



# The Traverse Group, Inc.

WESTERN DIVISION  
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- Groundwater and Soil Contamination Assessment and Cleanup
- Property Development Risk Assessments
- Hazardous Materials Management

28 June 1989

Department of Environmental Health  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

Attn: Mr. Gil Wistar

Re: California Linen Rental Co.  
989 41st Street  
Oakland, CA 94608

Dear Mr. Wistar:

Enclosed is the revised workplan for the subject site.

We are confident that this workplan addresses the additional regulatory concerns regarding this site.

Please feel free to call either myself or John Sammons at (415) 892 0022 if you have any questions or require further clarification.

Very truly yours,

Reinhard Ruhmke  
Staff Geologist  
The Traverse Group Inc.

CC: File  
California Linen Rental

Enclosure: Workplan

ALAMEDA COUNTY  
DEPT. OF ENVIRONMENTAL HEALTH  
HAZARDOUS MATERIALS

Headquarters: 2480 Gale Road, Ann Arbor, Michigan 48105  
(313) 483-4894 / (313) 483-6997 / FAX (313) 483-7532

7.389

CALIFORNIA LINEN RENTAL Co.  
989 Forty First Street  
Oakland, CA 94608

## WORKPLAN FOR SITE INVESTIGATION

### SITE LOCATION

This site is located at the corner of 41st and Linden Streets in the city of Oakland. This land use in the area is mixed industrial and residential. The mailing address for this site is 989 41st Street, Oakland, CA 94608.

### INTRODUCTION

This workplan covers all services, equipment and materials to be provided by The Traverse Group, Inc. (hereafter TGI) for the drilling of boreholes, the collection of appropriate soil samples, the installation of a minimum of three to a maximum of five monitoring wells on the property and the development of remedial action plans to address any soil and groundwater contamination that might be detected during this phase.

The site is presently owned by California Linen Co, a commercial laundry company. On February 8, 1989, three steel underground storage tanks were removed from the site: A 10,000 gallon capacity tank which contained regular gasoline, A 3,000 gallon tank which contained #5 fuel oil and a 550 gallon tank which contained unleaded gasoline.

Analytical results from soil samples collected by others after tank removal indicate hydrocarbon contamination above 100 ppm. In addition, a water sample taken from standing water in the fuel oil tank pit contained 14,000 ppm of Oil and Grease and 520 ppm Total Petroleum Hydrocarbons as Diesel.

The entire project is to be completed within the guidelines and regulations set forth by the City of Oakland, the Alameda County Division of Environmental Health and the Alameda County Flood Control and Water Conservation District (ACFCD).

### SCOPE OF FUNCTIONS

The Traverse Group, Inc. (TGI) shall provide geologic and engineering services for subsurface investigation of this site, including determination of background contamination levels and investigation of hazardous waste contamination.

TGI shall conduct this investigation in order to formulate a plan, called the Abatement and Replacement Program, for the treatment or other appropriate abatement of contamination in order to bring the site into compliance with current local, state and federal environmental quality laws.

TGI shall prepare closure plans, plans of correction or abatement, permit applications, necessary reports and certifications, site condition reports, and recommendations for any remedial action required. TGI shall maintain communication with all government agencies having jurisdiction.

A borehole survey of the site will be conducted. Boreholes will be drilled in such locations as to establish background contamination levels and extent of contamination (Plate 1).

- \* Boreholes shall be drilled using a hollow stem auger.
- \* Boring logs shall be recorded during drilling and sampling operations.
- \* All Boreholes will be filled with neat cement upon completion of the drilling.
- \* Boreholes shall be drilled to groundwater.
- \* Soil samples will be collected at four foot intervals until groundwater is encountered.
- \* When groundwater is encountered, drilling shall be halted and a soil sample shall be collected at that depth. Once depth to groundwater is established the sampling depths will be adjusted so that the capillary fringe is sampled.
- \* Standard penetration tests shall be performed at each sampling depth and results shall be recorded in the boring logs.
- \* Samples shall be handled in accordance with the Standard Sampling Method as described in the LUFT manual.
- \* Soil Samples shall be submitted to the laboratory on the basis of a ten day turnaround for results.
- \* Samples shall be analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH/Gas), Total Petroleum Hydrocarbons as Diesel (TPH/Diesel), Waste Oil and Grease (EPA Method 503D&E) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX).

\* All soil cuttings that appear to be contaminated will be stored in drums on site until laboratory results are available, after which the soil will be disposed of properly.

The boreholes planned for the Linden Street boundary of the California Linen property will serve to determine the approximate North/South boundaries of any plume and the borehole(s) planned for the 41st street boundary and those planned for on-site installation will further define a plume if it is present at this site.

There are no known monitoring wells in the immediate area to establish local groundwater flow gradients. General area groundwater flow direction has been established by the Alameda County Flood control and Water Conservation District in their 205(J) report. The regional groundwater flow in the area is generally to the West towards San Francisco Bay. At this site this would result in the groundwater flowing from California Linen property across Linden Street.

A minimum of three monitoring wells will be required at this site to determine local groundwater gradient. One monitoring well will be drilled within 10 feet of each former tank location in the downgradient direction according to the 205(J) report. Once local groundwater flow has been verified, it will be determined if additional monitoring wells are needed.

The monitoring wells will be constructed using four-inch diameter, threaded PVC casing. The well will be screened with .02 inch slotted casing from five to ten feet below the water table to approximately three feet above the water table. The appropriate filter pack will be placed to approximately two feet above the water table and a minimum three foot bentonite seal will be used above the filter pack. The well annulus will then be filled to the surface with cement grout. The casing will be capped at both ends and a Christy Box installed. The well head will be provided with a locking cap and seal.

The wells will be properly developed and sampled with the purged water being collected and disposed of properly. Groundwater samples will be analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH/Gas), Total Petroleum Hydrocarbons as Diesel (TPH/Diesel), Waste Oil and Grease (EPA Method 503D&E) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX).

Upon completion of this phase of work, a report detailing our findings and any possible remediation plans including cost estimates will be prepared for the client to be sent to the appropriate regulatory agencies.