

January 26, 1998

Susan Hugo  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**Re: Work Plan for Soil and Groundwater Sampling  
3516 Adeline Street, Oakland, Site 819**

Dear Susan,

Enclosed are the work plans from Bill Dugan outlining the work we discussed in your office January 6. Today, I also submitted a copy to the UST Fund for prior approval. If there is anything you could do to help speed up the approval process we would really appreciate it.

As soon as I hear from the State I will be in touch to let you know our start date.

Again, thank you for all of your support and guidance.

Thank you,



Linda Champion  
9441 Laguna Lake Way  
Elk Grove, California 95758  
(916) 684-2993  
(916) 684-9799 fax

Enclosure

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ENVIRONMENTAL  
PROTECTION

License # RG 6253  
Soil & Groundwater Sampling  
Environmental Geology Services

## DUGAN ASSOCIATES

1180 Delmas Avenue, San Jose, CA. 95125  
Telephone 408/287-2175 Fax 408/287-2176

Bill Dugan, R.G.

Ms. Susan Hugo  
Alameda County Department of  
Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

January 20, 1998  
Project: 218-WP1

Subject: **Work Plan for Soil and Groundwater Sampling [DA-218-1]**  
Site: Former City of Paris Cleaners, 3516 Adeline Street, Oakland, CA

Ms. Hugo:

On behalf of Ms. Champion, Dugan Associates is submitting this work plan for subsurface soil and groundwater sampling work at the above-referenced site, and adjacent to the site within 35th Street. The work will be performed to enable evaluation of the lateral extent of Stoddard compounds in soil and groundwater downgradient of the former USTs. See Figure 1 for a Site Location Map, and Figure 2 for a map of the proposed borings. Field methods are presented in Attachment A. Dugan Associates proposes to perform the following tasks:

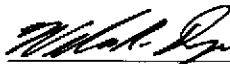
**Onsite Sampling:** Onsite sampling to be performed during this phase of work include: 1) The drilling of one onsite exploratory boring [DA-EB-1] in shallow sediments approximately 20 ft bgs; 2) collection of up to 3 soil samples at approximately 10 ft, 15 ft, and 20 ft bgs from the boring; 3) collection of a grab groundwater sample from the boring; 4) submittal of the soil and groundwater samples for TPH-stoddard/BTEX/MTBE analyses.

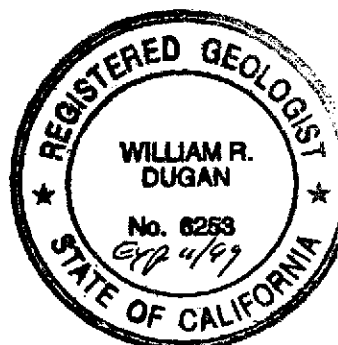
**Offsite Sampling:** Offsite sampling to be performed during this phase of work include: 1) The drilling of five offsite borings [DA-EB-2 through DA-EB-6] approximately 20 ft bgs; 2) collection of up to 3 soil samples at approximately 10 ft, 15 ft, and 20 ft bgs from each offsite boring; 3) collection of a grab groundwater sample from each boring; 4) submittal of the soil and groundwater samples for TPH-stoddard/BTEX/MTBE analyses.

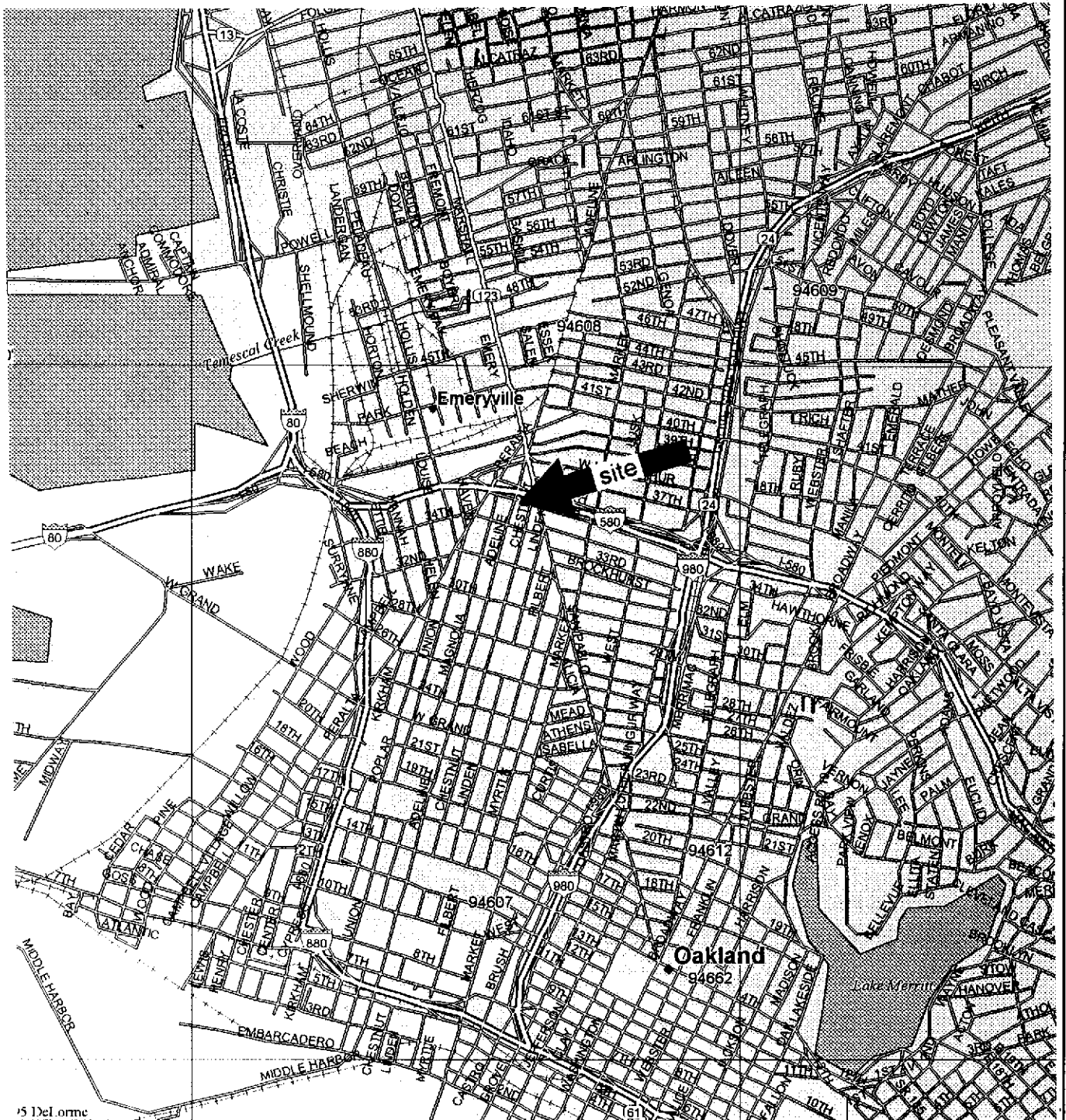
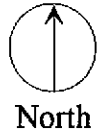
**Technical Report:** Dugan Associates will prepare a Technical Report documenting onsite and offsite sampling tasks and related laboratory analyses results. The report will be signed by a Registered Geologist.

Dugan Associates will provide project supervision and third-party sampling services [license #RG 6253]. Exploration Geoservices will provide licensed drilling contractor services [C-57 license # 484288]. Laboratory analyses will be performed at a State-certified Laboratory. Work is planned for the first week of February 1998, after UST FUND pre-approval. Please contact me at 408-287-2175 with any questions. Thank you.

Sincerely,  
Dugan Associates

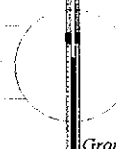
  
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William R. Dugan                      Date  
Registered Geologist No. 6253                      1/20/98





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Scale: 1:31,250

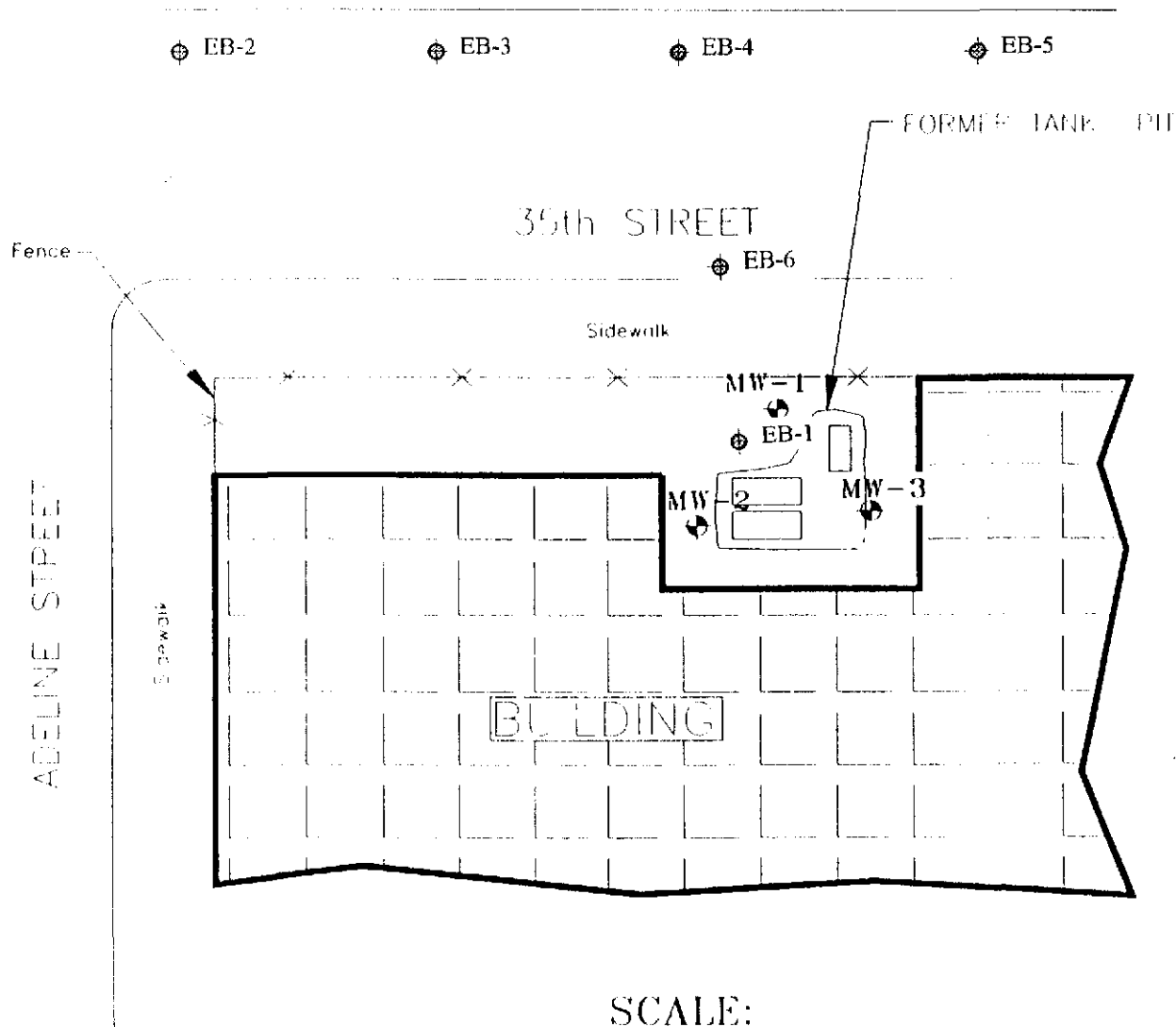
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**Site Vicinity Map**  
**Former City of Paris Cleaner**  
**3516 Adeline Street**  
**Oakland, California**

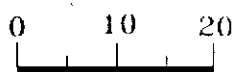
**FIGURE**  
**1**  
**Job No. 218**



North



SCALE:



1" = 20'

 MONITORING WELL     
  Proposed Boring

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**Generalized Site Map**  
**Former City of Paris Cleaner**  
**3516 Adeline Street**  
**Oakland, California**

**FIGURE**  
**2**

Job No. 218

## ATTACHMENT A FIELD METHODS

Site Safety Plan The Site Safety Plan describes the safety requirements for the evaluation of gasoline hydrocarbons in soil, groundwater, and the vadose-zone at the site. The site Safety Plan is applicable to personnel of Dugan Associates and its subcontractors. Dugan Associates personnel and subcontractors of Dugan Associates scheduled to perform the work at the site are briefed on the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is available for reference by appropriate parties during the work. A site Safety Officer is assigned to the project.

Soil Borings Prior to the drilling of borings, permits are acquired from the appropriate regulatory agency, if necessary. Underground Services Alert (USA) is notified at least 48 hours of our intent to drill prior to drilling. The approximate locations of known underground utility lines and structures are marked prior to drilling. Soil borings are drilled by a truck-mounted drill rig equipped with 8 or 10-inch-diameter hollow-stem augers provided by Exploration Geoservices (C-57 Number 484288), of San Jose, California. The augers are steam-cleaned prior to drilling to minimize the possibility of cross-contamination. Borings will be backfilled with a ten sack sand-slurry cement mixture, with a 5-inch slump, or with bentonite chips.

Logging of Borings Exploratory borings are logged by a Dugan Associates geologist using the Unified Soil Classification System. Samples not selected for chemical analysis, and the soil in the sampler shoe, are extruded in the field for visual inspection. Logs include texture, color, moisture, estimated plasticity, consistency, blow counts, and any other characteristics noted. Logs also include subjective evidence for the presence of hydrocarbons, such as soil staining, noticeable or obvious product odor, and field screening instrument readings.

Soil Sampling in Borings All sampling equipment entering boreholes is washed or steam-cleaned prior to use, and between borings to minimize the possibility of cross-contamination. Soil samples are collected by advancing the boring to a point immediately above the sampling depth, and then driving a California-modified, split-barrel sampler containing thin-walled brass sleeves through the hollow center of the auger into the soil. Samples are collected at 5-foot intervals or less if subsurface materials are variable. The sampler is driven with a standard 140-pound hammer repeatedly dropped 30 inches. The number of hammer blows to drive the sampler each successive six inches are counted and recorded to evaluate the relative consistency of the soil. When retrieving soil samples for laboratory analysis from the split-barrel drive sampler, the deepest tube is immediately trimmed, sealed with aluminum foil, plastic caps, and aluminized duct tape, then labeled and refrigerated until delivery to the laboratory.

Sample Labeling and Handling Sample containers (brass sleeves) are labeled in the field with the project number, sample location depth, and date. All soil samples for laboratory analyses are promptly placed in blue-iced storage for transport to the laboratory. A Chain of Custody Record is initiated by the field geologist, updated throughout handling of the samples, and sent with the samples to a laboratory certified by the State of California for the analyses requested.

Permits: Dugan Associates will obtain required encroachment permits from the City of Oakland required to drill the proposed offsite exploratory borings.

Drill Cuttings: Soil cuttings generated from the drilling of the borings will be placed in 55-gallon drums, and stored onsite. Disposal of the cuttings will be performed as part of the following phase of work at the site.