

Alameda County

JUL 13 2004

Environmental Health

**SUMMARY OF COMPLETED SOIL
REMOVAL**

Former Emeryville Warehouse and Adjacent Parcel
Emeryville, California

July 2001
Project 3095.006

This report was prepared under the supervision of
the Engineer whose seal and signature appears
hereon.

The findings, recommendations, specifications, or
professional opinions are presented within the limits
described by the client, in accordance with
generally accepted professional engineering and
geologic practice. No warranty is expressed or
implied.

Tom Graf, P.E.



2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

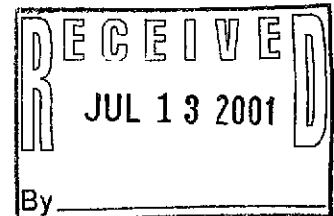
Alameda County



JUL 13 2004

Environmental Health

July 6, 2001
Project 3095.006



Mr. Dan McNevin
Emery Lofts Development Co., LLC
c/o The Martin Group
100 Bush Street, 26th Floor
San Francisco, California 94104

Subject: Summary of Completed Soil Removal
Former Emeryville Warehouse and Adjacent Parcel
Emeryville, California

Dear Mr. McNevin:

This letter report documents the soil removal work performed for the subject site (Figure 1), located at 1500 Park Avenue and 4226 Halleck Street in Emeryville, California (the Site).

BACKGROUND

The Site, consisting of a small strip on the western edge of the former Emeryville Warehouse at 1500 Park Avenue and all of the adjacent parcel at 4226 Halleck Street, was sampled by Geomatrix Consultants, Inc. (Geomatrix), in 1997 and 1998 to characterize the distribution of metal concentrations in a thin black sandy fill (black sand) layer beneath the Site. Arsenic, barium, cadmium, copper, lead, and zinc were detected in the samples from the black sand, with arsenic being the primary chemical of concern due to concentrations greater than Environmental Protection Agency (EPA) Region 9 residential soil preliminary remediation goals (see Table 1). Therefore, arsenic was used as the target removal chemical.

Geomatrix submitted a work plan in January 1999 to the California Regional Water Quality Control Board, San Francisco Bay Region, and to the Alameda County Health Services Agency to remove the soil containing elevated metals concentrations so that a deed restriction would not be required for the development of the site. Confirmation of soil removal was based on residual arsenic concentrations.

FIELD ACTIVITIES

The work occurred in two phases, from March 23, 1999 through April 24, 1999 and from July 22, 1999 to August 5, 1999. Remedial Solutions, Inc. (RSI), performed the first phase of the work, excavating the black sand layer. Trumpp Brothers, Inc. (Trumpp Bros.), performed the second phase of work, off-hauling fill material and disposing of the railroad ties. Geomatrix personnel were onsite to supervise portions of the excavation and backfilling work and collect samples. The black sand occurred at depths ranging from approximately 1.5 to 2.5 feet throughout the site. The top one to two feet of fill material was excavated and stockpiled to be used as backfill. The remaining six inches of fill material along with the black sand material

Geomatrix Consultants, Inc.
Engineers, Geologists, and Environmental Scientists

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were excavated down to bay mud and stockpiled for off-site disposal. The black sand was overexcavated into the underlying bay mud (native soil) approximately six inches.

A control grid was established on site for the purpose of fieldwork and sampling documentation (see Figure 2). Cells were approximately 40 feet by 40 feet. After excavating an area of the fill material and the black sand down to bay mud, a confirmatory sample was collected from the native soil by Geomatrix personnel prior to backfilling the excavation with the stockpiled fill material.

Railroad tracks encountered during the soil excavation operations were removed. Rails were torch-cut and stockpiled on site along with tie plates and railroad spikes for off-haul to a metals recycler. Railroad ties in good condition were stockpiled for off-haul by a scavenger; ties in poor condition were sampled for total pentachlorophenol (PCP) and Cresol using the California Waste Extraction Test (WET) and the Toxicity Characteristic Leaching Procedure (TCLP). Results of the railroad tie sample indicated no detections of phenols. Analytical data was collected for off-haul and disposal purposes.

Confirmatory sampling consisted of collecting twenty native soil samples from the base of the excavation and compositing as 5 four-point composites (Table 2). The composited samples were analyzed for arsenic, barium, cadmium, copper, lead and zinc by EPA Method 6010. Analysis of composite sample S-1 through S-4 indicated a concentration of 48 ppm of arsenic in the native soil. Consequently, each of the individual samples were analyzed separately for arsenic. Results of the analysis indicated elevated concentrations of arsenic in S-1 through S-3. Because of elevated concentrations of arsenic, samples S-1 through S-3 were resampled. S-4A, S-2A, and S-3A were collected as resamples of S-1, S-2, and S-3, respectively. Results of the analysis for samples S-4A, S-2A, and S-3A indicated concentrations of arsenic at 5.4, 5.0, and 6.4 mg/kg, respectively. Concentrations of arsenic for the remaining 4-point composite samples (S-5 through S-8; S-9 through S-12; and S-17 through S-20) were below 11 mg/kg.

For disposal profiling, two stockpile samples were collected of the excavated black sand material and analyzed for volatile organic compounds by EPA Method 8260, semivolatile organic compounds by EPA Method 8270B, California Title 26 metals (total and leachable) by EPA Method 6010, and total petroleum hydrocarbons by EPA Method 418.1. Results of the analyses indicated no detections of volatile organics in the two samples, detections of several semivolatile organics in sample SP-1, detections of metals and petroleum hydrocarbons for both samples. Analyses results are summarized in Table 3. Approximately 2,400 tons of excavated black sand was off-hauled by Lutrel Trucking and disposed of at Forward Inc. Landfill in Manteca, California, a Class II Landfill facility.

Following placement and compaction of the backfill, sixteen samples of the backfill material were collected and analyzed for arsenic as 4 four-point composite samples by EPA Method

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6010 (Table 2). Results of the analysis ranged from 24 to 32 mg/kg of arsenic in the back-filled material. In order to complete removal of soils with residual arsenic above background concentrations, it was decided to remove the backfill material and dispose of it off-site at the Hayward Water Pollution Control District (HWPCD).

For disposal purposes at HWPCD, the backfill was resampled on August 3, 1999, by performing a 15-point composite sample. The composite was analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 8020; and for arsenic, cadmium, total chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc by EPA Methods 6010 and 7471. Results of the analysis met HWPCD's standards for soil to be mixed with waste sludge (Table 4).

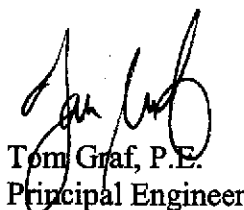
On August 5, 1999, approximately 770 cubic yards of the backfilled material was removed from the site by Trumpp Bros. and off-hauled for use by HWPCD. The remaining railroad ties were sampled on August 3, 1999 for arsenic by EPA Method 6010 (Table 4). Approximately 9 tons of ties were off-hauled by Trumpp Bros. on August 5, 1999 for disposal at the BFI Vasco Road Sanitary Landfill, in Livermore, California, a state-certified Class III landfill.

Based on field observations and results of soil sample analyses, soil containing elevated concentrations of arsenic above RWQCB-approved background concentrations were removed from the subject sites. The 95% upper confidence limit of the mean for arsenic was calculated to be 9.98 milligrams per kilogram, confirming successful removal of soil with elevated metal concentrations. Based on the results, a deed restriction or other administrative restrictions likely will not be required for development of the site. We appreciate the opportunity to provide Emery Lofts Development Company with our environmental services. Please call either of the undersigned if you have any questions or need additional information.

Sincerely,
GEOMATRIX CONSULTANTS, INC.

A handwritten signature in black ink, appearing to read "Blake M. Yamamoto".

Blake M. Yamamoto
Project Engineer

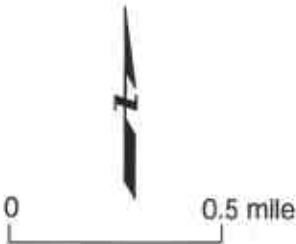
A handwritten signature in black ink, appearing to read "Tom Graf".
Tom Graf, P.E.
Principal Engineer

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Attachments

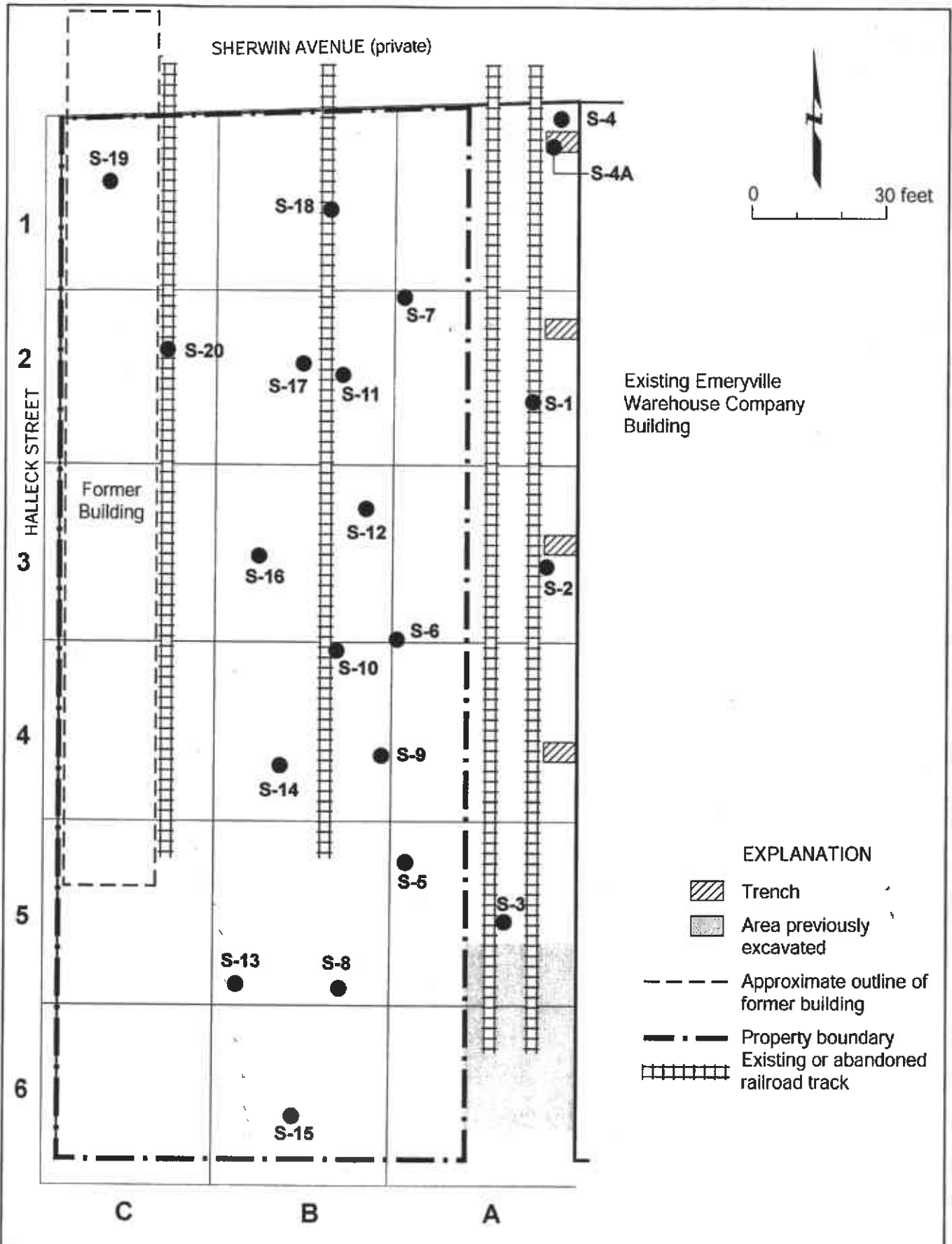


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SITE LOCATION MAP
Emery Lofts
Emeryville, California

Figure
1
Project No.
3095.06



SOIL SAMPLING LOCATIONS
Emery Lofts
Emeryville, California

Figure
2
Project No.
3095.06

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TABLE 1

**EPA REGION 9 RESIDENTIAL SOIL
PRELIMINARY REMEDIATION GOALS**

Emery Lofts

1500 Park Avenue / 4226 Halleck Street
Emeryville, California

CAS No.	Contaminant	Residential Soil (mg/kg)
7440-38-2	Arsenic (noncancer endpoint)	22
7440-39-3	Barium and compounds	5400
7440-43-9	Cadmium and compounds	37
7440-50-8	Copper and compounds	2900
7439-92-1	Lead	400
7440-66-6	Zinc	23,000

Source:

EPA Region 9 website, <http://www.epa.gov/region09/waste/sfund/prg/index.htm>

TABLE 2
SUMMARY OF CONFIRMATORY AND BACKFILL SAMPLING
Emery Lofts
 1500 Park Avenue / 4226 Halleck Street
 Emeryville, California

Sample	Date Collected	Individual Sample Analysis ¹						Composited Sample Analysis ¹						
		Arsenic	Barium	Cadmium	Copper	Lead	Zinc	Arsenic	Barium	Cadmium	Copper	Lead	Zinc	
S-1	3/23/99	21	NA ²						48	420	2.3	270	120	1200
S-2	3/23/99	36												
S-3	3/24/99	87												
S-4	3/25/99	4												
S4-A	4/13/99	5.4	200	<0.099	27	6.6	64	NA						
S-2A	4/24/99	5.0	NA											
S3-A	4/24/99	6.4												
S-5	3/25/99	NA						9.5	330	1.3	98	30	380	
S-6	3/25/99													
S-7	3/25/99													
S-8	3/29/99													
S-9	3/29/99	NA						11	230	1.4	78	30	270	
S-10	3/30/99													
S-11	3/31/99													
S-12	3/31/99													
S-13	4/1/99	NA						5	170	<0.098	30	15	67	
S-14	4/1/99													
S-15	4/13/99													
S-16	4/15/99													
S-17	4/15/99	NA						6.3	200	0.2	28	8.5	78	
S-18	4/15/99													
S-19	4/20/99													
S-20	4/20/99													
BF1A,B,C,D	4/27/99	32	NA						NA					
BF2A,B,C,D	4/27/99	24												
BF3A,B,C,D	4/27/99	31												
BF4A,B,C,D	4/27/99	29												

Notes: ¹ All concentrations in mg/kg. ² NA = Not Analyzed.

TABLE 3
STOCKPILE ANALYTICAL DATA
Emery Lofts
 1500 Park Avenue / 4226 Halleck Street
 Emeryville, California

Sample	SP-1 ¹	SP-2
Volatile Organics		
All Constituents ²	ND	ND
Semivolatile Organics (in ^{ug}mg/kg) <i>PWS 8/18/04</i>		
Phenanthrene	960	<1700
Flouranthene	1000	<1700
Pyrene	1100	<1700
bis(2-Ethylhexyl)phthalate	1500	<1700
Benzo(b,k)fluoranthene	950	<1700
California Title 26 Metals (soil in mg/kg)		
Antimony	12	7.1
Arsenic	300	180
Barium	560	640
Beryllium	0.28	0.38
Cadmium	6.6	5.5
Chromium (total)	50	46
Cobalt	29	25
Copper	1000	780
Lead	250	220
Mercury	0.059	0.078
Molybdenum	7.3	5.7
Nickel	38	41
Selenium	1.8	2.7
Silver	3.1	1.5
Thallium	3.6	2.6
Vanadium	27	30
Zinc	3400	3200
California Title 26 Metals (WET Leachate in mg/l)		
Antimony	<3	
Arsenic	2.8	4.4
Barium	11	14
Beryllium	<0.1	<0.1
Cadmium	<0.25	<0.25
Chromium (total)	0.55	0.8
Cobalt	<1	<1
Copper	<0.5	<0.5

TABLE 3
STOCKPILE ANALYTICAL DATA
Emery Lofts
 1500 Park Avenue / 4226 Halleck Street
 Emeryville, California

Sample	SP-1 ¹	SP-2
California Title 26 Metals (WET Leachate in mg/l) (Continued)		
Lead	1.3	0.88
Mercury	<0.002	<0.002
Molybdenum	<1	<1
Nickel	1.2	1.3
Selenium	<0.25	<0.25
Silver	<0.25	<0.25
Thallium	<0.25	<0.25
Vanadium	1.2	1.2
Zinc	45	52
Total Petroleum Hydrocarbons (in mg/kg)		
TPH	1600	150

Notes:

- ¹ Concentrations for SP-1 are estimated values.
- ² EPA 8260A analytes.

TABLE 4
ANALYTICAL DATA FOR DISPOSAL PURPOSES¹
Emery Lofts
1500 Park Avenue / 4226 Halleck Street
Emeryville, California

Sample	Date	Concentrations in mg/kg										Concentrations in µg/kg				
		Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Zinc	Benzene	Toluene	Ethylbenzene	Xylenes	
SS-1 through SS-15 (15-point composite)	7/22/99	22	2.7	43	180	160	1.4	1.1	39	<0.25	1000	<5	<5	<5	<5	
RT-1	8/3/99	12	NA ¹										NA			
RT-2	8/3/99	22														
RT-3	8/3/99	8.6														

Abbreviations:

mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
NA = Not analyzed