THE MARTIN COMPANY

February 3, 1987

Mr. Rafat Shahid
Alameda County
Hazardous Materials Unit
470-27th Street, Third Floor
Oakland, CA 94612

Re: PIE - Nationwide Site
Emeryville, California

Dear Mr. Shahid:

Included for your review is a report entitled "Soils Quality Assessment, PIE Freight Terminal Site, Emeryville, California" by Geomatrix Consultants dated January 28, 1987.

As you will see, the soil analysis demonstrates that the site is relatively clean except for one boring showing lead contamination in excess of allowable levels and some hydrocarbon contamination.

The hydrocarbon contamination analysis and cleanup is being handled by Blymeyer & Sons and Groundwater Technology on behalf of PIE. Such analysis and cleanup has been coordinated with Ted M. Gerow at the Alameda County Division of Environmental Health. The cleanup is near completion. All water analysis and cleanup procedures have been coordinated with Dale Boyer and Peter Johnson at the Regional Water Quality Control Board.

The only other soils contamination found at the site is the lead contamination referenced in the aforementioned report. Our intention for such area is to leave the soil in place and make sure it is encapsulated by either concrete, asphalt or 18 inches of clean soil (if in a landscaped island of the parking area), so it cannot be accessed by normal human activity.

Plans for the site consist of building a 160,000 square foot retail shopping center (called "Eastshore Center"). Construction of the center

4256 Hacienda Drive, Suite 101 ♦ Pleasanton, CA 94566 ♦ (415) 463-3773

will begin March 1, 1987. Included for your information is the site plan for the project. As you can see, the lead contamination area will be located in the parking area of the center.

If you have any questions, or problems with our proposed plan, please call me at (415) 463-3773.

Sincerely,

Walter T. Kaczmarek

cc: Ted Gerow
Tom Gram

Enclosure

WTK/pla

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PIENT'S COPY

One Market Plaza
Spear Street Tower, Suite 717
San Francisco, CA 94105
(415) 957-9557

GEOMATRIX

January 28, 1987
Project 1175A

The Martin Company
4256 Hacienda Drive, Suite 101
Pleasanton, California 94566

Attention: Mr. Walt Kaczmarek

Gentlemen:

As requested by Alan McKay, we have made a preliminary assessment of soil quality at the Pacific Intermountain Express (PIE) Freight Terminal in Emeryville, California. The initial scope of work included the present 14-acre truck terminal site. However, the study was expanded on December 4, 1986 to include the westernmost parking lot of the adjacent Days Inn facility. The accompanying report describes the historical development of the site and presents the results of the field exploration and laboratory testing programs undertaken to evaluate shallow soil quality at the site.

A draft report covering the 14 acre PIE site was issued for review on October 28, 1986. The accompanying report includes the initial field and laboratory test data for the PIE site as well as data for the adjacent Days Inn parking lot. In addition, review comments received from the draft report have been considered in preparing the final report.

Should questions regarding the results of the site assessment study arise, please contact either of the undersigned.

Sincerely yours,
GEOMATRIX CONSULTANTS

Philip T. Tringale
Senior Engineer

Carl Basore
Principal Engineer

wcm

Enclosure

cc: Alan McKay

GEOMATRIX

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11/28/87

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SOIL QUALITY ASSESSMENT

PIE FREIGHT TERMINAL SITE

Emeryville, California

prepared for

THE MARTIN COMPANY
4256 Hacienda Drive, Suite 101
Pleasanton, California 94566

Geomatrix Consultants

GEOMATRIX

SOIL QUALITY ASSESSMENT
PIE FREIGHT TERMINAL SITE
Emeryville, California

INTRODUCTION

This report presents the results of our preliminary assessment of soil quality at the Pacific Intermountain Express (PIE) Freight Terminal site in Emeryville, California. The site encompasses approximately 14 acres and is bounded on the west by the Eastshore Freeway (I-80), on the north by the Day Inns development and on the east by Shellmound Street. The site location is shown in Figure 1.

The purpose of the study is to make a general assessment of shallow soil quality at the site. The assessment consisted of reviewing the historical development of the site, drilling 12 exploratory borings at the property and testing selected soil samples for anticipated soil contaminants. The study is limited to a general assessment of the presence of certain constituents in the fill that overlies the site. An assessment of soil quality adjacent to underground fuel tanks and of groundwater quality is being undertaken by others and are not included in the scope of this study. Accordingly, the depth of drilling and sampling was generally kept above groundwater level.

SITE DEVELOPMENT

The PIE site has been reclaimed from the bay by placing fill along the shoreline. The actual date of fill placement is not known, but is estimated to have occurred about 50 years ago. An old street map printed between 1928 and 1932 shows the bay shoreline at about the present location of Shellmound Street. An aerial photograph of the site taken in 1949 shows the site completely filled-in and the main freight terminal building in operation. In addition, the existing two-story concrete building at the intersection of Powell Street and the Eastshore Freeway is in use and a truck terminal occupies the present Days Inn site.

In 1953, the northern half of the site was still vacant and an additional paved area had been constructed at the southern end of the site. However, by 1957, the entire site had been paved, a shop building constructed at the south end of the property and the main terminal building expanded toward the north. Site development remained essentially unchanged until sometime between June 1983 and May 1985, when the northern leg of the main truck terminal was removed and construction of the Days Inn high rise building commenced.

The results of borings drilled for this study and for a separate geotechnical study indicate that the site is overlain with 8 to 18 feet of mixed clayey and sandy fill containing some construction debris. The average thickness of fill was generally found to be 10 to 11 feet. Over most of the site, the fill is underlain by soft bay sediments that increase in thickness toward the west and southwest across the site.

In addition to reviewing old maps and aerial photographs, several agencies were contacted to obtain additional information about the site. Specifically, the following information was obtained from these contacts:

Emeryville Department of Public Works (Wally Kolb, August 21, 1986)
The area was probably filled-in during the 1930's. The PIE terminal has been there "for years". This area is not part of the old dump.

California Department of Health Services (Howard Hatayama, August 29, 1986)
No reports regarding hazardous materials or studies in the vicinity of the PIE site are on file with the State.

Alameda County Public Works Department (Water Resources, August 22, 1986)
A review of the county files indicated that there is only one water well located within one-half mile of the site. The well is located south of the PIE site on the Judson Steel Corp. property and is 487 feet deep. However, several shallow groundwater monitoring wells have been installed on-site to collect samples for water quality testing and evaluation.

GEOMATRIX

In summary, the site was reclaimed from the bay by placing 10 to 12 feet of fill over soft bay sediments about 50 years ago. The fill is primarily soil but contains some construction debris. The PIE Freight Terminal appears to have been the first development on the property. Reportedly, there are no water supply wells on the property and there are no records of previous problems associated with hazardous materials at the site. Studies of soil and groundwater quality adjacent to underground fuel tanks at the site are in progress and results of these studies will be presented in a separate report by others.

FIELD EXPLORATION AND LABORATORY TESTS

A total of 12 borings was drilled to depths of 6 to 8 feet at the approximate locations shown in Figure 1. Borings EB1 through EB7 were drilled on September 16, 1986 and Borings EB8 through EB12 were completed on December 10, 1986. The drilling and sampling were performed by Bay Area Exploration, Inc. of Suisun, California under the direction of Geomatrix Consultants. Before drilling and sampling started at each borehole, all downhole equipment (augers, sampler and sampler liners) was steam-cleaned to minimize the possibility of cross-contamination, either from hole to hole or vertically within each hole.

The borings were advanced to depths of six to eight feet using 8-inch hollow-stem augers. The borings were kept shallow in an effort to stay above the current groundwater level at the site. Samples were obtained using a modified California drive sampler having an inside diameter of 2 inches and an outside diameter of 2-1/2 inches. The sampler contained thin-walled, segmented brass tubes and was driven into the soil at each sampling depth prior to advancing the borehole with the drill bit. After the sampler was driven, it was withdrawn from the borehole and the brass tubes removed. The samples were then examined in the field to identify soil type and the presence of odors. An apparent petroleum odor was detected in Borings EB5, EB9 and EB10, but no free petroleum was observed in any of the soil samples. As shown in the boring logs (Figures 2 through 13), soils encountered between the surface pavement and the groundwater

interface (at depths of approximately 6-1/2 to at least 8 feet) are primarily silty clay and silty sand fill materials with some construction debris.

Selected soil samples from each borehole were retained for chemical analysis. The sample tubes were sealed in aluminum foil, plastic end caps, and polyvinyl tape. The tubes were then labelled and stored in an ice-cooled chest for delivery to the analytical laboratory. A chain-of-custody record (Appendix A) was completed for the sample shipment and accompanied the shipment until the samples were received by the laboratory.

The soil samples were analyzed by Brown and Caldwell Analytical Laboratories in Emeryville, California for concentrations of PCBs, total lead, and/or total petroleum hydrocarbons as diesel. Specifically, a total of 51 laboratory chemical tests were preformed on 36 soil samples obtained from the 12 exploratory borings. The testing program consisted of 21 tests for total petroleum hydrocarbons as diesel, 20 tests for lead (including one retest) and 10 tests for polychlorinated biphenyls (PCB). The test results are presented at the corresponding sample location on the logs of borings, Figures 2 through 13, and in Appendix B.

FINDINGS AND CONCLUSIONS

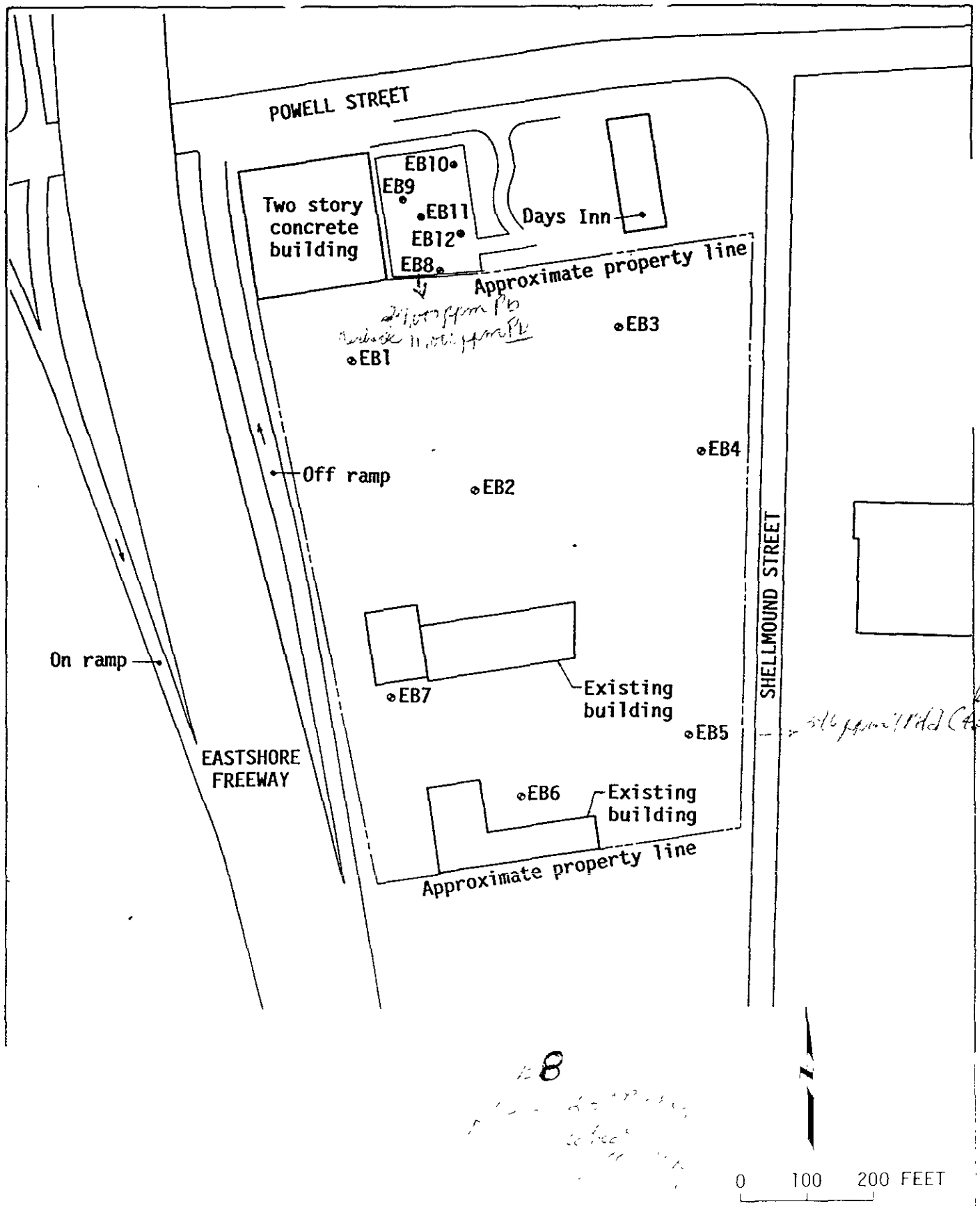
Laboratory analysis indicated concentrations of total petroleum hydrocarbons as diesel of less than 10 mg/kg (detection limit) in 20 of the 21 samples tested for hydrocarbons. One sample obtained from Boring EB5 at a depth of approximately 4-1/2 feet contained petroleum hydrocarbons at a concentration of 390 mg/kg. Based on currently available information, it is not known whether the hydrocarbons detected in Boring EB5 are associated with a localized leak or with the fuel tanks recently removed from the southern portion of the site.

All samples tested for PCBs were below the total threshold limit concentration of 50 mg/kg. Detectable levels of total PCB were found only

in boring EB5 and EB7 at depths of approximately 4-1/2 feet (3 mg/kg) and 2 feet (1 mg/kg), respectively.

Total lead was detected in all samples at concentrations generally ranging from 10 mg/kg to 380 mg/kg. The one sample containing lead at a concentration greater than the total threshold limit concentration of 1000 mg/kg, was obtained at a depth of approximately two feet in Boring EB8. The original test results for this sample and the results from retesting the sample are 24,000 mg/kg and 11,000 mg/kg, respectively.

The soil quality assessment program described herein is preliminary in nature and was intended to assess the possibility of shallow soil contamination at the site. Based on the results of this phase of work, extensive, area-wide soil contamination relating to petroleum hydrocarbons, lead, and PCB does not appear to exist in the on-site fill above the groundwater level. There is evidence that at least localized contamination of petroleum hydrocarbons and lead does exist and that these results should be discussed with appropriate regulatory agencies before construction activities commence at the site. In addition, site grading work should be observed for evidence of poor soil quality or obvious subsurface contamination. If encountered, appropriate mitigation measures should then be taken.



Project No	P.I.E. Site		Figure
1175A	Emeryville, California	SITE AND BORING LOCATION MAP	1
Geomatrix Consultants			

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-1

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth: 7.5 ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests: TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL dark gray, stiff, mixed with organics and some construction debris (brick, rock, etc.)	2	1	22	<10	<0.5	48
	4	2	17	<10	<0.5	22
increasing gravel content	6	3	4			
BOTTOM OF BORING AT 8 FEET	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

LEGEND

PHC = Petroleum Hydrocarbons

PCB = Polychlorinated Biphenyls

Lead = Inorganic Lead

▨ = Sample interval

Project No. 1175A

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Figure 2

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-2

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth:

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests: TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL dark gray, medium stiff, mixed with some construction debris, (brick, rock, etc.)	2	1	12	<10	----	91
minor decrease in stiffness	4	2	9	<10	----	10
	6	3	9			
BOTTOM OF BORING AT 7.5 FEET NO FREE WATER OBSERVED	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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Figure 3

Project: P.I.E. SITE EMERYVILLE, CALIFORNIA	Log of Boring EB-3
Type of Boring: 8 " H.S. AUGER Hammer Weight : 140 lb.	Date Drilled: September 16, 1986 Water Depth: 7 ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL dark gray, medium stiff to stiff, mixed with some construction debris and occasional silty sand lenses.	2	1	17	-----	<0.5	12
	4	2	23	-----	<0.5	60
	6	3	6			
SILTY SAND FILL Blue-grey, loose.						
BOTTOM OF BORING AT 7 FEET	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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1175A

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Figure 4

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-4

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth: 6.5 ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/ Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL dark gray, medium stiff to stiff, mixed with some construction debris	2	1	13	<10	----	14
	4	2	9	<10	----	37
decrease in stiffness to soft and increasing sand content	6	3	3			
BOTTOM OF BORING AT 7 FEET	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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Figure 5

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-5

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth: 7 ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/ Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL dark gray, medium stiff to stiff, mixed with some construction debris some silty sand encountered between 2 and 4.5 feet	2	1	15	<10	<0.5	42
	4	2	13	390	3	22
	6	3	10			
BOTTOM OF BORING AT 7 FEET						
	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

Project No.
1175A

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Figure 6

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-6

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth:

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY SAND FILL medium gray, mixed with small construction debris	2	1	36	<10	----	210
	4	2	27	<10	----	12
SILTY CLAY FILL dark gray, soft to medium stiff, very moist	6	3	7			
BOTTOM OF BORING AT 7.5 FEET NO FREE WATER OBSERVED	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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1175A

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Figure 7

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-7

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: September 16, 1986
Water Depth:

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SANDY CLAY FILL dark gray, stiff, mixed with some construction debris (brick, rock, etc.)	2	1	24	<10	1	16
	4	2	7	<10	<0.5	380
SILTY SAND FILL dark grey, loose, moist, with some construction debris and lenses of silty clay	6	3	10			
	8					
BOTTOM OF BORING AT 8 FEET NO FREE WATER OBSERVED						
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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1175A

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Figure 8

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-8

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: December 10, 1986
Water Depth: 7 ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/ Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY SAND FILL dark gray, medium dense, damp, with some sand and rock fragments	2	1	23	<10	----	24000 (11000)*
SILTY CLAY FILL yellow-brown, stiff, dry to damp	4	2	10	<10	----	27
SILTY SAND FILL yellow-brown, loose, moist	6	3				
BOTTOM OF BORING AT 7 FEET WATER OBSERVED AT BOTTOM OF SAMPLER	8					
*Results of retest	10					
	12					
	14					
	16					
	18					
	20					
	22					

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Figure 9

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-9

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: December 10, 1986
Water Depth: ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/ Foot	chemical tests TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY SAND FILL gray-green, medium dense, damp, with some sand and rock fragments.	2	1	23	<10	<0.5	8
SILTY CLAY FILL black, stiff, damp	4	2	13	----	----	78
slight diesel odor encountered construction debris, becoming more moist	6	3	18	<10	----	----
BOTTOM OF BORING AT 6.5 FEET NO WATER OBSERVED	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

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Figure 10

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-10

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: December 10, 1986
Water Depth: ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/ Foot	chemical tests: TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY SAND FILL gray-green, medium dense, damp, with some rock fragments	2		14	<10	----	22
SANDY CLAY FILL black, stiff, damp, with fine sand and construction debris	4		17	<10	<0.5	----
SILTY SAND FILL black, loose, damp, very slight diesel ~~odor~~	6		10	----	----	----
SANDY CLAY FILL black, medium stiff, damp, with fine sand	8					
BOTTOM OF BORING AT 6.5 FEET NO FREE WATER OBSERVED	10					
	12					
	14					
	16					
	18					
	20					
	22					

Project No. 1175A

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Figure 11

Project: P.I.E. SITE
EMERYVILLE, CALIFORNIA

Log of Boring EB-11

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.

Date Drilled: December 10, 1986
Water Depth: ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests: TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL yellow-brown, stiff, dry to damp	2		23	----	----	----
becoming green, with sand and gravel	4		11	<10	----	----
			3			
SILTY SAND FILL dark gray, loose, moist	6					
BOTTOM OF BORING AT 6.5 FEET NO FREE WATER OBSERVED	8					
	10					
	12					
	14					
	16					
	18					
	20					
	22					

Project No. 1175A

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Figure 12

Project: P.I.E. SITE EMERYVILLE, CALIFORNIA	Log of Boring EB-12

Type of Boring: 8 " H.S. AUGER
Hammer Weight : 140 lb.
Date Drilled: December 10, 1986
Water Depth: ft.

MATERIAL DESCRIPTION	DEPTH feet	Sample No.	Blows/Foot	chemical tests: TOTAL PHC SOIL mg/kg	TOTAL PCB SOIL mg/kg	TOTAL LEAD SOIL mg/kg
ASPHALTIC PAVEMENT and AGGREGATE BASE						
SILTY CLAY FILL gray-green, stiff, damp	2		23		----	----
SILTY SAND FILL gray-green, medium dense, damp becoming dark gray	4		14	<10	----	----
SILTY CLAY FILL black, medium stiff, damp	6		2	<10	----	----
BOTTOM OF BORING AT 6.5 FEET NO FREE WATER OBSERVED						

8 10 12 14 16 18 20 22

Project No. 1175A	GEOMATRIX CONSULTANTS	Figure 13

GEOMATRIX

APPENDIX A
CHAIN-OF-CUSTODY FORMS

log 9-299-1-38

GEOMATRIX CONSULTANTS

ONE MARKET PLAZA
SPEAR STREET TOWER SUITE 717
SAN FRANCISCO, CALIFORNIA 94105
(415) 957-9557

Chain of Custody Record

DATE 9/16 PAGE 1 OF 1

PROJECT NO. 1175A

SAMPLERS: (SIGNATURE) Jeff A. Flaity

DATE	TIME	SAMPLE NUMBER	GENERAL MINERAL	PRIORITY POLLUTANT METALS	EPA METHOD 624	EPA METHOD 625	EPA METHOD 601	EPA METHOD 602	EPA METHOD 608	PETROLEUM HYDROCARBONS as Diesel	Total Lead	PCB		NUMBER OF CONTAINERS
9/16	940	1/1/3								✓				1
9/16	940	1/1/4									✓	✓		1
9/16	945	1/2/2									✓	✓		1
9/16	945	1/2/3								✓				1
9/16	955	1/3/2												1
9/16	955	1/3/3												1
9/16	1010	2/1/3								✓				1
9/16	1010	2/1/4									✓			1
9/16	1020	2/2/2								✓	✓			1
9/16	1020	2/2/3								✓				1
9/16	1030	2/3/3												1
9/16	1030	2/3/4												1
9/16	1110	3/1/3									✓	✓		1
9/16	1110	3/1/4												1
9/16	1120	3/2/3												1
9/16	1120	3/2/4									✓	✓		1
9/16	1130	3/3/4												1

ANALYSES

REMARKS (SAMPLE PRESERVATION, HANDLING PROCEDURES, OBSERVATIONS, ETC.)

Please analyse TPH as Diesel using extraction method with minimum detection limits of 10 ppm

Analyse samples for PCB's using EPA method #8080

Store all samples not tested with proper preservation for 30 days or until notified by Geomatrix

Standard turnaround Notify Jon Kasso or Phil Tringale of results

TOTAL NUMBER OF CONTAINERS 17

RELINQUISHED BY:	DATE	RECEIVED BY:	RELINQUISHED BY:	DATE	RECEIVED BY: (LAB)
SIGNATURE		SIGNATURE	Jeff A Flaity	9/16	Kathy Morris
PRINTED NAME	TIME	PRINTED NAME	SIGNATURE Jeff Flaity	TIME 1700	SIGNATURE Kathy Morris
COMPANY		COMPANY	PRINTED NAME Geomatrix		PRINTED NAME Kathy Morris
			COMPANY		LABORATORY
RELINQUISHED BY:	DATE	RECEIVED BY:	METHOD OF SHIPMENT:		
SIGNATURE		SIGNATURE	LABORATORY COMMENTS / OBSERVATIONS		
PRINTED NAME	TIME	PRINTED NAME			
COMPANY		COMPANY			

DISTRIBUTION: WHITE, CANARY - LABORATORY, PINK - ORIGINATOR

1009-299-1-38

GEOMATRIX CONSULTANTS

ONE MARKET PLAZA
SPEAR STREET TOWER SUITE 717
SAN FRANCISCO, CALIFORNIA 94105
(415) 957-9557

Chain of Custody Record

DATE 9/16/86 PAGE 2 OF 3

PROJECT NO. 1175A

SAMPLERS: (SIGNATURE)

Jeff Flatley

DATE	TIME	SAMPLE NUMBER	GENERAL MINERAL	PRIORITY POLLUTANT METALS	EPA METHOD 624	EPA METHOD 625	EPA METHOD 601	EPA METHOD 602	EPA METHOD 608	TOTAL PETROLEUM HYDROCARBONS as Diesel	Total Lead	PCB	NUMBER OF CONTAINERS
9/16	1140	4/1/2									✓	###	1
9/16	1140	4/1/3								✓			1
9/16	1150	4/2/3								✓			1
9/16	1150	4/2/4									✓	###	1
9/16	1155	4/3/3											1
9/16	1255	5/1/3									✓	✓	1
9/16	1255	5/1/4								✓			1
9/16	1305	5/2/3								✓			1
9/16	1305	5/2/4									✓	✓	1
9/16	1310	5/3/4											1
9/16	1320	6/1/3								✓			1
9/16	1320	6/1/4									✓	###	1
9/16	1330	6/2/3								✓			1
9/16	1330	6/2/4									✓	###	1
9/16	1340	6/3/3											1
9/16	1340	6/3/4											1

TOTAL NUMBER OF CONTAINERS 16

REMARKS
(SAMPLE PRESERVATION, HANDLING PROCEDURES, OBSERVATIONS, ETC.)

Please analyse TPH as Diesel using extraction method with minimum detection limits of 10 ppm

Analyse samples for PCB's using EPA method # 8080

Store all samples not tested with proper preservation for 30 days or until notified by Geomatrix.

Standard turnaround Notify Jon Rosso or Phil Tringale of results.

RELINQUISHED BY:	DATE	RECEIVED BY:	RELINQUISHED BY:	DATE	RECEIVED BY: (LAB)
SIGNATURE		SIGNATURE	Jeff Flatley SIGNATURE	9/16	SIGNATURE
PRINTED NAME	TIME	PRINTED NAME	Jeff Flatley PRINTED NAME	TIME 1700	PRINTED NAME
COMPANY		COMPANY	Geomatrix COMPANY		LABORATORY

RELINQUISHED BY:	DATE	RECEIVED BY:	METHOD OF SHIPMENT:
SIGNATURE		SIGNATURE	LABORATORY COMMENTS / OBSERVATIONS
PRINTED NAME	TIME	PRINTED NAME	
COMPANY		COMPANY	

DISTRIBUTION: WHITE, CANARY - LABORATORY, PINK - ORIGINATOR

RP Y-299-1-3E

GEOMATRIX CONSULTANTS
ONE MARKET PLAZA
SPEAR STREET TOWER SUITE 717
SAN FRANCISCO, CALIFORNIA 94105
(415) 957-9557

Chain of Custody Record

DATE 9/16 PAGE 3 OF 3

PROJECT NO. 1175A

SAMPLERS: (SIGNATURE) Jeffa Flaity

DATE	TIME	SAMPLE NUMBER	GENERAL MINERAL	PRIORITY POLLUTANT METALS	EPA METHOD 624	EPA METHOD 625	EPA METHOD 601	EPA METHOD 602	EPA METHOD 608	PETROLEUM HYDROCARBONS as Diesel	Total Lead	PCB	NUMBER OF CONTAINERS
9/16	1355	7/1/3								✓			1
9/16	1355	7/1/4									✓	✓	1
9/16	1400	7/2/3									✓	✓	1
9/16	1400	7/2/4								✓			1
9/16	1410	7/3/4											1

ANALYSES

REMARKS (SAMPLE PRESERVATION, HANDLING PROCEDURES, OBSERVATIONS, ETC.)

Please analyse TPH as Diesel using extraction method with minimum detection limits of 10 ppm

Analyse samples for PCB's using EPA method # 8080

Store all samples not tested with proper preservation for 30 60 days or until notified by Geomatrix.

Standard turnaround Notify Jon Rosso or Phil Tringale of results

TOTAL NUMBER OF CONTAINERS 5

RELINQUISHED BY:	DATE	RECEIVED BY:	RELINQUISHED BY:	DATE	RECEIVED BY: (LAB)
SIGNATURE		SIGNATURE	SIGNATURE Jeff Flaity	9/16	SIGNATURE
PRINTED NAME	TIME	PRINTED NAME	PRINTED NAME Geomatrix	TIME 1700	PRINTED NAME
COMPANY		COMPANY	COMPANY		LABORATORY

RELINQUISHED BY:	DATE	RECEIVED BY:	METHOD OF SHIPMENT:
SIGNATURE		SIGNATURE	LABORATORY COMMENTS / OBSERVATIONS
PRINTED NAME	TIME	PRINTED NAME	
COMPANY		COMPANY	

DISTRIBUTION: WHITE, CANARY - LABORATORY, PINK - ORIGINATOR

GEOMATRIX CONSULTANTS
ONE MARKET PLAZA
SPEAR STREET TOWER SUITE 717
SAN FRANCISCO, CALIFORNIA 94105
(415) 957-9557

Chain of Custody Record

DATE 10-10-86 PAGE 1 OF 1

PROJECT NO. 1175A

SAMPLERS: (SIGNATURE) Douglas Young, Penelope Sian

DATE	TIME	SAMPLE NUMBER	GENERAL MINERAL	PRIORITY POLLUTANT METALS	EPA METHOD 624	EPA METHOD 625	EPA METHOD 601	EPA METHOD 602	EPA METHOD 608	PETROLEUM HYDROCARBONS (Gas Diesel)	Total Lead	PCB	HOLD	NUMBER OF CONTAINERS
10/10/86	912	8-1-2								✓	✓			1
	950	8-2-3								✓				1
	1001	83-4											✓	1
	1027	9-1-3								✓	✓	✓		1
	1040	9-2-3									✓			1
	1050	9-3-4								✓				1
	1115	10-1-3								✓	✓			1
	1125	10-2-3								✓		✓		1
	1139	10-3-2											✓	1
													✓	
													✓	
	1251	11-1-2											✓	1
	1301	11-2-3											✓	1
	1352	12-1-2											✓	1
	1402	12-2-3											✓	1
	1412	12-3-3											✓	1

TOTAL NUMBER OF CONTAINERS 14

ANALYSES

REMARKS (SAMPLE PRESERVATION, HANDLING PROCEDURES, OBSERVATIONS, ETC.)

log # 12-216-1-S

Analyze TPH as Diesel using extraction method with minimum detection limits of 10 ppm

Analyze samples for PCB's using EPA method #8080

Store all samples NOT tested with proper preservation for 30 days or until notified by Geomatrix

2 day Turnaround with verbal to Carl Basore or Doug Young by Fri 12-12-86

RELINQUISHED BY:	DATE	RECEIVED BY:	RELINQUISHED BY:	DATE	RECEIVED BY: (LAB)
SIGNATURE		SIGNATURE	SIGNATURE		SIGNATURE
PRINTED NAME	TIME	PRINTED NAME	PRINTED NAME	TIME 1500	PRINTED NAME
COMPANY		COMPANY	COMPANY		LABORATORY
RELINQUISHED BY:	DATE	RECEIVED BY:	METHOD OF SHIPMENT:		
SIGNATURE		SIGNATURE	LABORATORY COMMENTS / OBSERVATIONS		
PRINTED NAME	TIME	PRINTED NAME			
COMPANY		COMPANY			

DISTRIBUTION: WHITE, CANARY - LABORATORY, PINK - ORIGINATOR

GEOMATRIX

APPENDIX B
LABORATORY TEST RESULTS ON SOIL SAMPLES

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-1	1-1-3	16 SEP 86
09-299-2	1-2-3	16 SEP 86
09-299-3	2-1-3	16 SEP 86
09-299-4	2-2-3	16 SEP 86
09-299-5	4-1-3	16 SEP 86

PARAMETER	09-299-1	09-299-2	09-299-3	09-299-4	09-299-5
Diesel Fingerprint, mg/kg	<10	<10	<10	<10	<10

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-6	4-2-3	16 SEP 86
09-299-7	5-1-4	16 SEP 86
09-299-8	5-2-3	16 SEP 86
09-299-9	6-1-3	16 SEP 86
09-299-10	6-2-3	16 SEP 86

PARAMETER	09-299-6	09-299-7	09-299-8	09-299-9	09-299-10
Diesel Fingerprint, mg/kg	<10	<10	390	<10	<10

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-11	7-1-3	16 SEP 86
09-299-12	7-2-4	16 SEP 86
09-299-13	1-1-4	16 SEP 86
09-299-14	1-2-2	16 SEP 86
09-299-15	3-1-3	16 SEP 86

PARAMETER	09-299-11	09-299-12	09-299-13	09-299-14	09-299-15
Lead, mg/kg	---	---	48	22	12
Nitric Acid Digestion, Date	---	---	09.25.86	09.25.86	09.25.86
Polychlorinated Biphenyls					
Date Extracted	---	---	09.18.86	09.18.86	09.18.86
Date Analyzed	---	---	09.29.86	09.29.86	09.29.86
Aroclor 1016, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1221, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1232, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1242, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1248, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1254, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1260, mg/kg	---	---	<0.5	<0.5	<0.5
Aroclor 1262, mg/kg	---	---	<0.5	<0.5	<0.5
Total PCB's, mg/kg	---	---	<0.5	<0.5	<0.5
Diesel Fingerprint, mg/kg	<10	<10	---	---	---

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-16	3-2-4	16 SEP 86
09-299-17	5-1-3	16 SEP 86
09-299-18	5-2-4	16 SEP 86
09-299-19	7-1-4	16 SEP 86
09-299-20	7-2-3	16 SEP 86

PARAMETER	09-299-16	09-299-17	09-299-18	09-299-19	09-299-20
Lead, mg/kg	60	42	22	16	380
Nitric Acid Digestion, Date	09.25.86	09.25.86	09.25.86	09.26.86	09.26.86
Polychlorinated Biphenyls					
Date Extracted	09.11.86	09.11.86	09.18.86	09.18.86	09.18.86
Date Analyzed	09.29.86	09.29.86	09.27.86	09.29.86	09.27.86
Aroclor 1016, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1221, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1232, mg/kg	<0.5	<0.5	3	1	<0.5
Aroclor 1242, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1248, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1254, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1260, mg/kg	<0.5	<0.5	<1	<1	<0.5
Aroclor 1262, mg/kg	<0.5	<0.5	<1	<1	<0.5
Total PCB's, mg/kg	<0.5	<0.5	3	1	<0.5

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-21	2-1-4	16 SEP 86
09-299-22	2-2-2	16 SEP 86
09-299-23	4-1-2	16 SEP 86
09-299-24	4-2-4	16 SEP 86
09-299-25	6-1-4	16 SEP 86

PARAMETER	09-299-21	09-299-22	09-299-23	09-299-24	09-299-25
Lead, mg/kg	91	10	14	37	210
Nitric Acid Digestion, Date	09.26.86	09.26.86	09.26.86	09.26.86	09.26.86

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-09-299

Received: 16 SEP 86
Reported: 01 OCT 86

Mr. John Rosso
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
09-299-26	6-2-4	16 SEP 86

PARAMETER	09-299-26
Lead, mg/kg	12
Nitric Acid Digestion, Date	09.26.86

D. A. McLean, Laboratory Director

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-12-216

Received: 10 DEC 86
Reported: 15 DEC 86

Mr. Doug Young
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
12-216-1	9-1-3	10 DEC 86
12-216-2	8-1-2	10 DEC 86
12-216-3	10-1-3	10 DEC 86
12-216-4	10-2-3	10 DEC 86
12-216-5	8-2-3	10 DEC 86

PARAMETER	12-216-1	12-216-2	12-216-3	12-216-4	12-216-5
Lead, mg/kg	7.6	24000	22	---	---
Nitric Acid Digestion, Date	12.10.86	12.10.86	12.10.86	---	---
Polychlorinated Biphenyls					
Date Extracted	12.10.86	---	---	12.10.86	---
Date Analyzed	12.11.86	---	---	12.11.86	---
Aroclor 1016, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1221, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1232, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1242, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1248, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1254, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1260, mg/kg	<0.5	---	---	<0.5	---
Aroclor 1262, mg/kg	<0.5	---	---	<0.5	---
Total PCB's, mg/kg	<0.5	---	---	<0.5	---
Diesel Fingerprint, mg/kg	<10	<10	<10	<10	<10

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-12-216

Received: 10 DEC 86
Reported: 15 DEC 86

Mr. Doug Young
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

OG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
12-216-6	9-3-4	10 DEC 86
2-216-7	9-2-3	10 DEC 86
2-216-8	8-3-4	10 DEC 86
12-216-9	10-3-2	10 DEC 86

ARAMETER	12-216-6	12-216-7	12-216-8	12-216-9
Sample Held, Not Analyzed	---	---	HELD	HELD
ead, mg/kg	---	78	---	---
itric Acid Digestion, Date	---	12.10.86	---	---
Diesel Fingerprint, mg/kg	<10	---	---	---

D. A. McLean, Laboratory Director

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-12-231

Received: 11 DEC 86
Reported: 17 DEC 86

Mr. Doug Young
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
12-231-1	11-2-3	10 DEC 86
12-231-2	12-2-3	10 DEC 86
12-231-3	12-3-3	10 DEC 86
12-231-4	12-1-2	10 DEC 86
12-231-5	11-1-2	10 DEC 86

PARAMETER	12-231-1	12-231-2	12-231-3	12-231-4	12-231-5
Sample Held, Not Analyzed	---	---	---	HELD	HELD
Diesel Fingerprint, mg/kg	<10	<10	<10	---	---

for
D. A. McLean, Laboratory Director

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: E86-12-383

Received: 18 DEC 86
Reported: 29 DEC 86

Mr. Carl Basore
Geomatrix Consultants
1 Market Plaza, Spear Tower, Ste.717
San Francisco, California 94105

Project: 1175A

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
12-383-1	8-2-3	10 DEC 86
12-383-2	8-1-2	10 DEC 86

PARAMETER	12-383-1	12-383-2
Lead, mg/kg	27	11,000
Nitric Acid Digestion, Date	12.18.86	12.18.86

D. A. McLean, Laboratory Director