of 0.3, the average soluble lead concentrations for the three composite samples is 0.97 $\pm$ 3.45 mg/l (95% confidence interval). This average is also below the STLC level.

Results of the WET analysis indicate that other CAM-17 metals concentrations are below STLC levels.

Results of the total metals analysis of Composite Sample 1 indicate that only the lead concentration (2,500 mg/kg) exceeds the TTLC level of 1,000 mg/kg. This sample correlates to the WET analyses that generated 2.3 mg/l of soluble lead.

Results of these chemical analyses suggest that the potential for these metals to leach from soils into ground water is low. The WET analysis provides a severe test of the leachability of lead, due to the low pH and due to the role of the citric acid used in the test as a chelating agent. These two factors will combine to increase the concentration of soluble lead detected.

Thus the detected average concentration of 0.97 mg/l found by the WET analysis will likely be lower for natural water found at the site. The WET analyses conducted show, however, that even under the severe conditions of the WET analysis, the soluble lead concentration falls within the STLC limits.

It should be noted that the criteria used by regulatory agencies to assess the suitability of leaving the material on site will probably include a lower standard than the STLC. The low concentration found in the WET analysis provides an indication, however, that the foundry sand material may potentially be used on the site without harm to human health or the environment.

6.0 CONCLUSIONS

One possibility would be to conduct further discrete sampling of the sands in order to obtain a tighter standard deviation and therefore a better understanding of the soluble lead concentration. This option would probably need to be implemented in conjunction with a risk assessment in order to determine the health and environmental effects of leaving the material on site as fill beneath foundations or under asphalt.

A second on-site option might be chemical stabilization of the foundry sand by incorporation within Portland Cement. The results of this sampling and analysis program indicate that use of the sands on-site as foundation materials may be a feasible option, provided that several appropriate measures are taken to further minimize potential environmental and health impacts.

The chemical stabilization process is a best demonstrated available technology (BDAT) for reduction of soluble metal concentrations in foundry sands. The method and results were reviewed by DHS in the publication "Treatment Standards for Foundry Sand" (Ostrom, N.S., DHS Toxic Substances Control Program, Alternative Technology Division, November, 1989). Following incorporation of the cement into the sands and confirmation by random sampling that the concentrations of soluble lead were below STLC levels, the sand-cement mixture might be used as foundation material. This solution would probably require no further testing of the foundry sands prior to stabilization. The cement-sand mixture would require composite testing for soluble lead, and a limited risk assessment would be conducted to assess whether the soluble lead would have potential impact on the ground water.

The third option is to remove the material from the site and dispose of it accordingly. Based on the data, the soil is not acceptable at a Class III municipal landfill and would need to be disposed at a Class I hazardous waste landfill or possibly a Class II landfill. Since the material is foundry sand, it would be classified as a special waste for purposes of disposal under CCR Title 22, Article 11. According to recently updated regulations, the treatment standard for soluble lead in foundry sand is 30 mg/l. The foundry sands at the site contain much less soluble lead and therefore should not require treatment prior to disposal.

DRAFT

Table 1
Previous Foundry Sand
Analysis Results

Soluble Metal Concentrations
Sobek/6000 S

METAL	Ensco Data (1) (3/30/89)	Fredrickson Data (2) (5/15/86)	STLC
	(ppm)	(ppm)	(ppm)
Arsenic	0.057	<1.0	5
Barium	5	<0.5	100
Chromium	0.67	<0.5	5
Copper	<0.05	0.98	25
Lead	10	<0.5	5
Vanadium	0.18	<1.0	24
Zinc	4.1	<0.05	250

STLC - Soluble Threshold Limit Concentration
Metals analysis followed California WET analysis
(22 CAC 66699-66700)
ppm - parts per million; equivalent to mg/l

(1) Ensco Environmental Services, Inc., "Preliminary Environmental Assessment of 6000 S Corporation Site, 6000 Stevenson Boulevard, Fremont, California," January 1990.

(2) Earth Metrics, Inc., "Site Contaminant Characterization History at the Fremont, California Site of 6000 S Corporation," Appendix C-3, February 1, 1988.

Table 2
Total Metal Concentrations in Foundry Sand Samples
Composite 1
Sobek/6000 S

METAL	Composite 1	TTLC
	(ppm)	(ppm)
Arsenic	11	500
Barium	370	10,000
Beryllium	1.9	75
Cadmium	12	100
Chromium	82	500
Cobalt	3.3	8,000
Copper	120	2,500
Lead	2,500	1,000
Molybdenum	7	3,500
Nickel	18	2,000
Selenium	0.6	100
Silver	2.4	500
Vanadium	24	2,400
Zinc	1,400	5,000

TTLC - Total Threshold Limit Concentration
(22 CAC 66699)

ppm - parts per million; equivalent to mg/kg

Table 3
Soluble Metal Concentrations in Foundry Sand Samples
Composites 1, 2, and 3
Sobek/6000 S

METAL	Composite 1	Composite 2	Composite 3	STLC
	(ppm)	(ppm)	(ppm)	(ppm)
Antimony	0.76	NA	NA	15
Arsenic	0.14	NA	NA	5.0
Barium	6.9	NA	NA	100
Beryllium	0.02	NA	NA	0.75
Cadmium	0.10	NA	NA	1.0
Chromium	1.4	NA	NA	5
Cobalt	0.04	NA	NA	80
Lead	2.3	< 0.3	< 0.3	5.0
Molybdenum	0.12	NA	NA	350
Nickel	0.45	NA	NA	20
Vanadium	0.51	NA	NA	24
Zinc	62	NA	NA	250

NA - Not Analyzed
STLC - Soluble Threshold Limit Concentration
(22 CAC 66699-66700)
ppm - parts per million; equivalent to mg/l

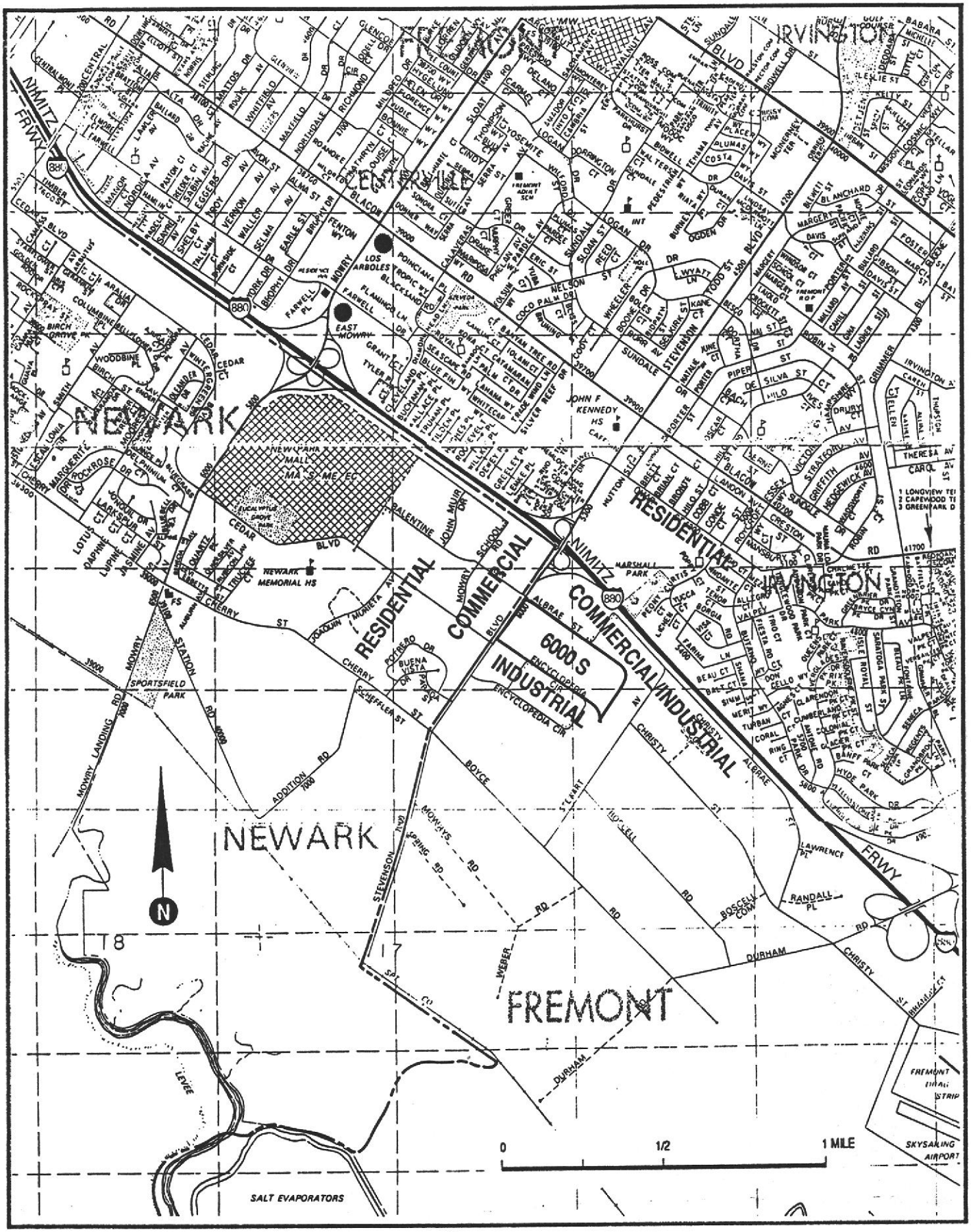


Figure 1 : SITE MAP

Project No. 1983

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

RER04APR90Jc

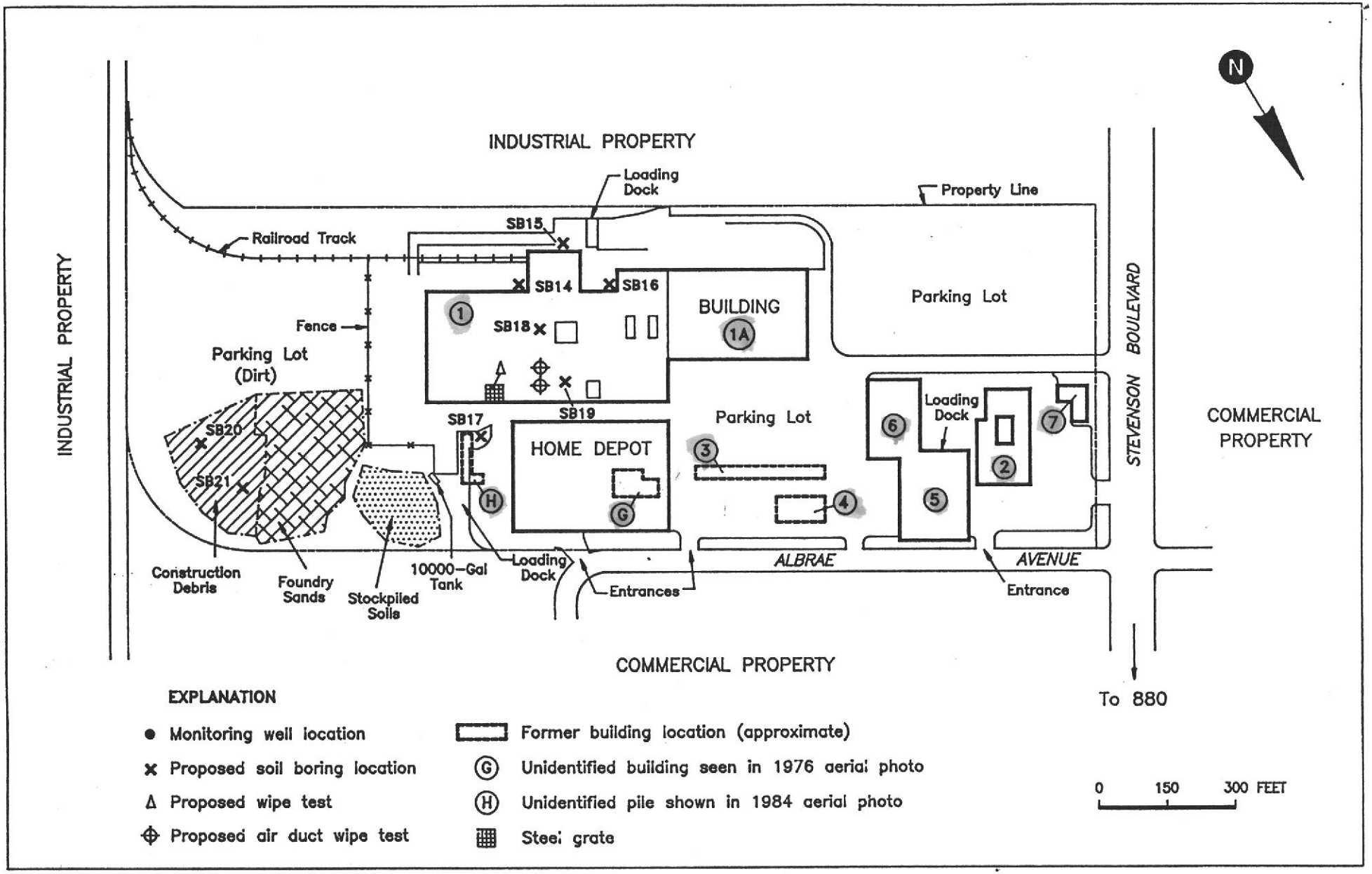


Figure 2 : SITE PLAN – 6000 STEVENSON BLVD., FREMONT, CALIFORNIA

Project No. 1983

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

1983\F1MY21.RER90em

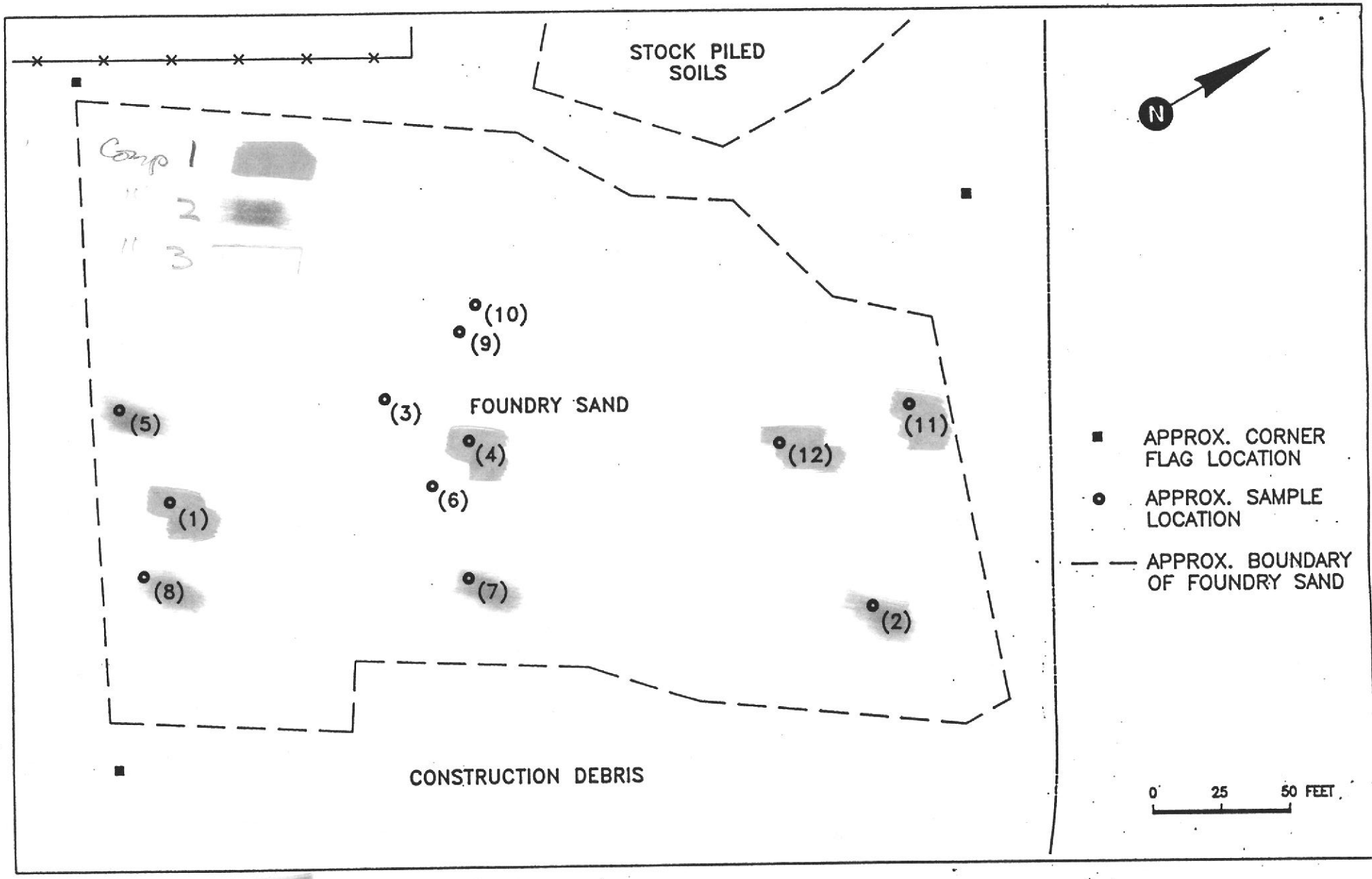


Figure 3 : FOUNDRY SAND SAMPLING – 6000 STEVENSON BLVD., FREMONT, CALIFORNIA

Project No. 1983.02

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

1983\F3JN16.RER90DAT

DRAFT

APPENDIX A

LABORATORY CERTIFICATES
FOUNDRY SAND SAMPLES

Analytical Report

RER

LOG NO: E90-05-641

Received: 21 MAY 90
Reported: 06 JUN 90

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1983.02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION	DATE SAMPLED
05-641-1	Comp-1	21 MAY 90

PARAMETER	05-641-1
Fourteen CAM Metals by ICAP	
Silver, mg/kg	2.4
Barium, mg/kg	370
Beryllium, mg/kg	1.9
Cadmium, mg/kg	12
Cobalt, mg/kg	3.3
Chromium, mg/kg	82
Copper, mg/kg	120
Molybdenum, mg/kg	7
Nickel, mg/kg	18
Lead, mg/kg	2500
Antimony, mg/kg	<1
Thallium, mg/kg	<4
Vanadium, mg/kg	24
Zinc, mg/kg	1400
Arsenic, mg/kg	11
Mercury, mg/kg	<0.01
Selenium, mg/kg	0.6
Nitric Acid Digestion, Date	05.23.90
Nitric Acid Digestion, Date	05.24.90

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

Analytical Report

LOG NO: E90-05-641

Received: 21 MAY 90
Reported: 06 JUN 90

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1983.02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, CALIF WASTE EXTRACT SAMPLES	DATE SAMPLED
05-641-2	Comp-2	21 MAY 90
05-641-3	Comp-3	21 MAY 90
05-641-4	Comp-1	21 MAY 90

PARAMETER	05-641-2	05-641-3	05-641-4
Fourteen CAM Metals by ICAP			
Silver, mg/L	---	---	<0.02
Barium, mg/L	---	---	6.9
Beryllium, mg/L	---	---	0.02
Cadmium, mg/L	---	---	0.10
Cobalt, mg/L	---	---	0.04
Chromium, mg/L	---	---	1.4
Copper, mg/L	---	---	<0.08
Molybdenum, mg/L	---	---	0.12
Nickel, mg/L	---	---	0.45
Lead, mg/L	---	---	2.3
Antimony, mg/L	---	---	0.76
Thallium, mg/L	---	---	<0.2
Vanadium, mg/L	---	---	0.51
Zinc, mg/L	---	---	62
Arsenic, mg/L	---	---	0.14
Selenium, mg/L	---	---	<0.02
Mercury, mg/L	---	---	<0.001
Lead, mg/L	<0.3	<0.3	---
CAM WET Extraction, Date	05.22.90	05.22.90	05.22.90

Sim D. Lessley, Ph.D., Laboratory Director

1255 Powell Street
Emeryville, CA 94608

415/428-2300
Fax: 415/547-3643

BCA B C Analytical

BROWN AND CALDWELL ANALYTICAL LABORATORIES

BATCH QC REPORT
Definitions and Terms

Accuracy: The ability of a procedure to determine the "true" concentration of an analyte.

Batch: A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument.

Laboratory Control Standard (LCS): Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration.

LC Result: Laboratory result of an LCS analysis.

LT Result: Expected result, or true value, of the LCS analysis.

Matrix QC: Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes).

Percent Recovery: The percentage of analyte recovered.
For LCS, the percent recovery calculation is

$$LC \div LT \times 100.$$

For spike recoveries, the percent recovery calculatiion is

$$\frac{(\text{S Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$$

Precision: The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes.

R1, R2 Result: Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision.

Relative Percent Difference (RPD): Calculated using one of the following:

$$\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2} \qquad \frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$$

S Bar Result: The average of spike analysis results.

S1, S2 Result: Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy.

True value: The theoretical, or expected, result of a spike sample analysis.

ORDER PLACED FOR CLIENT: Levine - Fricke 9005641 :
BC ANALYTICAL : EMVL LAB : 09:59:15 07 JUN 1990 - P. 1 :

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE.... ANALYZED	METHOD.....	EQUIP.	BATCH	ID.NO
9005641*1	Comp-1	CAM.METALS.ES	05.31.90	6010	515-01	148	7708
		AS	05.25.90	7060	514-01	129	7379
		HG	06.04.90	7471	514-02	75	7753
		SE	05.29.90	7740	514-01	129	7379
		DIG,NAQ	05.23.90	3050		148	
		DIG,NAQ,GFA	05.24.90	3050		129	
9005641*2	Comp-2	PB	06.02.90	6010	515-01	154	7708
		WET	05.22.90			826	
9005641*3	Comp-3	PB	06.02.90	6010	515-01	154	7708
		WET	05.22.90			827	
9005641*4	Comp-1	CAM.METALS.ES	06.02.90	6010	515-01	154	7708
		AS	05.31.90	7060	514-01	136	7379
		SE	05.31.90	7740	514-01	136	7379
		HG	06.01.90	7470	514-02	73	7753
		WET	05.22.90			827	

***

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9005641

DATE REPORTED : 06/07/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Fourteen CAM Metals by ICAP					
Silver	05.31.90	148	0	0.4	mg/kg
Barium	05.31.90	148	0.04	1	mg/kg
Beryllium	05.31.90	148	0.04	0.2	mg/kg
Cadmium	05.31.90	148	0.14	0.8	mg/kg
Cobalt	05.31.90	148	0	0.6	mg/kg
Chromium	05.31.90	148	0.08	1	mg/kg
Copper	05.31.90	148	0.08	2	mg/kg
Molybdenum	05.31.90	148	0.9	2	mg/kg
Nickel	05.31.90	148	0	0.6	mg/kg
Lead	05.31.90	148	0.12	6	mg/kg
Antimony	05.31.90	148	0	1	mg/kg
Thallium	05.31.90	148	0.62	4	mg/kg
Vanadium	05.31.90	148	0.2	0.6	mg/kg
Zinc	05.31.90	148	1.0	0.2	mg/kg
Arsenic	05.25.90	129	0.004	0.4	mg/kg
Mercury	06.04.90	75	0	0.01	mg/kg
Mercury	06.04.90	75	0	0.0001	mg/L
Selenium	05.29.90	129	0.0009	0.4	mg/L
Fourteen CAM Metals by ICAP					
Silver	06.02.90	154	0.15	0.02	mg/L
Barium	06.02.90	154	0	0.05	mg/L
Beryllium	06.02.90	154	0	0.01	mg/L
Cadmium	06.02.90	154	0	0.04	mg/L
Cobalt	06.02.90	154	0.005	0.03	mg/L
Chromium	06.02.90	154	0.02	0.05	mg/L
Copper	06.02.90	154	0.034	0.08	mg/L
Molybdenum	06.02.90	154	0	0.08	mg/L
Nickel	06.02.90	154	0.028	0.03	mg/L
Lead	06.02.90	154	0	0.3	mg/L
Antimony	06.02.90	154	0	0.06	mg/L
Thallium	06.02.90	154	0.057	0.2	mg/L
Vanadium	06.02.90	154	0.009	0.03	mg/L
Zinc	06.02.90	154	0.030	0.05	mg/L
Arsenic	05.31.90	136	0.0006	0.4	mg/L
Selenium	05.31.90	136	0.0004	0.002	mg/L
Mercury	06.01.90	73	0.001	0.0001	mg/L
Mercury	06.01.90	73	0	0.0001	mg/L
Mercury	06.01.90	73	0	0.0001	mg/L

BC ANALYTICAL

BATCH QC REPORT
ORDER: E9005641

DATE REPORTED : 06/07/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Mercury	06.01.90	73	0	0.0001	mg/L
Mercury	06.02.90	73	0	0.0001	mg/L

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

LOG # 9005641

Project No.: 1983.02	Field Logbook No.:	Date: 5/21/90	Serial No.: No. 6944
Project Name: SOBEK/6000S	Project Location: ~~SOBE~~ FLEMONT		
Sampler (Signature) :			

SAMPLES						ANALYSES									Samplers:
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	CA WET Extract Solubility Lead	Titrate Site	Titrate Tile	HOLD	RUSH	REMARKS		
Comp-1	5/21/90	11:30	—	4	S.T			* X	X	X			composite 1, 4, 11, 12		
Comp-2	↓	↓	—	4	↓			↓	↓				composite 2, 5, 7, 8		
Comp-3	↓	↓	—	4	↓			↓	↓				composite 3, 6, 9, 10		
													* Changes made by T. Blake Verbal agreement with Bob Rout. 05.22.90 (TB)		

RELINQUISHED BY: (Signature)	DATE 5/21/90	TIME 3:50	RECEIVED BY: (Signature)	DATE 5/21/90	TIME 3:50
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:

LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory:

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF