Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-547-5420

TRANSMITTAL LETTER

FROM: Everett Sorensen DATE: 3/9/93

TO: Paul Smith
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

VIA:
- ✓ First Class Mail
- ___ Fax ___ pages
- ___ UPS (Surface)
- ___ Federal Express
- ___ Courier

SUBJECT:

JOB: 84-486-1

AS:
- ___ We discussed on the telephone on _____
- ✓ You requested 3/9
- ___ We believe you may be interested
- ✓ Is required

WE ARE SENDING:
- ___ Enclosed
- ___ Under Separate Cover Via _____

Paul, Here's another copy of the Learner work plan. Please call if you have any questions.

thanks,
Everett Sorensen

FOR:
- ___ Your information
- ___ Your use
- ___ Your review & comments
- ___ Return to you

PLEASE:
- ___ Keep this material
- ___ Return within 2 weeks
- ___ Acknowledge receipt

MESSAGE:

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Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-547-5420**

February 16, 1993

Jack Hecht
Learner Investment Company
2711 Navy Drive
Stockton, California 95206

Re: Investigation Work Plan
Learner Investment Company
768-46th Avenue
Oakland, California 94601
WA Job No. 84-486

Dear Mr. Hecht:

As requested, Weiss Associates (WA) is pleased to present this work plan for additional subsurface investigation at the above referenced site (Figure 1). Previous environmental investigations conducted at the site indicated that lead and zinc concentrations in some soil samples exceeded the Total Threshold Limit Concentration (TTLC)[1] and that hydrocarbons were present in localized concentrations exceeding 1,000 parts per million (ppm). WA proposes stabilization and capping to mitigate the transport of chemicals of concern (COCs) from soil to ground water. We submitted this plan to Alameda County in August 1991 and on September 1, 1992 Alameda County requested that, prior to their approval of the proposed remedial plan, the Learner Investment Company (among other tasks): 1) Conduct additional investigation to define the extent of contamination; 2) use the waste extraction test (WET) to evaluate the potential for leaching of metals into ground water; and 3) install ground water monitoring wells to determine if ground water has been impacted. In response, we propose the additional investigation discussed below.

1 California Code of Regulations, 1990, Title 22, Chapter 11, Article 1, Section 66261.24.

BACKGROUND

The Learner Investment Company of Stockton, California owns the property located at 768-46th Avenue in Oakland, California (Figure 1). Currently the property is vacant. From the 1960's to 1982 Learner operated a scrap-metal baling plant on the property. After plant closure, Learner Company representatives reported that vandals had caused a spill of up to 200 gallons of hydraulic fluid at the baler (Figures 2 and 3)[2]. Subsequent to this spill, the Learner Company dismantled the baler, removed the onsite railroad spur and graded both the baling area and the former spur area, placing the soil in two piles on either side of the baling area[3].

Environmental investigations were conducted at the site by Dames and Moore[4] in August 1988 and Kleinfelder, Inc.[5] in June 1989. Both investigations focused on three main areas: the access drive, the former baling area, and the soil piles (Figures 2 and 3).

During the Dames and Moore investigation, fifteen discrete depth soil samples and five composite soil samples were collected. The samples were analyzed for Total Petroleum Hydrocarbons (TPHs) by EPA Method 418.1 and for polychlorinated biphenyls (PCBs) by EPA Method 8080. Sampling locations are shown in Figures 2 and 3 and analytic results are tabulated in Table 1, Appendix A.

Eleven shallow soil samples (2.5 ft depth) were collected in the former baling area. Four (2S, 3S, 6S, 11S) contained TPH concentrations over 1,000 ppm; TPH concentrations were less than 16 ppm in the other six. TPHs were not detected in three of the four deeper (4.5 ft depth) soils samples, and were slightly above the detection limit in the fourth sample.

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2 Weiss Associates, 1991, Personal Communication; telephone conversation between Jack Hecht of the Learner Company and Judy Gaitens-Arneson of Weiss Associates February 6, 1991 concerning a spill of hydraulic oil at the Learner Company, Oakland, California.

3 Weiss Associates, 1991, Personal Communication; telephone conversation between Jack Hecht of the Learner Company and Judy Gaitens-Arneson of Weiss Associates February 5, 1991 concerning site activities at the Learner Company, Oakland, California.

4 Dames and Moore, 1988, Phase II Environmental Site Assessment, Learner Investment Company Property, Job no. 17212-001-043, August 1988.

5 Kleinfelder, Inc., 1990, Site Assessment Findings, Bench Test Results, and Remedial Action Plan, Prepared for the Learner Company, Job No. 24-214100-1300, February 1990.

Three composite soil samples were collected in the vicinity of the access drive, and two composites were collected from the soil piles. One access drive sample (composite R3 and R4) and both soil pile samples (composites P1A and P1B; P2A and P2B) contained TPH above 1,000 ppm. Two access drive (composites R1 and R2; R3 and R4) and the two soil pile samples contained PCBs above detection limits. The highest PCB concentration measured was 25.2 ppm in composite P1A and P1B. For purposes of comparison, this exceeds the Federal PCB cleanup requirement for new spills in restricted access areas by only 0.8 percent.[6]

Kleinfelder, Inc. collected eleven surface soil samples in June 1989. Most samples contained debris including metal scraps, glass and wood. All samples were analyzed for TPH (by EPA Method 418.1), lead, chromium, cadmium, nickel and zinc, corrosiveness, reactivity, ignitability and aquatic toxicity; one sample was analyzed for the 17 California Code of Regulations (CCR) Title 22 metals and three samples were analyzed by WET procedures.[7] Sampling locations are shown in Figures 2 and 3 and analytic results are tabulated in Table 2, Appendix A. Four samples each were collected from the former baling area and the soil pile; three samples were collected from the access drive area.

Two samples from the former baling area (B-07 and B-09) contained TPH concentrations above 1,000 ppm. The average TPH concentration for the four samples was 1,130 mg/kg. Lead concentrations at the baling area are below regional background levels. Soil pH varies from neutral to strongly alkaline. These pHs reduce heavy metal solubility and mobility.

TPH concentrations from the three samples collected along the paved access drive were over 1,000 ppm. Lead exceeded its TTLC level in one sample.[7] Two samples had slightly alkaline pH; the third was slightly acidic; the lead concentration in this slightly acidic sample was well below regional background levels.

Three of the four TPH results from the soil pile reported by Kleinfelder (Table 2) are one order of magnitude higher than those for the *in-situ* composite samples collected by Dames

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6 Code of Federal Regulations, 1988, Title 40, Part 761.120 a(1).

7 California Code of Regulations, 1990, Title 22, Chapter 11, Article 1, Section 66261.24.

and Moore (B-06, B-11 and B-12). Because the soil pile consists of graded surface materials, this elevated TPH concentrations may have resulted from the application of hydrocarbon products for dust and runoff control. Lead and zinc were detected above their respective Soluble Threshold Limit Concentrations (STLC) and TTLCs in samples from the soil pile. Hazardous waste identification analyses included corrosiveness, reactivity, ignitability and aquatic toxicity. Results for these analyses were below detection limits for all 11 samples and no aquatic toxicity was observed (Table 2). The samples' lack of ignitability and site background suggest that hydraulic fluids, and possibly other oils are the predominant hydrocarbons in soil.

REGIONAL BACKGROUND

WA reviewed the interim report prepared by the California Department of Health Services (CDHS) as part of the Childhood Lead Poisoning Prevention Program (CLPPP).[8] WA also reviewed cases on file at the Regional Water Quality Control Board (RWQCB) on toxics and underground tank leaks for the 0.4 square mile area bounded by 46th Avenue and 57th Avenue, the Nimitz Freeway and East 14th Street (Figure 1).

CDHS studies indicate that background soil lead levels in the Oakland neighborhoods in the vicinity of the Learner site are high, exceeding California and Federal environmental standards in most cases. The average lead concentration in soil was 1,232 ppm, based on 531 samples collected from residential yards in East Oakland. Lead concentrations ranged from 400 to 4,600 ppm. The study attributed lead in soil to industrial and automobile emissions and lead-based paints. The CDHS report recommended a 500 ppm lead abatement goal for residential areas, based on background levels in urban soils and CLPPP studies.

The RWQCB files contain twenty-two cases located in the study area. Twelve files are toxic cases and ten are underground fuel leak cases. Toxic case files indicate that lead, zinc, PCBs, and chlorinated solvents are present in soils and ground water at several locations.

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[8] California Department of Health Services, 1989, Childhood Lead Poisoning in California, Causes and Prevention, Interim Report to the State Legislature, June 1989.

CHEMICALS OF CONCERN

TPHs, consisting of predominantly hydraulic fluid and other oils, are present in concentrations greater than 1,000 ppm in the access drive, the soil pile, and in the area surrounding the former baler. Although TPH concentrations in excess of 1,000 ppm are often classified as being COCs by State and local agencies, available data indicate that soil at the site has negative corrosiveness, reactivity, ignitability and aquatic toxicity characteristics. Site historical information suggests that the TPHs present are mainly hydraulic fluids and oils which are relatively insoluble and of low toxicity.

Available data indicate that lead and zinc are the only metals of concern at the site. Since lead was detected in concentrations exceeding its TTLCs in the soil piles and the access drive, the soil from these areas is classified as hazardous waste. The average lead concentration is 1,568 ppm, based on 11 analyses. While elevated, this concentration is only 27 percent higher than the average soil lead concentration in residential yards near the property. Consequently, a significant overall risk reduction and lead Applicable or Relevant and Appropriate Requirements compliance can be achieved only by a regional remedial plan which addresses all heavy metals sources and provides a common technical approach to the problem. Total zinc concentrations exceeds the TTLC in the soil piles only.

Based on existing data, the overall affected soil area is approximately 3,800 square yards (1,725 sq. yds. in the baling area and 2,075 sq. yds. in the access road area). The total volume of affected soil, assuming an average depth of about 1.7 ft, is approximately 2,150 cubic yards.

PROPOSED INVESTIGATION

To further define the extent of COCs in site soil and ground water, WA proposes collecting soil and ground water samples from 8 soil borings located near the former baling area and along the access drive (Figures 4 and 5). In each boring we will collect soil samples from 1-2 ft below ground surface (bgs), 4-5 ft bgs and 8-10 ft bgs, depending on depth to ground water which is probably about 10 ft bgs. We will collect a grab water sample from each bore hole before abandoning the bore holes according to proper protocol. Since several Dames

& Moore shallow soil samples did not contain hydrocarbons, these additional sampling locations should compliment previous sampling locations and delineate the extent of chemicals in site soil.

Sample Collection Procedure

Soil samples will be collected using a split spoon sampler advanced beyond the boring depth for each sampling location. We will immediately analyze each sample at the surface for the presence of volatile organic compounds (VOCs) with a portable organic vapor analyzer (OVA) such as a photoionization detector (PID) or a flame ionization detector (FID). Samples will be sealed and transported to a California-certified analytic laboratory for chemical analysis.

Chemical Analysis

Because potential chemical releases at the site would most likely have occurred at the ground surface, for each soil boring we will first analyze in five days or fewer the soil sample collected closest to the surface for the following compounds:

- Lead, zinc, cadmium, chromium and nickel by EPA 7000 Series,
- Total extractable hydrocarbons by EPA Method 8015 and/or DHS LUFT Method 5520F with fingerprinting to evaluate the origin of any chemicals detected, and
- Polychlorinated biphenyls (PCBs) by EPA Method 8080.

If elevated concentrations of COCs are detected in the shallow soil sample from a particular soil boring, we will also analyze the deeper soil samples and ground water sample from that boring. Soil samples that contain metals in concentrations that exceed the TTLC will be analyzed by the Waste Extraction Test (WET) to determine the soluble portion of the total metal concentration.

If OVA field screening detects volatile hydrocarbons, samples from the affected intervals will also be analyzed for VOCs and gasoline by EPA Methods 8010 and 8015,

respectively.

Because of the possibility that ground water may be impacted from sources away from the ground water sampling location, such as off-site upgradient sources, additional upgradient borehole ground water samples may be analyzed for the compounds mentioned above whether or not the soil from the corresponding boring contains elevated COC concentrations. Additional ground water grab samples may be analyzed as necessary to establish the extent of any ground water contamination that may be detected.

WA will seek competitive bids from at least four analytic laboratories before subcontracting the analytic work.

Ground Water Monitoring Wells

We will install three ground water monitoring wells in the central part of the site, triangulated around the former baling area. The exact locations of these wells will be determined based on the results of the ground water grab sample analysis. Ground water monitoring wells will be used to determine the ground water gradient beneath the site and to evaluate the extent of on-site migration of chemicals from upgradient sites.

Background Metals and PCB Concentrations

WA proposes collecting two shallow soil samples from public areas near the site for chemical analysis. We will analyze these samples for metals and PCBs that are present at elevated concentrations at the Learner site. The results of these analyses will be used to evaluate regional contamination and natural metals background concentrations.

Historical Aerial Photographs

Prior to drilling, WA will obtain historical aerial photographs of the immediate site vicinity dating from the 1950's to the present. These photographs, which are typically available on a scale of one inch equals 200 ft, should provide information on the historical use of the site and may indicate possible areas of chemical releases. Equally important information on nearby

site historical use may provide insight into regional environmental problems. Based on these new data, our sampling locations may be modified to include areas of probable chemical release, if any.

Ground Water Impact Evaluation

If concentrations of COCs in soil are above background levels but no evidence of impact to ground water is apparent, WA will evaluate the potential for eventual leachate impact to ground water. Based on available data, we will either use methods from the California LUFT manual or numerically model transport of key COCs to estimate concentration attenuation factors at the water table.

Site Safety Plan

WA will prepare a site safety plan for all personnel working at the site. The plan will advise personnel of chemicals and potential hazards at the site, recommend personal protective equipment, provide emergency phone numbers, and show the location of and most efficient route to the hospital nearest the site.

Schedule

WA will begin work as soon as this plan is approved by the Learner Investment Company and the Alameda County Health Care Services Agency.

Department of Toxic Substances Control

If results of this investigation indicate that soil and ground water impact at the site are suitable for a stabilization and capping mitigation program, we will contact the California Department of Toxic Substances Control (DTSC) for their opinion on the proposed method.

Reporting

WA will prepare an investigation report outlining work completed during the investigation. The report will include tabulated soil and ground water chemical analysis data, a ground water elevation map, boring logs, chain-of-custody forms, laboratory analytic reports, well installation permits, and recommendations on the next course of action.

WA is pleased to provide investigation and remediation services to the Learner Investment Company. Please call us if you have questions or comments on the proposed investigation plan.

Sincerely,
Weiss Associates

Everett Sorensen
Senior Staff Engineer

Robert O. Devany, C.E.G.
Project Hydrogeologist

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Attachments: Figures:
1 - Site Location Map
2 - Soil Sampling Locations from Previous Investigations
3 - Baling Area and Sampling Locations
4 - Proposed Soil Boring Locations

Attachment A:
Table 1 - Analytic Data from Dames & Moore, 1988
Table 2 - Analytic Data from Kleinfelder, 1989

cc: David Sadwick, Cadwalader, Wickersham and Taft; 660 S. Figueroa St.
Los Angeles, California 90017

Paul Smith, Alameda County Health Care Services Agency
Department of Environmental Health; 80 Swan Way, Room 200
Oakland, California 94621

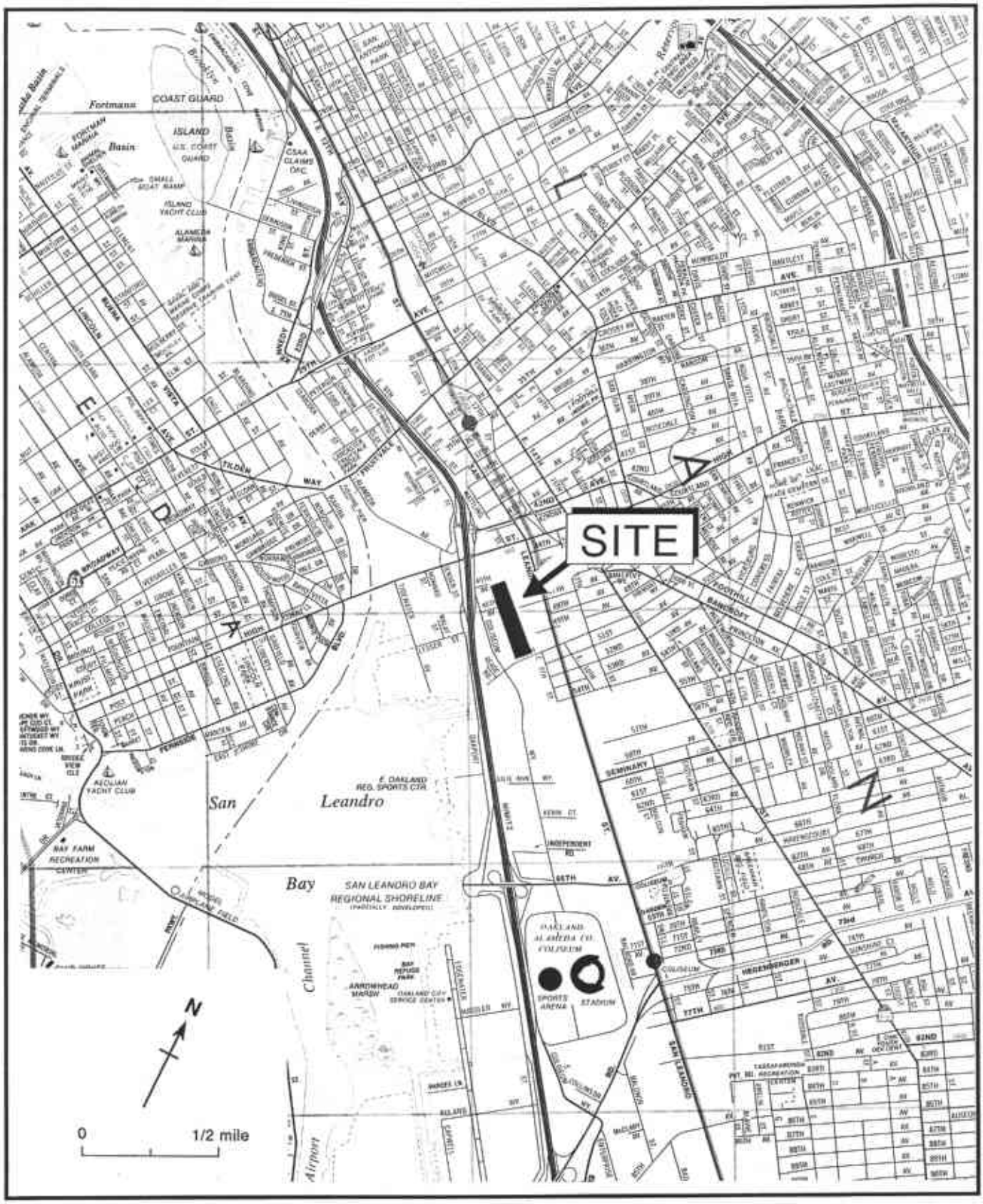

Figure 1. Site Location Map - The Learner Company, 768 46th Avenue, Oakland, California

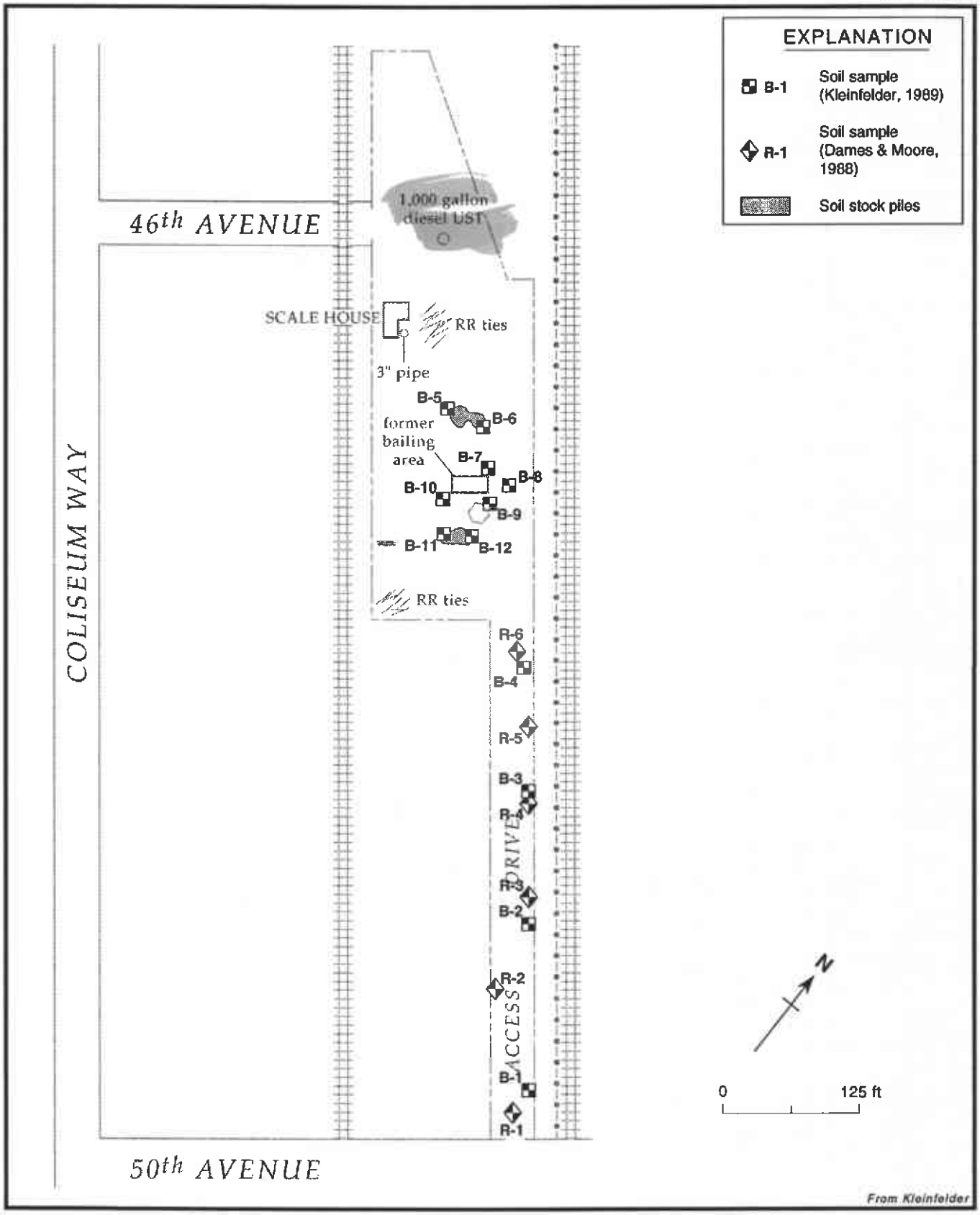

Figure 2. Soil Sampling Locations from Previous Investigations - Learner Company, 46th Avenue, Oakland, California

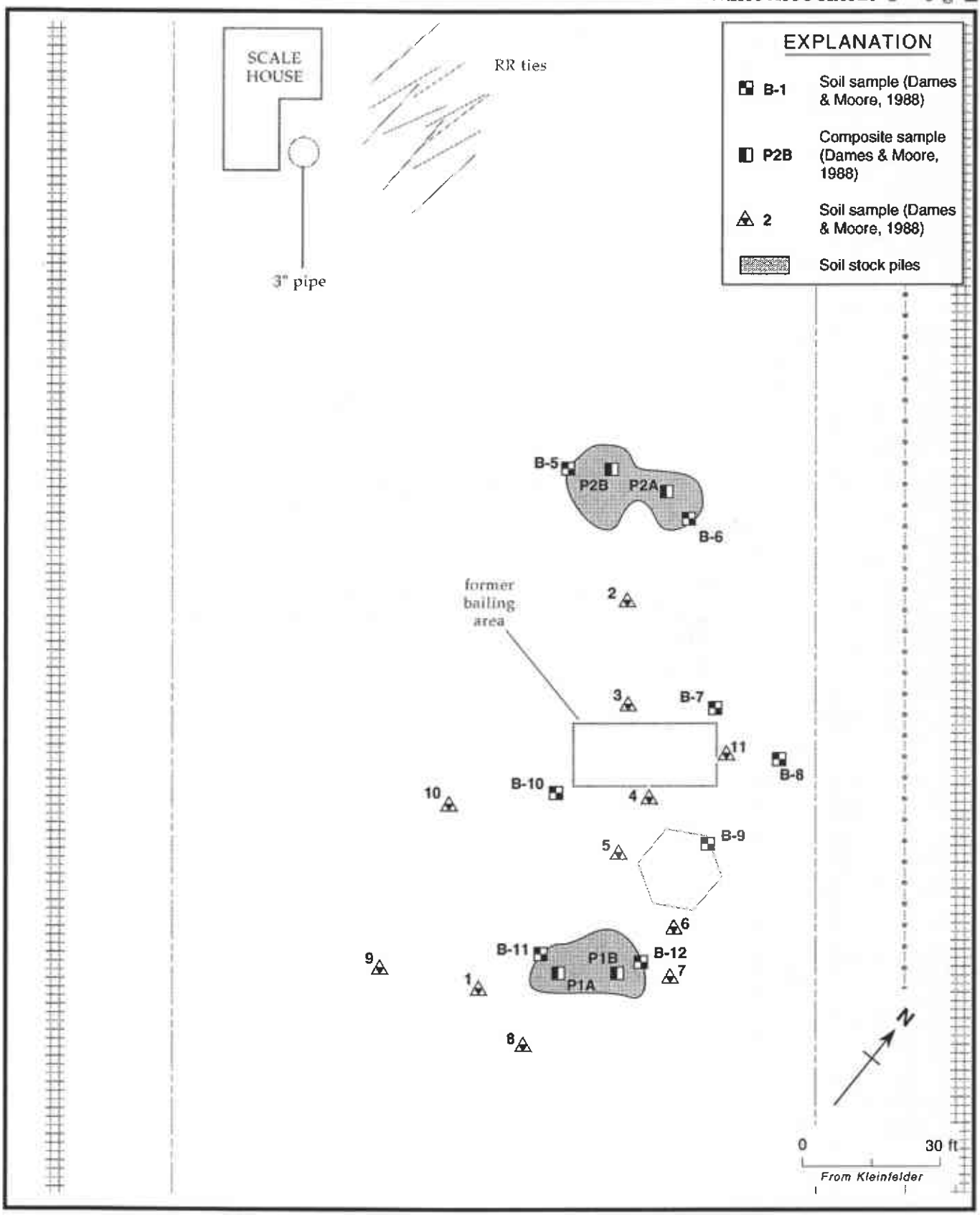

Figure 3. Baling Area and Soil Sampling Locations - Learner Company, 46th Avenue, Oakland, California

2/9/93

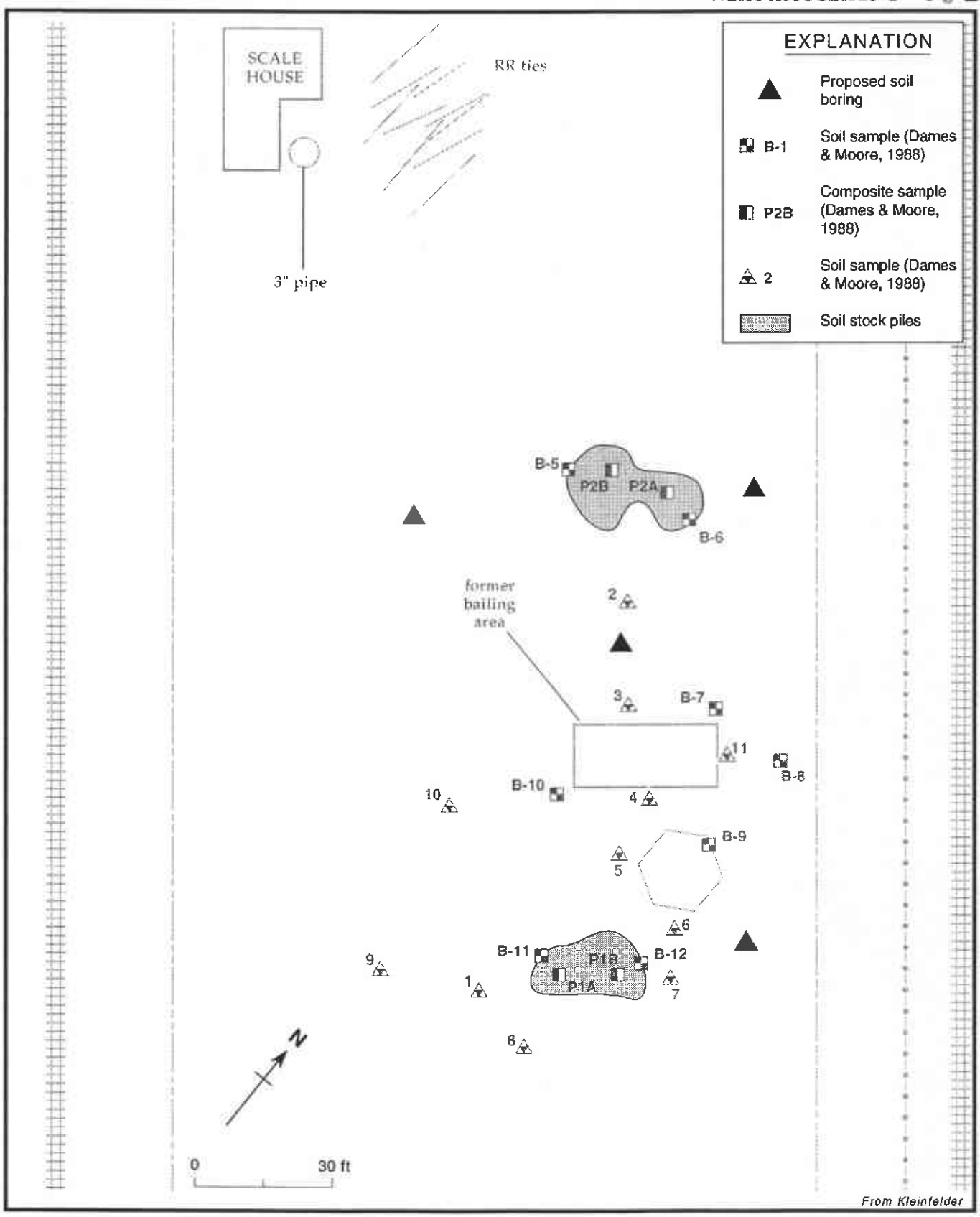

Figure 4. Proposed Soil Boring Locations - Learner Company, 46th Avenue, Oakland, California

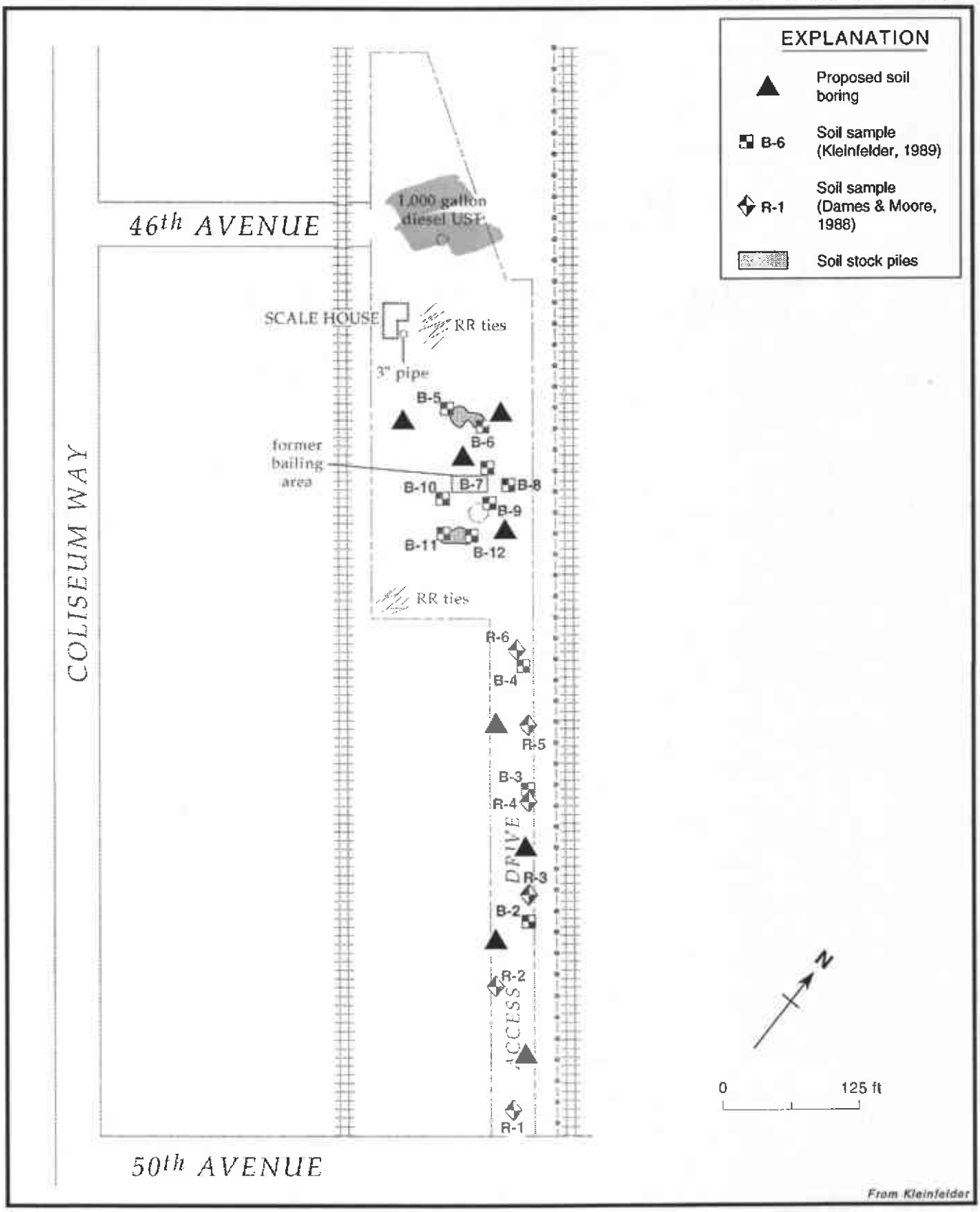

Figure 5. Proposed Soil Boring Locations - Learner Company, 46th Avenue, Oakland, California

2/12/93

Attachment A

ANALYTIC DATA FROM PREVIOUS INVESTIGATIONS

Table 1 -Analytic Data from Dames & Moore, 1988

Table 2 -Analytic Data from Kleinfelder, 1989

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
DAMES AND MOORE PHASE II ENVIRONMENTAL SITE ASSESSMENT

Location	Sample ID	Sample Depth feet	Concentration, mg/kg TPH	Total PCBs
FORMER BAILING AREA				
1	1S	2.5	7.9	ND[1]
1	1D	4.5	ND	NA
2	2S	2.5	3770	NA
3	3S	2.5	3430	ND
3	3D	4.5	ND	NA
4	4S	2.5	ND	ND
4	4D	4.5	ND	NA
5	5S	2.5	15.3	ND
5	5D	4.5	7.2	NA
6	6S	2.5	2860	NA
7	7S	2.5	ND	NA
8	8S	2.5	ND	NA
9	9S	2.5	ND	NA
10	10S	2.5	ND	NA
11	11S	2.5	2290	NA
ACCESS DRIVE				
Composite	R1&R2	1.5-2.0	645	0.6
Composite	R3&R4	1.5-2.0	1830	0.57
Composite	R5&R6	1.5-2.0	247	ND
SOIL PILES				
Composite	P1A&P1B		3610	25.2
Composite	P2A&P2B		3920	19.9

1. ND - Not detected (5 mg/kg for TPH and 0.01 mg/kg for PCBs); NA - Not analyzed.

TABLE 2
SURFACE SOIL SAMPLING
ANALYTICAL RESULTS SUMMARY
LEARNER COMPANY
OAKLAND, CALIFORNIA

	B-02	B-03	B-04	B-05	B-06	B-07				
Date Sampled	06/22/89	06/22/89	06/22/89	06/22/89	06/22/89	06/22/89				
Sample ID #	35142	35141	35140	35139	35138	35137				
Laboratory ID #	47854-01	47854-02	47854-03	47854-08	47854-10	47854-09				
Analyzing Lab	Enseco	Enseco	Enseco	Enseco	Enseco	Enseco				
Sample Locations	Drive	Drive	Drive	N. Pile	N. Pile	Bailing Area				
Petroleum Hydrocarbons	Results	Results	Results	Results	Results	Results	TTLC	STLC	Limit	Units
TPH by IR	28000	3500	7700	5400	22000	1800	NA	NA	*	mg/Kg
Metals Analysis										
Cadmium	4.7	19	8.7	30	43	ND	100	1.0	0.5	mg/Kg
Chromium	39	218	44	75	178	ND	500	5.0	1	mg/Kg
Lead	322	5150	624	1940	1810	218	1000	5.0	5	mg/Kg
Nickel	44	698	61	149	265	ND	2000	20	4	mg/Kg
Zinc	849	3900	1530	6600	8820	531	5000	250	1	mg/Kg
Other Analysis										
Cyanide Reactive	ND	ND	ND	ND	ND	ND			0.1	mg/Kg
Sulfide Reactive	ND	ND	ND	ND	ND	ND			0.5	mg/Kg
pH	6.5	7.4	7.5	7.6	7.6	8.9			0.01	
Ignitability	ND	ND	ND	ND	ND	ND			140.	°F
Bioassay	>750	>750	>750	>750	>750	>750				mg/L

Notes:

ND - Not detected above laboratory reporting limit.
* - The detection limit was raised due to high level of analyte present in the sample.
TTLC - Toxic Threshold Limit & Concentration, mg/kg.
STLC - Soluble Threshold Limit Concentration, mg/l.

1.4.1

1ET90-3

TABLE 2 (continued)
SURFACE SOIL SAMPLING
ANALYTICAL RESULTS SUMMARY
LEARNER COMPANY
OAKLAND, CALIFORNIA

	B-08	B-09	B-10	B-11	B-12	Composite				
Date Sampled	06/22/89	06/22/89	06/22/89	06/22/89	06/22/89	06/22/89				
Sample ID #	35136	35147	35146	35145	35144	35135				
Laboratory ID #	47854-11	47854-07	47854-06	47854-05	47854-04	47854-12				
Analyzing Lab	Enseco	Enseco	Enseco	Enseco	Enseco	Enseco				
Sample Locations	Bailing Area	Bailing Area	Bailing Area	S. Pile	S. Pile	Bench Test Soil				
Petroleum Hydrocarbons	Results	Results	Results	Results	Results	Results	TTLC	STLC	Limit	Units
TPH by IR	780	1200	740	28000	25000	11000	NA	NA	*	mg/Kg
Metals Analysis										
Cadmium	3.8	9.7	16	42	16		100	1.0	0.5	mg/Kg
Chromium	50	60	88	131	238		500	5.0	1	mg/Kg
Lead (Total, Soluable)	209, 9.6	433	551	5230, 83.5	1210,102	998, 127	1000	5.0	5	mg/Kg,mg/L
Nickel	54	69	203	181	129		2000	20.0	4	mg/Kg
Zinc (Total, Soluable)	779, 68.4	1760	2500	8180, 379	2090, 240	3830, 448	5000	250.0	1	mg/Kg, mg/l
Other Analysis										
CyanideND	ND	ND	ND	ND					0.1	mg/Kg
Sulfide ND	ND	ND	ND	ND					0.5	mg/Kg
pH	8.0	7.6	7.2	7.1	7.4				0.01	
IgnitabilityND	ND	ND	ND	ND					140	°F
Bioassay>750	>750	>750	>750	>750						mg/L

Notes:
ND - Not detected above laboratory reporting limit.
* - The detection limit was raised due to high level of analyte present in the sample.
TTLC - Toxic Threshold Limit & Concentration, mg/kg.
STLC - Soluble Threshold Limit Concentration, mg/l.

1ET90-3