

Transmittal

Date 1 December 1992

To Dr. Ravi Arulanantham

Alameda County Department of Environmental

Health

Project Number 1736.10

Project Name Parcel H, Marina Village Development
Alameda, California

Transmitted via

Messenger

U.S. Mail

Overnight Mail

Fax

(510) 569-4757

Total Pages 6

Item Description

1 Letter: 1 December 1992

Waste Characterization for Total Lead in Fill Soil

Parcel, H, Marina Village Development

Remarks

Enclosed is a summary of total lead and TPH results for the subject site. We are sending them to you for the purpose of discussion before we include them in our final report.

Thank you for your time.

From: Elizabeth A. Nixon

cc: Mr. Kevin Tinsley, ACDEH

Mr. Rahn Verhaeghe, AREI

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-8400 • FAX (415) 434-1385



1 December 1992
Project 1736.10

Dr. Ravi Arulanantham
Alameda County Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

**Subject: Waste Characterization for Total Lead in Fill Soil
Parcel H, Marina Village Development
Alameda, California**

Dear Dr. Arulanantham:

On behalf of Alameda Real Estate Investments (AREI), Geomatrix Consultants, Inc. (Geomatrix), has performed soil sampling for chemical analysis at the subject site. A total of 30 samples, collected from randomly selected locations, were analyzed for total lead and for total petroleum hydrocarbons characterized as oil. The attached Figure 1 shows sampling locations and Table 1 summarizes analytical results. We also analyzed eight of the samples for soluble lead, and have presented the results in Table 1.

As proposed in our 24 September 1992 Soil Sampling and Analysis Work Plan outlining the subject work, we have statistically analyzed the results for total lead according to U.S. Environmental Protection Agency (EPA) SW-846, Chapter 9, Methods for Evaluating Solid Waste (SW-846). According to test methods described in SW-846, total lead concentrations are not normally distributed; therefore, as recommended in SW-846, the total lead concentrations were transformed using an arcsine transformation. We used the transformation procedure described in Statistics for the Biological Sciences, second edition, by William C. Scheffler, 1980. We calculated the 90 percent upper confidence limit (UCL) according to the procedures outlined in SW-846 using the transformed data, then back transformed the data to compare to the concentration criterion (RT) for total lead of 180 mg/kg. We selected that criterion based on conversations with you regarding concentrations of lead in soil acceptable to Alameda County Department of Environmental Health (ACDEH) for unrestricted site use.

The result of the statistical analysis was that the 90 percent UCL of the geometric mean for total lead in soil at the site is 160.9 mg/kg, which is less than the concentration criterion of 180 mg/kg.

I would like to arrange a meeting with you to discuss the data and statistical analysis before preparing our final report; AREI is in the process of scheduling development at the site,

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



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and we would like to obtain your opinion regarding ACDEH acceptance of the data and results of our statistical analysis, before AREI finalizes their development schedule.

I will call you this afternoon to discuss a convenient time to meet.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Elizabeth Nixon
Project Manager

EAN/asm
CONTR/7885A.LTR

cc: Mr. Rahn Verhaege, AREI

Attachments (2)

TABLE 1

SOIL ANALYTICAL DATA

Page 1 of 2

Parcel H

Marina Village Development

Alameda, California

4 November 1992

Sample Number	Sample Depth (ft)	Total Lead (mg/kg)	Soluble Lead by TCLP (mg/l)	Total Petroleum Hydrocarbons as Oil (mg/kg)
B06	2-4	75	--	200
B11	0-2	85	--	130
B13	0-2	130	--	410
B24	2-4	150	<0.1	390
D09	2-4	44	--	190
D22	0-2	180	0.2	540
E11	0-2	37	--	90
E20	2-4	130	--	300
F24	0-2	110	--	390
G08	0-2	110	--	230
G11	2-4	83	--	160
G13	2-4	57	--	190
G21	2-4	140	0.2	420
H13	2-4	60	--	150
I13	0-2	92	--	370
I22	2-4	900/380	0.3	370
J04	0-2	87	--	210
J18	0-2	73	--	230
J21	2-4	99	--	250
K03	2-4	76	--	320
K08	0-2	62	--	440
K09	2-4	97	--	370
K15	2-4	120	--	610
K21	2-4	120	--	230
K24	0-2	710/310	0.6	470
L12	0-2	110	--	500
L15	2-4	190	0.2	1200

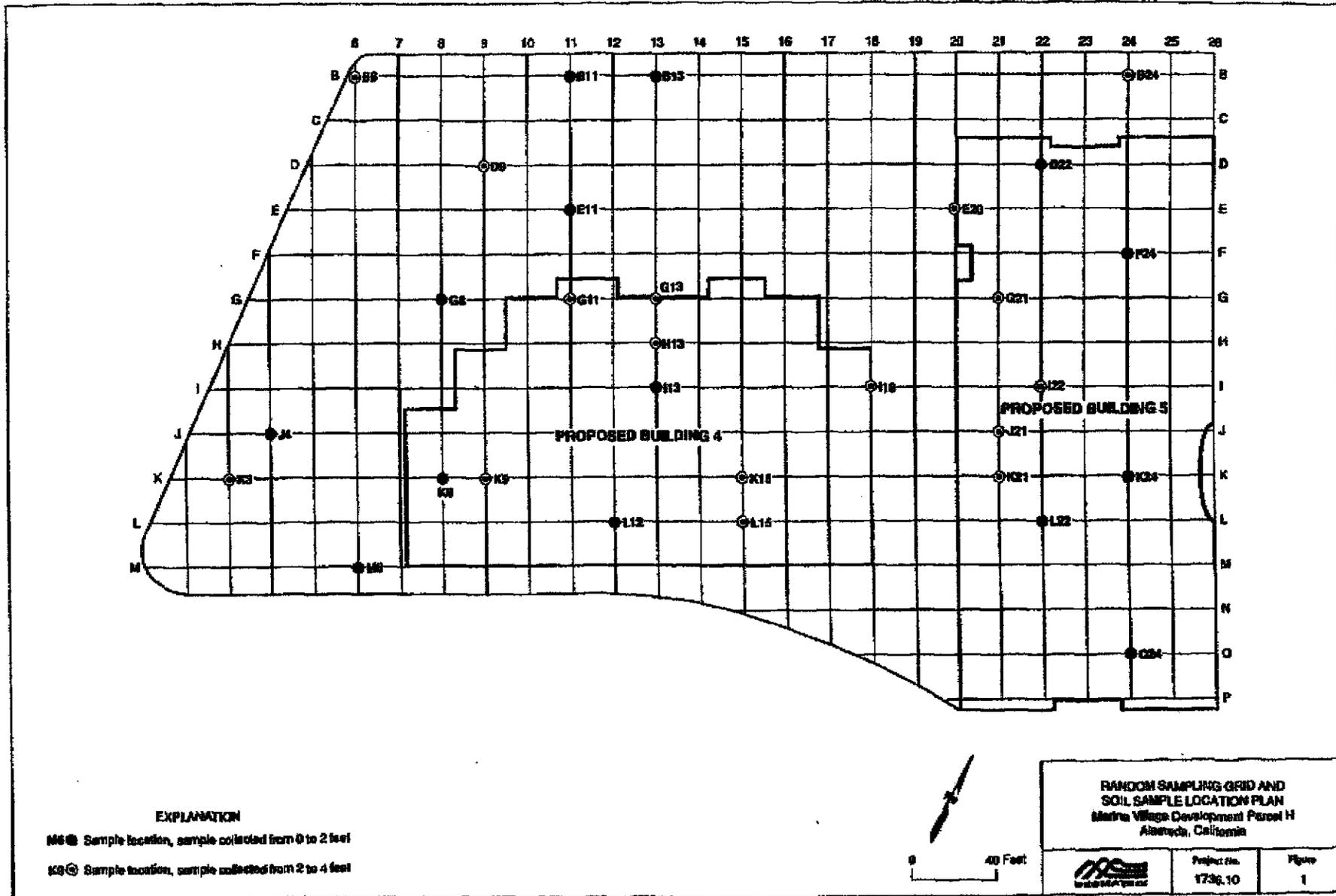
TABLE 1
SOIL ANALYTICAL DATA

Sample Number	Sample Depth (ft)	Total Lead (mg/kg)	Soluble Lead by TCLP (mg/l)	Total Petroleum Hydrocarbons as Oil (mg/kg)
L22	0-2	210	0.3	560
M06	0-2	72	--	230
O24	0-2	300	0.7	380

Notes:

1. Samples collected by Geomatrix Consultants, Inc. on 4 November 1992, and analyzed by Quantec Laboratories of Pleasant Hill, California, by EPA Methods 6010 or 7420 for total lead, the Toxicity Characteristic Leaching Procedure (TCLP) and EPA Method 6010 for soluble lead, and modified EPA Method 8015 for total petroleum hydrocarbons characterized as oil, respectively, unless otherwise indicated.
2. / indicates duplicate analysis.
3. -- indicates sample was not analyzed.
4. mg/kg = milligrams per kilogram.
5. mg/l = milligrams per liter.

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