

---

**ENVIRONMENTAL SITE ASSESSMENT  
AND SAMPLING PLAN  
768 46TH AVENUE  
OAKLAND, CALIFORNIA**

**June 3, 1988  
Job No. 17212-001-043**

---

# **Dames & Moore**



"ATTORNEY WORK PRODUCT"

June 2, 1988

Heller, Ehrman, White and McAuliffe  
515 South Figueroa Street, Suite 1230  
Los Angeles, California 90071

Attention: Mr. Roger Carrick

Gentlemen:

Environmental Site Assessment  
and Sampling Plan  
768 46th Avenue  
Oakland, California

INTRODUCTION

This report presents the results of Dames & Moore's Phase I, Environmental Site Assessment, of The Learner Company ("Learner") property located at 768 - 46th Avenue, Oakland, California ("the site"). Dames & Moore performed this investigation in accordance with our agreement dated April 29, 1988.

PURPOSE AND SCOPE OF SERVICES

The purpose of performing the Phase I, Environmental Site Assessment, was to evaluate the potential for onsite contamination of soils and

BS/3401a

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 2

groundwater as a result of past and present activities conducted at the site utilizing existing information.

As previously outlined in our proposal, the Phase I scope of services included:

- Review information provided by Learner on site history and current operations to ascertain potential onsite sources of contamination;
- Perform a reconnaissance-level site inspection to identify obvious visible signs of potential site contamination;
- Review sampling and chemical data obtained by the Alameda County Department of Environmental Health; and
- Recommend appropriate measures for proper disposal of onsite waste materials which include railroad ties and several piles of soil.

A thorough review of public agency records was not included in the scope of services, however, listings of toxic cases and fuel leaks generated by the California Regional Water Quality Control Board (RWQCB) were reviewed to identify known areas of contamination in the site vicinity.

In addition to the above scope of services, Dames & Moore prepared a site specific sampling plan to investigate the nature and extent of soil contamination observed in the area of the former bailer. The sampling plan is presented as an attachment to this letter report.

BS/3401a

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 3

#### SITE LOCATION AND DESCRIPTION

The Learner site is located at 768-46th Avenue just east of Highway 17 and south of High Street in Oakland, California (Figure 1). The site is a land parcel of approximately 125,000 square feet, which includes a long, narrow drive that extends southeast to 50th Avenue (Figure 2). The site is entirely secured with a chain-link fence and is bounded to the south and west by industrial and commercial facilities including J.E. Bobo's Scrap Metal (ferrous and non-ferrous), Bostrom-Bergen Metal Products (steel fabrication), Superior Plaster Castings, PG&E Gas Construction, and AAA Equipment. The north and east side is bounded by railroad tracks and Vulcan Foundry Studios, Chevron USA-Oakland Asphalt Plant, Hayes Furniture Company, NL Chemicals warehouse, California Steel Processing and American Electro-finishing Company, and Victorias Body Shop.

The Learner Company purchased the property in the 1960's. Information regarding the history of the site prior to that time was not readily available within the scope of this investigation. Until ceasing operations in October 1982, Learner operated the site as a scrap metal bailing yard. The yard received scrap metal materials such as old appliances, industrial machinery, motors, empty drums, and other metal scrap light enough to be hydraulically compressed. The scrap was loaded into a hydraulic bailer via an electric crane and compressed into bails. Prior to 1971, automobiles were also bailed at the site. After bailing, the scrap material was resold to steel mills.

After the yard was closed in 1982, Learner ceased onsite activities until January 1988. At that time, with the intention of developing the site into an office and warehouse complex, Learner began to disassemble and

BS/3401a

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 4

remove the bailer and associated equipment including a large hopper, electric crane, and a pumphouse with above-ground tank and piping containing hydraulic fluid for the bailer. A set of railroad tracks along the northeastern property boundary was also removed.

At the time of the site inspection, the railroad tracks had been completely disassembled and most of the railroad ties piled up at various locations around the site (Figure 2). The remaining ties were scattered along the former track location. Although the bailing equipment had been largely disassembled, two large pieces of the bailer were remaining. According to Mr. Jack Hecht of the Learner Company, some disassembled pieces of the bailing equipment had been removed from the property while the rest had been placed in various locations around the property.

The site topography is relatively flat. Excavations and piles of soil remain where activities have recently occurred to remove the railroad tracks and disassemble the bailing equipment. Two large piles of soil (6-8 feet high) are located about 50 feet north of the bailing area (Figure 3). According to Nelson Linendoll, onsite foreman for the Learner Company, these piles were formed following removal of the railroad bed material and consist primarily of soil with some gravel, small wood pieces and metal scrap. There are several other large piles (8-10 feet high) located south of the bailer that consist of soil and metal scrap. These piles were from material accumulating over the years from onsite operations (Linendoll, 1988). A pile about 12 feet high and 15 feet in diameter, consisting of metal cables with some piping and scrap metal, was also noted in this area (Figure 3).

BS/3401a

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 5

The surface area of the site is covered with soil although, according to Mr. Linendoll, a portion of the site is underlain by asphalt. However, the limits of this asphalt area are unknown.

A 1000-gallon underground diesel fuel storage tank currently onsite is scheduled to be removed by the G.W. Johnston Company. According to Mr. Richard Burge of G.W. Johnston Co., an underground tank closure plan submitted by the G.W. Johnston Company on behalf of Learner has been approved by the Alameda County Department of Environmental Health. Mr. Burge also stated the tank currently contains approximately 2 inches of water and diesel fuel.

The only remaining building onsite is an old scale house. A 3-inch pipe was found sticking out of the ground near the east side of this building. The origin of this pipe is unknown. Observed along the narrow drive on the southeastern end of the property were large, uncompressed metal pieces such as household and industrial appliances empty 55-gallon drums, gas canisters, metal shelving, and engines.

#### ONSITE CONTAMINATION

Our assessment of onsite contamination is based on visual evidence and interviews with Ariu Levy of the Alameda County Health Department and Nelson Linendoll of the Learner Company.

During our reconnaissance-level site inspection on May 17, 1988, dark-stained soils were noted in a large area around the former bailer location (Figure 3). Mr. Linendoll reported that since operations ceased in 1982, vandalism has been a problem at the site. He reported that the

BS/3401a

brass valves from the above-ground storage tank and associated piping for the bailer were stolen. The removal of these valves apparently resulted in the release of Tellus 68 hydraulic fluid onto the ground in the vicinity of the bailer. The amount of hydraulic fluid released is unknown, although it may have been as much as 300 to 500 gallons. The release of the hydraulic fluid was not noticed by Learner Company personnel until activities started on the site in January 1988.

Mr. Levy of the Alameda County Department of Environmental Health inspected the property in January 1988 after receiving a report on the site from the District Attorney's (DA) office. According to Mr. Levy, the DA's office received a complaint from a citizen action group. Mr. Levy reported that during his site inspection, he observed several large ponds of water with substantial oil layers around the bailer. These ponds covered an area of approximately 100 feet by 40 feet. Mr. Levy collected a sample of the water and soil from that area and submitted them for oil and grease analysis. Both the water and soil samples were reported to contain 10% by volume of oil and grease (Levy, 1988).

#### OFF-SITE CONTAMINATION

Several properties within the vicinity of the site are listed by the California RWQCB as sources of soil and groundwater contamination. AAA Equipment Company, located at 745 50th Avenue, and Exxon, located at 720 High Street, are identified sources of soil contamination resulting from fuel leaks. The Arrow Sign Company, located at 1046 45th Avenue, was identified as a potential source of groundwater contamination resulting from paint thinner dumped into a waste pit. The Clorox Company at High and Wattling Streets has been cited as the source of mercury contamination in

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 7

soils (900 ppm) and low levels (parts per billion) of mercury, trichloroethylene (TCE), and trichloroethane (TCA) contamination in groundwater. Further research into RWQCB files is required to identify the extent of contamination from each of these sources as well as their potential impact on the Learner property.

#### SUMMARY AND RECOMMENDATIONS

In summary, our Phase I findings indicate that onsite contamination of soils in the vicinity of the former bailer has occurred as a result of reported leakage of hydraulic fluid from an above ground storage tank and associated piping.

Dark-stained soils were observed during our site inspection supporting reports by Learner personnel of a hydraulic fluid spill in the bailing area. In addition, soil and surface water samples collected and analyzed by the Alameda County Department of Environmental Health confirmed the County's visual report of contamination with analytical results of 10% by volume oil and grease.

A site-specific sampling plan to investigate the extent and nature of hydraulic oil contamination in the vicinity of the former bailer is presented as an attachment to this letter report.

There is also potential for onsite contamination due to leakage from the underground diesel storage tank. In accordance with the Alameda County Department of Health regulations, the owner of the tank being permanently closed are required to submit a tank disclosure plan and demonstrate to the satisfaction of the local agency that no unauthorized releases have

BS/3401a

Pull  
u6T  
close vme  
MSU 215 in?



Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 8

occurred. Since very little information appears to be known about the tank, including evidence that leakage has not occurred such as leak detection monitoring, we recommend that at least two soil samples be collected during or immediately after removing the tank. These samples should be taken from the soils one to two feet below the bottom of the backfill at suspected worst-case locations. Samples should also be taken for at least every 20 linear feet of trench for piping associated with the tank. The samples should be analyzed for total petroleum hydrocarbons (TPH) as diesel using EPA or DHS approved testing methods.

The 3-inch steel pipe located near the scale house should also be investigated to ensure that it does not represent a potential source of any contamination at the site. A test pit dug around the pipe with a backhoe would confirm the presence or absence of an underground tank.

*(OKS)* The railroad ties currently stockpiled at the site could be picked up and removed from the site by a railroad tie recycler. Dames & Moore contacted A&K Railroad Ties (A&K) of Oakland with regard to accepting the ties. A&K inspected the ties on May 19, 1988 and indicated that they would be willing to pick up the ties at no cost.

*OK* The piles of soil and metal scrap not contaminated with oil present at the site may be disposed of at a Class III sanitary landfill. The sanitary landfill may require testing of the soil for PCB's prior to accepting the material.

Dames & Moore warrants that its services have been performed, within the limits prescribed by the Client, in accordance with current generally accepted principles and practices of hydrogeology, geology, and civil and

BS/3401a

geotechnical engineering. No other warranty or representation, either expressed or implied, is included or intended in this report.

The conclusions and recommendations presented in this report are professional opinions based on the indicated data described in this report. They are intended only for the purpose, site location and project indication. The conclusions and recommendations presented in this report are based on the assumption that subsurface conditions do not deviate from those observed during our study, as described in this report. It should be recognized that this study was not intended to be a definitive study of contamination at the site. Other locations of contamination may exist at the site and the levels of contamination at the site may vary from those shown.

Opinions and recommendations presented herein apply to site conditions existing at the time of our study and those reasonably foreseeable, they cannot necessarily apply to site changes made of which this office is not aware and has not had opportunity to evaluate. Changes in the conditions of the subject property can occur with time, because of natural processes or the works of man, on the subject site or on adjacent properties. Changes in applicable engineering and construction standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 10

We have enjoyed working with you on this project. Should you have any questions concerning this letter report, please contact us.

Very truly yours,

DAMES & MOORE

*David M. Klimberg*

David M. Klimberg  
Associate

*Bruce Scarborough*

Bruce Scarborough  
Staff Geologist

DMK:ajs

Attachments: Plate 1 - Site Location Map  
Plate 2 - Site Plan  
Plate 3 - Former Bailing Area  
Sampling Plan

BS/3401a

Heller, Efram, White and McAuliffe  
June 2, 1988  
Page 11

REFERENCES

Burge, Richard, G.W. Johnston Company, telephone conversation,  
May 27, 1988.

Hecht, Jack, The Learner Company, telephone conversation,  
May 20, 1988.

Kennedy, Scott, A&K Railroad Ties, telephone conversation,  
May 19, 1988.

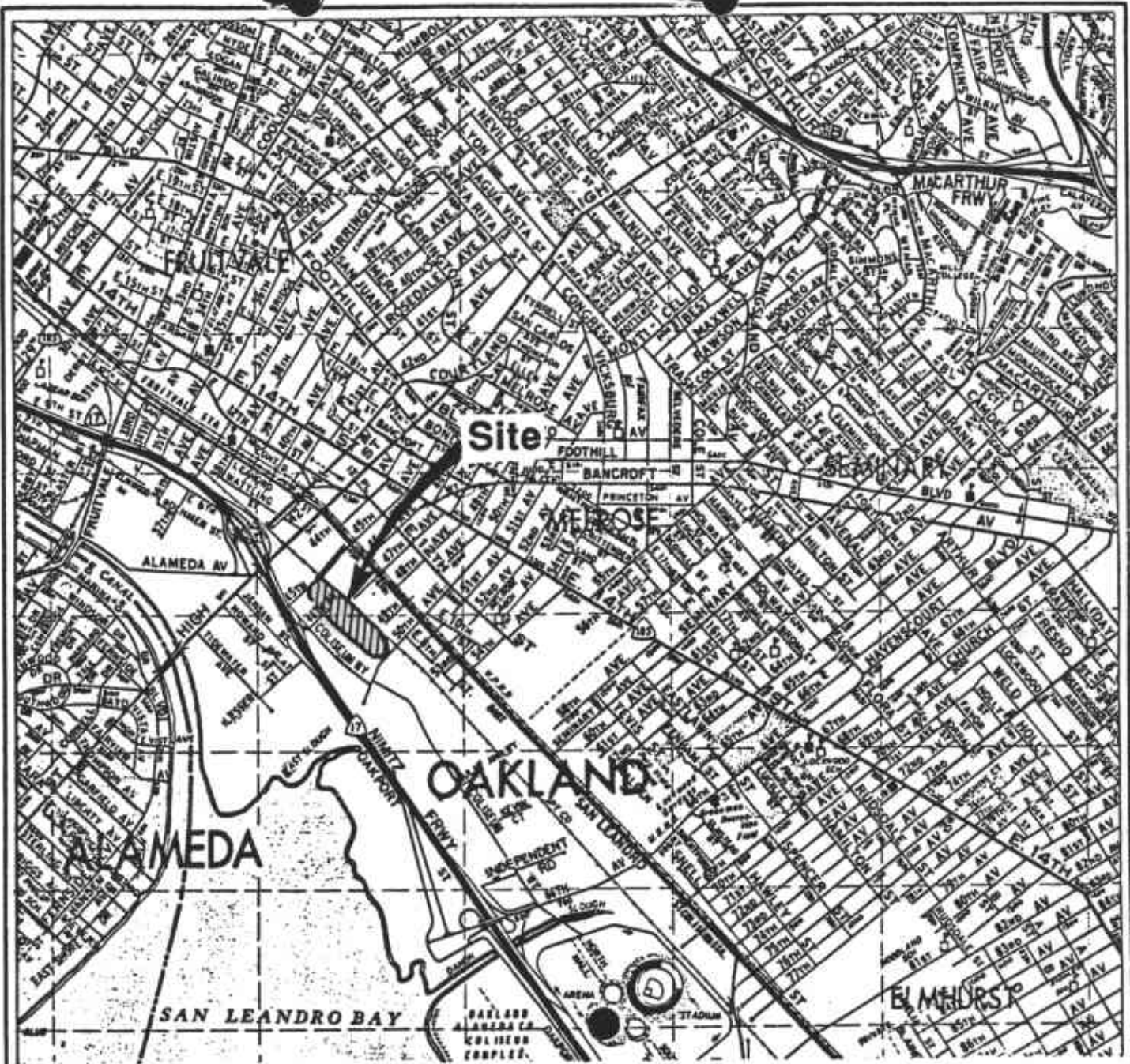
Levy, Ariv, Alameda County Department of Environmental Health, personal  
communication, May 24, 1988.

Linendoll, Nelson, The Learner Company, personal communication,  
May 17, 1988.

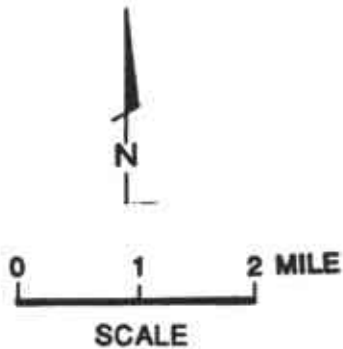
RWQCB, Fuel Leaks Listing, May 13, 1988.

RWQCB, North Bay Toxics Cases Listing, January 7, 1988.

Schahid, Rafat A., Alameda County Department of Environmental Health,  
Second Notice of Violation, May 13, 1988.

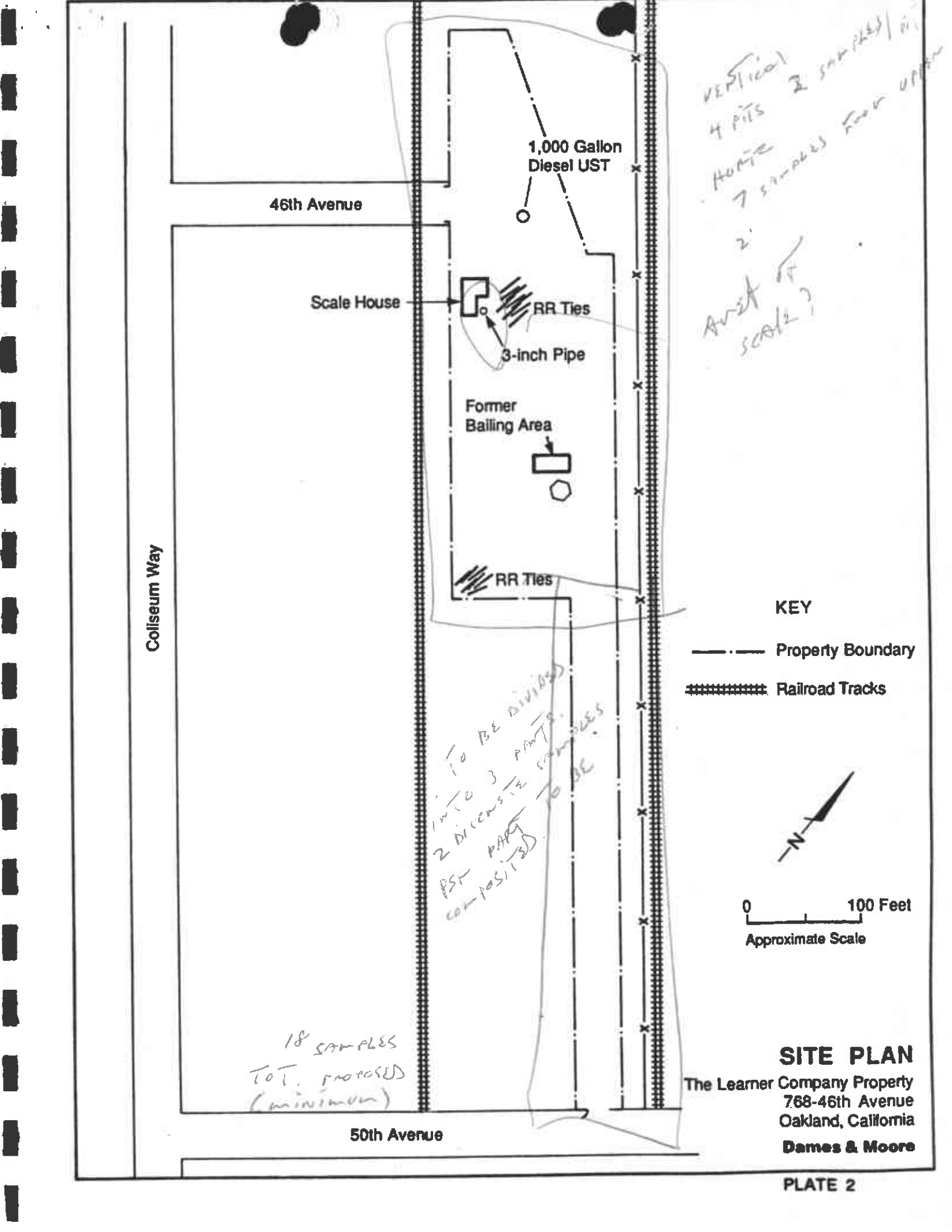


Reference: Thomas Bros. Maps



### SITE LOCATION MAP

The Learner Company Property  
 768-46th Avenue  
 Oakland, California  
 Dames & Moore



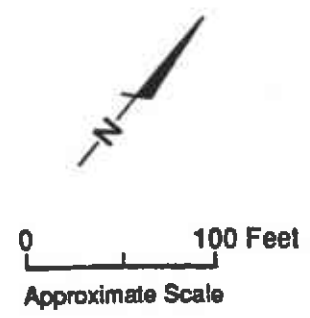
VERTICAL  
4 PITS 2 SAMPLES / PIT  
HORIZ 7 SAMPLES FOUR OFFER  
2.  
AVE OF SCALE?

TO BE DIVIDED  
INTO 3 PARTS.  
2 DIRECTLY SAMPLES  
TO BE  
COMPOSITED

18 SAMPLES  
TOT. PROPOSED  
(minimum)

**KEY**

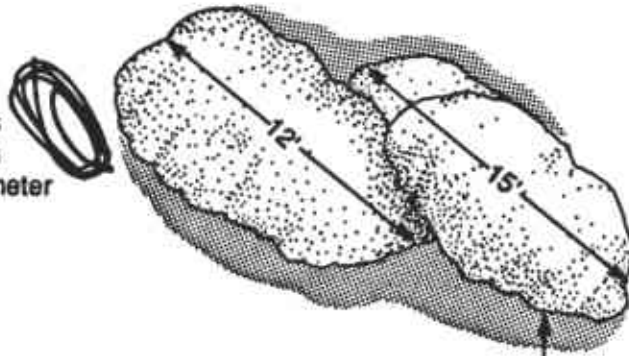
- · — · — Property Boundary
- ▬▬▬▬▬ Railroad Tracks



**SITE PLAN**

The Learner Company Property  
768-46th Avenue  
Oakland, California  
**Dames & Moore**

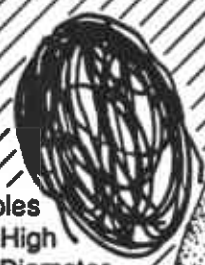
Cables  
6' High  
6' Diameter



50'

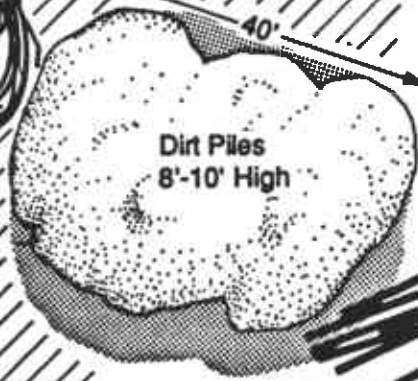


Crane  
10' Diameter



Cables  
12' High  
15' Diameter

Dirt Piles  
8'-10' High



R.R. Ties

30'

30'

**KEY**

- Property boundary
- /// Approximate stained area

Not to scale

**FORMER BAILING AREA**

The Learner Company Property  
768-46th Avenue  
Oakland, California  
**Dames & Moore**

SAMPLING PLAN  
THE LEARNER COMPANY PROPERTY  
768 46th Avenue  
Oakland, California

1.0 INTRODUCTION

This Sampling Plan, prepared by Dames & Moore for The Learner Company, presents a proposed scope of work for a soil sampling program at the Learner property ("the site") located at 768 46th Avenue in Oakland, California.

In January 1988, the Alameda County Department of Environmental Health inspected the site and collected a soil and ponded surface water sample from an area visibly contaminated with oil. Both the soil and water were reported to contain 10% by volume of oil and grease. On May 13, 1988 the Alameda County Department of Environmental Health issued a Notice of Violation to the Learner Company which requested the submission of a sampling and correction plan.

In May, 1988, Learner retained Dames & Moore to perform an Environmental Site Assessment to identify known and potential sources of soil and groundwater contamination at the site. As part of the Environmental Assessment, Dames & Moore has prepared this Sampling Plan to respond to the concerns of the Alameda County Department of Environmental Health.

2.0 PURPOSE

The purpose of this Sampling Plan is to investigate the vertical and horizontal extent of hydraulic oil contamination in the vicinity of the former bailer in order to develop appropriate cleanup alternatives.



3.0 SAMPLING AND ANALYSIS PLAN

3.1 Test Pit Sampling

To investigate the vertical extent of the hydraulic oil contamination in the vicinity of the bailer, approximately four (4) exploratory pits will be excavated utilizing a backhoe within the visibly stained area around the former bailer. The proposed exploratory pit locations are shown on Figure 1, although exact locations for each pit will be determined in the field. The depth of each exploratory pit will be field determined based on visual observations, but will not extend below the groundwater surface. A log of each exploratory pit will be maintained by a Dames & Moore onsite geologist.

A minimum of two (2) soil samples from each exploratory pit will be retained for chemical analyses. If contamination visibly extends to the groundwater surface, a soil sample for analysis will be collected directly above the groundwater surface.

*ADD SAMPLES TO LOG*

Soil samples from each exploratory pit will be collected either directly from the pit sidewall or out of the backhoe bucket depending on the final depth of the exploratory pit. Soil samples will be transferred to laboratory supplied clean glassware using stainless steel trowels. The backhoe bucket and sampling trowels will be decontaminated between each sampling location according to the procedures set forth in Section 3.6.

3.2 Hard Auger Sampling

To investigate the horizontal extent of the hydraulic oil contamination, a minimum of seven (7) surficial soil samples will be collected using a stainless steel hand auger. The proposed sampling locations are shown on Figure 1, although the exact locations will be field determined. Soil samples collected using the hand auger will be collected from the upper 24 inches of soil.

*VERTICAL  
2  
4 PITS TO GROUND WTR, 2 SAMPLES  
MIN PITS  
HORIZ: 7 SAMPLES  
WATER 2'*

Soil will be transferred from the auger directly into laboratory supplied glassware using a stainless steel trowel. The hand auger and trowel will be decontaminated between each sampling location according to the procedures set forth in Section 3.6.

### 3.3 Methodology for Handling Samples

After soil samples are collected in the appropriate containers, each container will be labeled with the following information: Dames & Moore's job number, sample number, date and time collected, name of collector, and any pertinent remarks. A record of all sampling activities will be maintained in a daily field memo by field personnel.

Soil samples will be stored temporarily onsite in an ice chest cooled to approximately 4 degrees Centigrade.

Chain of custody records will be maintained for all samples collected. Each chain of custody form will be filled out by the sample collector before releasing the samples for storage or transportation. The form will then be routed with the samples through storage, transportation, and laboratory analysis.

### 3.4 Sample Analysis

All soil samples collected at the site will be analyzed by a DHS state certified testing laboratory for total petroleum hydrocarbons via EPA Method 418.1. In addition, 25 percent of the samples will be analyzed for PCB's using EPA Method 8080.

### 3.5 Duplicate Samples

Duplicate soil samples will be collected and analyzed to check for variability in soil parameter levels. Duplicate samples will be collected

immediately after the primary sample from the same location with the same equipment and procedures. Ten percent of the samples will be duplicates. The duplicate samples will be analyzed for the same parameters as the primary sample.

### 3.6 Equipment Decontamination

The backhoe bucket used to excavate the test pits will be thoroughly steam-cleaned prior to beginning the work between each test pit location. The stainless steel hand auger and sampling trowels will be decontaminated prior to each use using the following procedure:

1. Wash in TSP solution with brush;
2. Rinse with tap water;
3. Rinse with acetone;
4. Air dry;
5. Rinse with deionized water; and
6. Air dry.

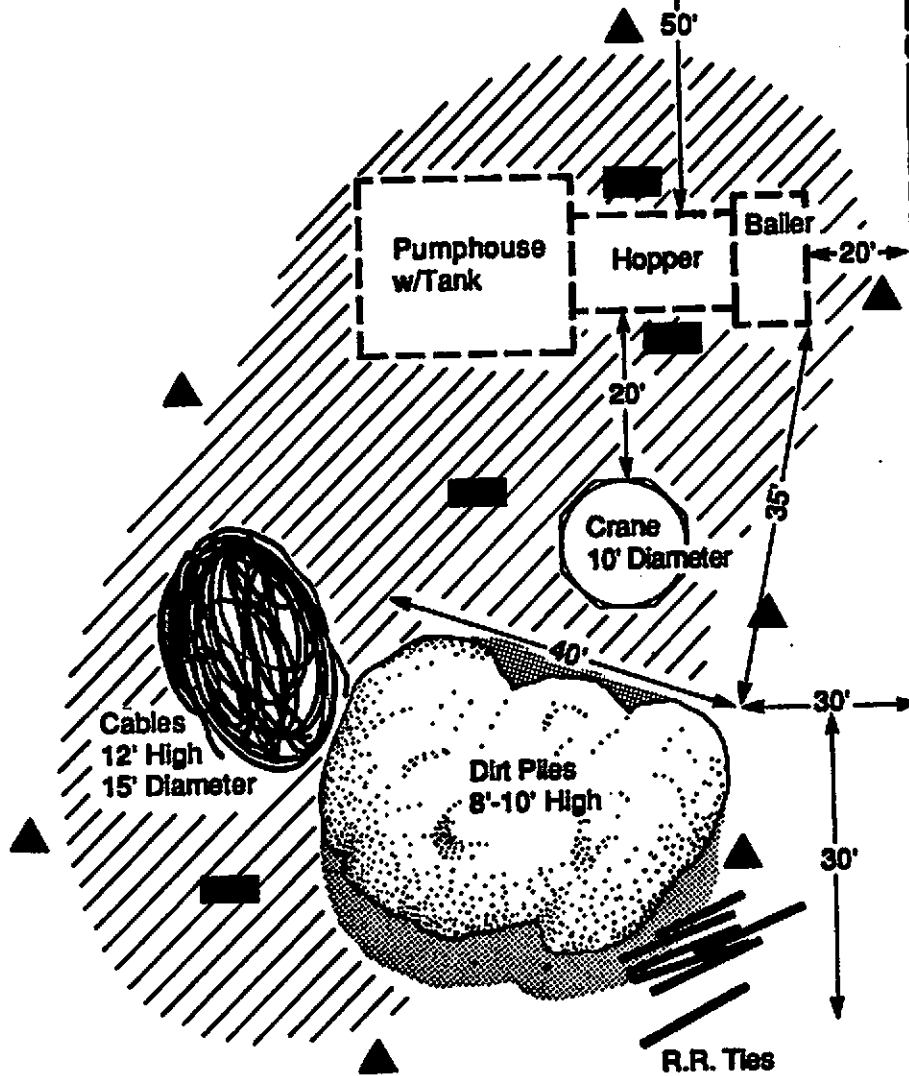
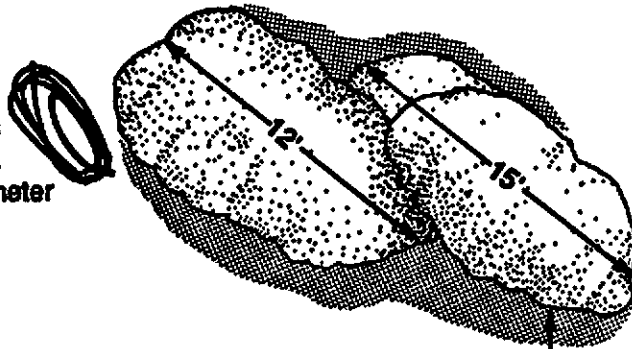
### 4.0 REPORT

A report will be prepared to present the methods, results, and conclusions of the Sampling Plan implementation. This report will include recommendations for cleanup of the area impacted by leakage of the hydraulic oil and recommendations for any additional investigation work, if necessary.





### 5.0 HEALTH AND SAFETY PLAN

A site specific Health and Safety Plan prepared by Dames & Moore is presented as an appendix to this Sampling Plan.

Cables  
6' High  
6' Diameter



**KEY**

-  Property boundary
-  Approximate stained area
-  Proposed test pit location
-  Proposed hand auger sampling location

Not to scale

**PROPOSED SAMPLING LOCATIONS  
FORMER BAILING AREA**

The Learner Company Property  
768-46th Avenue  
Oakland, California  
**Dames & Moore**

FIGURE 1

HEALTH & SAFETY PLAN  
FOR  
LEARNER COMPANY  
OAKLAND, CALIFORNIA

Job Number: 07212-001-043  
Plan Preparer: Richard S. Millier  
Date Prepared: June 1, 1988

APPROVALS

Project Manager:	<u>Bruce Scarbrough</u> Bruce Scarbrough	<u>6/2/88</u> Date
Office Safety Coordinator:	<u>Ann Prouty</u> Ann Prouty	<u>6/2/88</u> Date
Regional Health & Safety Manager:	<u>Richard S. Millier</u> Richard S. Millier	<u>6/3/88</u> Date

HEALTH & SAFETY PLAN  
FOR  
LEARNER COMPANY  
OAKLAND, CALIFORNIA

I. PROJECT PERSONNEL

Dames & Moore personnel responsible for work on this site and for conducting work at this site include:

Project Manager:	Bruce Scarbrough	(415) 896-5858
Site Safety Officer:	Nancy Addison	(415) 896-5858
Field Personnel:	Nancy Addison	(415) 896-5858

All Dames & Moore field personnel are to have taken the 40-hour hazardous site training, and are to have read and understood this plan, and signed and returned the plan acceptance form attached.

II. PROJECT EMERGENCY RESPONSE

In the event of a fire or medical emergency, the following numbers can be called for assistance:

Fire:	911
Ambulance:	911
Hospital:	911
Police:	911

III. SITE BACKGROUND

The Learner Company purchased the 125,000 square foot property in the 1960s. Information regarding the site history prior to that time is unavailable. Until ceasing operations in 1982, Learner operated the site as a scrap metal bailing yard. The yard received old appliances, industrial machinery, motors, empty drums, and other metal scrap light enough to hydraulically compress. The scrap was loaded into a hydraulic bailer which compressed the scrap into bails.

According to company personnel, an act of vandalism sometime since 1982 resulted in a spill of hydraulic fluid out of an above ground tank and associated piping. Soils in the area of the former bailer are dark stained and visibly contaminated with a heavy petroleum product.

#### IV. DAMES & MOORE ACTIVITIES ON SITE

Dames & Moore proposes to dig four test pits to an approximate depth of 5 feet. The test pits will be dug using a backhoe. Grab soil samples will be collected either directly from the test pit sidewall or out of the backhoe bucket. Additionally, approximately seven to ten additional surficial soil samples will be collected using a hand auger. All soil samples will be analyzed for total petroleum hydrocarbons and PCBs. The test pits and hand-auger sampling will be performed in the area where visible hydraulic fluid contamination is evident.

#### V. HAZARD ANALYSIS

Based on the site background and planned activities, the following types of hazards exist:

- Skin contact with hydraulic oil that may be contaminated with PCBs during soil sampling;
- Being struck by the backhoe during pit excavation;
- Being caught in a cave-in while in pit collecting soil sample; and
- Inhalation of contaminated soil particles.

During soil sampling, protective measures must be recommended that will prevent skin contact with the soil, prevent respiratory inhalation of contaminated soil particles, and prevent workers from being caught in a cave in. Specifics regarding necessary protective measures are addressed in the next section. Also, the attached Material Safety Data Sheets (MSDSes) list important properties of PCBs.

#### VI. PERSONNEL PROTECTIVE MEASURES AND EQUIPMENT

During excavation and soil sampling activities within 25 feet of the drum, personnel shall wear: hard hats, neoprene gloves, tyvek coveralls, safety boots with rubber boot covers, and half-face MSA respirator with GMB-H cartridges. This respiratory protection is to be used at all times when visible levels of airborne dust are apparent. Respiratory protection is not necessary if visible dust is not encountered or if the excavation is conducted in wet or watered-down soil. It is recommended that all samples be collected from the excavation by using the backhoe to bring the sample to the surface. Workers are not to enter the excavation (if greater than 5 feet in depth) unless the sides of the excavation are properly shored.

Personnel 25 feet away from the drilling and sampling activities (and not involved in these activities) must wear safety glasses or goggles and a hard hat at a minimum. An ABC (5 to 10 pounds) fire extinguisher is to be kept at the site at all times when work is being conducted.

#### VII. EMERGENCY RESPONSE

In the event of an injury or illness requiring professional medical attention, emergency care should be summoned by calling the above listed numbers. In this type of emergency, work is to be stopped until the SSO and the RISM (Rick Hillier - Seattle) have determined the cause of the incident and have taken appropriate action. Any injury or illness, regardless of severity, is to be reported on the attached accident report form.

#### VIII. DECONTAMINATION

All tools, equipment, and reusable clothing are to be washed with water and detergent prior to putting into vehicles or storage. Gloves and clothing should be placed in a garbage bag, sealed and disposed.

#### IX. TRAINING

In addition to the 40-hour training required for Dames & Moore project field personnel, all project personnel are to read and understand this plan and its attachments. Attachments include: Safe Work Practices--General, Half-Mask Respirator Instructions, and the MSDS.

#### X. FORMS

The project manager and OSC are to complete all applicable forms attached. In all cases, the Employee Exposure History and Plan Acceptance forms should be completed and sent back to the RISM.



Inspection Procedures

1. Look for breaks or tears in the headband material; also stretch to check the elasticity.
2. Make sure all headbands, fasteners and adjusters are in place and not bent.
3. Check the facepiece for dirt, cracks, tears or holes. The rubber should be flexible, not stiff.
4. Look at the shape of the facepiece for possible distortion that may occur if the respirator is not protected during storage.
5. Check the exhalation valve located near the chin between the cartridges.
  - a. Unsnap the cover.
  - b. Lift the valve and inspect the seat and valve for cracks, tears, dirt or distortion.
  - c. Replace the cover. It should spin freely.
6. Check both inhalation valves (inside the cartridge holders). Look for same signs as above.
7. Check the yoke for cracks.
8. Make sure the cartridge holders are clean. Make sure the gaskets are in place and the threads are not worn. Also look for cracks and other damage.
9. Check the cartridges for dents or other damage, especially in the threaded part.

Donning Procedures

1. Screw the cartridge into the holder hand tight so that there is a good seal with gasket in the bottom of the holder, but don't force it. If the cartridge won't go in easily, back it out and try again.

Always use cartridges made by the same manufacturer who made the respirator.

2. Place the facepiece over the bridge of your nose and swing the bottom in so that it rests against your chin.
3. Hold the respirator in place and fasten the top strap over the crown of your head.
4. Fit the respirator on your face and fasten the strap around your neck. Don't twist the straps. Use the metal slide to tighten or loosen the fit (don't overtighten).
5. Test the fit:
  - a. Lightly cover the exhalation valve with the palm of your hand. Exhale...if there is a leak, you will feel air on your face.
  - b. Cover the cartridges with the palms of your hands. Again, don't press too hard. Inhale....the face should collapse against your face.
  - c. If there is a leak with either test, adjust the headbands or reposition the facepiece and test test until no leakage is detected.

#### Sanitizing Procedures

1. Remove all cartridges and seals not affixed to their seats.
2. Remove elastic headbands.
3. Remove exhalation cover.
4. Remove speaking diaphragm or speaking-exhalation valve assembly.
5. Remove inhalation valves.
6. Wash facepiece and breathing tube in cleaner/sanitizer powder mixed with warm water, preferably at 120 to 140 degrees F. Wash components separately from the facemask, as necessary. Remove heavy soil from surfaces with a hand brush.
7. Remove all parts from the wash water and rinse twice in clean warm water.
8. Air-dry parts in a designated clean area.
9. Wipe facepieces, valves, and seats with a damp lint-free cloth to remove any remaining soap or other foreign materials.

PLAN ACCEPTANCE FORM

Instructions: This form is to be completed by each person scheduled to work on the subject project work site and returned to the Office Safety Coordinator who will forward to the WRHSM.

Job Name:

Job Number:

Location:

Plan Note:

I attest that I have read and understand the contents of the above plan and agree to perform my work in accordance with it.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Company/Office

\_\_\_\_\_  
Date

(To be completed by Project Managers)

JOB NAME: \_\_\_\_\_

JOB NUMBER: \_\_\_\_\_

EMPLOYEE NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATES FROM/TO: \_\_\_\_\_

HOURS ONSITE: \_\_\_\_\_

---

SUSPECTED CONTAMINANTS	VERIFIED CONTAMINANTS AND AIRBORNE CONCENTRATIONS THEREOF
------------------------	--

ACCIDENT REPORT FORM

Do not use motor vehicle or aircraft accidents

TO

FROM

TELEPHONE (Include area code)

NAME OF INJURED OR ILL EMPLOYEE

DATE OF ACCIDENT

TIME OF ACCIDENT

EXACT LOCATION OF ACCIDENT

NARRATIVE DESCRIPTION OF ACCIDENT

NATURE OF ILLNESS OF INJURY AND PART OF BODY INVOLVED

LOST TIME: YES \_\_\_\_\_ NO \_\_\_\_\_

PROBABLE	DISABILITY	(Check one)
FATAL _____	LOST WORK DAYS AWAY FROM WORK	RESTRICTED _____
NO LOST WORK DAYS _____	FIRST AID ONLY	DAYS _____

CORRECTIVE ACTION TAKEN

CORRECTIVE ACTION WHICH REMAINS TO BE TAKEN (By whom and when)

NAME OF SUPERVISOR

TITLE

SIGNATURE

DATE

PROBLEMS WITH PLAN REQUIREMENTS:

---

---

---

---

---

UNEXPECTED SITUATIONS ENCOUNTERED:

---

---

---

---

---

RECOMMENDATIONS FOR FUTURE REVISIONS:

---

---

---

---

PLEASE RETURN TO RICHARD HILLIER, WRHSM:

# MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION  
1145 CATALYN STREET  
SCHENECTADY, NY 12303-1836 USA  
(518) 377-8855



No. 1200

AROCLOR 1254

Date May 1980

## SECTION I. MATERIAL IDENTIFICATION

**MATERIAL NAME:** AROCLOR 1254  
**DESCRIPTION:** Distillation cut of polychlorinated biphenyl (or diphenyl), containing 54% Cl.  
**OTHER DESIGNATIONS:** PCB, an Askarel, PYRANOL, GE Material A13B1, CAS # 027 323 188  
**MANUFACTURER:** Material was a product of Monsanto Co., but dropped in 1977. Except for uses specifically exempted and regulated by EPA (for example power transformers), legal manufacture, distribution in commerce, and use of PCB's in USA ended in 1979 under TSCA.

## SECTION II. INGREDIENTS AND HAZARDS

Mixture of Chlorinated Biphenyls, C <sub>12</sub> H <sub>10-x</sub> Cl <sub>x</sub> :		x	HAZARD DATA
		ca 100	EPA exemption or authorization needed for any measurable exposure*
x	Approx. %		
2	0.5		
3	1		
4	21		
5	48		
6	23		
7	6		

Includes 69 or more compounds with average of 4.98 Cl atom/molecule. Mixture may contain 0-2 ppm chlorinated dibenzofurans.

\*Current ACGIH 8-hr TWA is 0.5 mg/m<sup>3</sup>. NIOSH has proposed a 10-hr TWA of 1.0 µg/m<sup>3</sup>. Materials with over 50 ppm PCB content are regulated for handling, storage, records, and waste disposal. EPA criterion in navigable waters is 0.001 µg/L PCB's.

Rat, Oral LD<sub>50</sub> 4-10 g/kg  
Weaning 1.2 g/kg  
Rat, Intravenous LD<sub>50</sub> 358 mg/kg  
Rat, Oral, TDLo 1220 mg/kg/35 wk (neoplastic effect)

## SECTION III. PHYSICAL DATA

Boiling range at 1 atm, deg C	ca 360-390	Specific gravity (65/15.5 C)	1.5
Vapor pressure at 150 C, mm Hg	<1	Pour point, deg C	10
Water solubility at 25 C, ppm	ca 0.01	Molecular weight (Av)	327
Viscosity at 100 F, cstk	ca 460	Partition Coef. (octanol/water)	>10 <sup>4</sup>

Appearance & Odor: A light yellow, viscous fluid.

## SECTION IV. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	LOWER	UPPER
None to boiling point				

**Extinguishing Media:** Use media appropriate to the surrounding fire conditions. This material has very low combustibility, but it can undergo thermal-oxidative degradation in a fire situation.

Firefighters should use full protective clothing and self-contained breathing equipment when fighting fire where any PCB's are involved.

## SECTION V. REACTIVITY DATA

AROCLOR 1254 and other PCB's are nearly inert materials with very high chemical stability; the higher chlorine levels usually give the greater stability. At about 300 to 600 C some PCB's can oxidize to produce chlorinated dibenzofurans which are much greater in toxicity than the PCB's. For complete incineration of PCB's a 2-second dwell time above 2000 F (1090 C) with 3% excess oxygen in the stack is suitable (see Sect. VII). AROCLOR 1254 shows very little degradation after 3 weeks exposure to direct sunlight. PCB's are strongly absorbed on particulates or sediments in aquatic systems (streams, lakes, ocean, etc.). Mixed in activated sludge, biodegradation occurs slowly, but only very slowly or almost not at all with compounds above Cl<sub>4</sub>.

**SECTION VI. HEALTH HAZARD INFORMATION**

TLV (See Sect. II)

PCBs show high levels of bioaccumulation in fatty tissue and very slow metabolism, especially for Cl<sub>5</sub> compounds and above. They have become widely dispersed in world-wide environment and in the food chain (much like DDT) since their introduction in 1929. Effective control of PCB discharge into the environment began after 1970. AROCLOR 1254 has a low vapor pressure, but it can be irritating to the eyes, nose, and throat if misted or heated to produce vapors. Excessive acute and chronic exposures may cause liver damage. Chronic exposure to or ingestion of PCB's (especially when thermally oxidized) can result in chloracne after 1-6 months. There is some evidence of possible carcinogenic risk and adverse reproductive effects with this material. PCB's may appear in the breast milk of an exposed mother.

**FIRST AID:**

**Skin Contact:** Clean exposed skin with waterless cleaner, wipe with a disposable towel, then wash with soap and water. Promptly remove contaminated clothing. (Control separate disposal of PCB-contaminated materials.)  
**Eye Contact:** Flush promptly & thoroughly with lots of running water for 15 minutes.  
**Inhalation:** Remove to fresh air. Get medical help if symptoms continue.  
**Ingestion:** Get medical help. NIOSH has recommended that vomiting be induced. Get medical help in all cases of severe exposure, repeated exposures, or persistent symptoms.

**SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES**

Notify safety personnel of all PCB spills or leaks. Promptly contain spilled material! Prevent its release into the environment! Restrict PCB spill area to trained clean-up personnel; use proper protective gear; follow an established emergency plan. Stop leakage if possible. Pick up spill. Absorb small spills and residues using a powdered, dry clay. Place leaking containers, picked-up PCBs, and PCB-contaminated materials and refuse into approved, properly labeled, closed containers for storage under controlled, EPA regulated conditions prior to disposal. EPA allows approved storage to 1/1/84. (See Sect. IX.) Storage: 40CFR761.42; Annual report: 40CFR761.45  
**DISPOSAL:** Destroy PCB-containing material by burning in an EPA approved facility. Liquid 50-500 ppm PCB material can be burned as above or landfilled if not ignitable. Non-flowing, PCB-contaminated debris can be disposed of in an EPA approved landfill. (See 40CFR 761; Federal Register, Vol. 44, 31551-4, 66989; Vol. 45, 20473.)

**SECTION VIII. SPECIAL PROTECTION INFORMATION**

Provide highly effective local exhaust ventilation (trap for exhaust vapors) especially if this material is heated or misted. Unless authorized by EPA an isolated system must be used for PCBs. For nonroutine and emergency conditions of exposure use an approved canister respirator or self-contained breathing equipment. Prevent skin contact for those who work with PCBs. Use neoprene or polyethylene gloves and apron, safety glasses and/or face shield, and other protective clothing as determined by use conditions. An eyewash station and washing facilities should be available to the work area. Provide for special handling and disposal of PCB-contaminated materials, including paper towels and clothing (see Sect. VII). Provide locker and shower facilities. Workers must be trained for PCB work, and they must follow good hygienic practice. Provide pre-placement medical exams for workers with emphasis on liver function, skin condition, and reproductive history. Provide annual medical exams for exposed workers.

**SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS**

PCB materials in containers and in equipment must have proper labeling including the date of storage. Short term (up to 30 days) storage of non-leaking PCBs can be done. Long term storage requires an EPA approved facility, including such criteria as roof and walls to shield from rain, impervious base and diking which will contain 25% of stored volume or twice the volume of the largest container, no drains or openings to allow flow loss, and the base must be located above the 100-year flood water elevation. Prevent physical damage to containers. Inspect storage frequently. Prevent skin contact with PCBs, or with solid products contaminated with PCBs. Prevent inhalation of airborne PCBs. Properly contain PCBs until legally disposed of; do not allow them to escape into the environment! PCBs, and especially used PCBs, can contain higher toxicity contaminants.

DATA SOURCE(S) CODE: 1-6, 20, 26, 31, 36

APPROVALS: MIS  
CRD

Industrial Hygiene  
and Safety

MEDICAL REVIEW: June 1980

*J.M. [Signature]*  
*JW 5-29-80*

Statements as to the reliability of information herein for purchaser's purposes are necessary purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, Genium Publishing Company makes no warranty, express or implied, and assumes no responsibility as to the accuracy or reliability of such information for application to any other's intended purposes or the consequences of its use.