

January 24, 1991

Mrs. Susan L. Hugo
HAZARDOUS MATERIALS SPECIALIST
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

REFERENCE:

REMOVAL OF UNDERGROUND FUEL TANKS AT LSI/LIQUID SUGARS - 1275 66TH STREET, EMERYVILLE, CA 94608

Dear Mrs. Hugo:

Enclosed, please find a copy of the work plan for the preliminary site assessment which was prepared for us by Baseline Environmental Consulting and is in accordance with the outline provided in your letter dated 12/5/90 to our Mr. Faulkner.

It is our intent to implement the steps outlined in the work plan right away.

Should you have any comments or questions regarding our handling of this matter, please contact the undersigned at (415) 420-7100, extension #286.

Sincerely,

W. Taylor Partch, Projects Manager

LIQUID SUGARS, INC.

WTP:mrq

Enclosure

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## BASELINE

## ENVIRONMENTAL GONSULTING

#### TRANSMITTAL

D:	Ms. Susan Hugo		DATE: 1-24-91
	Alameda County Health	Аделсу	PROJECT NO.: 91501
	Dept. of Environmenta	l Health	<u>Via</u> :
	80 Swan Way, Rm. 200		Mail:
_	Oakland, CA 94621		Fed Ex: X
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	Transmittal of Work Assessment at Liqui- Emeryville, CA		
	ED PLEASE FIND: Copies		Description
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	1	Report	

TRANSMITTED BY:

AD1-6/89

Irene Kan, M.P.H.

5900 Hollis Street, Suite D • Emeryville, CA 94608 Vi ca President • FAX (415) 420-1707

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## BASELINE

#### ENVIRONMENTAL CONSULTING

24 January 1991 91501

Ms. Susan Hugo Alameda County Department of Environmental Health 80 Swan Way Oakland, CA 94621

Subject:

Transmittal of Work Plan for a Preliminary Site Assessment at Liquid Sugars, Inc., 1275 66th Street, Emeryville, California

Geologist

Dear Ms. Hugo:

Enclosed please find a copy of our Work Plan for a Preliminary Site Assessment of the property owned by Liquid Sugars, Inc. and located at 1275 66th Street, Emeryville. The site has been identified as a location of an unauthorized release of petroleum hydrocarbons from underground fuel storage tanks previously located at the site. Implementation of the Work Plan will commence upon approval by your Department of the Work Plan items. Please do not hesitate to call BASELINE or Mr. Taylor Partch of Liquid Sugars, at 420-7100, if you should have any questions.

Sincerely,

Principal

Reg. Geologist #4009

YN/BA/ss:UT91a Enclosure

cc: Taylor Partch, Liquid Sugars, Inc.

Regional Water Quality Board, S.F. Bay Region

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# WORK PLAN for a PRELIMINARY SITE ASSESSMENT 1275 66TH STREET Emeryville, California

Prepared for:

Liquid Sugars, Inc. Oakland, California

January 1991

Prepared by:

BASELINE ENVIRONMENTAL CONSULTING 5900 Hollis Street, Suite D Emeryville, California 94608 (415) 420-8686

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## WORK PLAN for a PRELIMINARY SITE ASSESSMENT 1275 66th Street Emeryville, California

#### INTRODUCTION

BASELINE Environmental Consulting has been retained by Liquid Sugars, Inc. of Oakland to supervise additional soil excavation, collect soil samples from an underground storage tank excavation, manage excavated soils, and install a groundwater monitoring well at 1275 66th Street, Emeryville. The location of the site is shown in Figure 1. Three underground tanks were removed from the site in November 1990. Observations made during the removal of the three tanks and the analytical results of soil samples collected from the excavation indicated that a release of hydrocarbons had occurred. The site is operated by Liquid Sugars, Inc. as a liquid sweetener wholesale distribution facility.

This report provides background information and recommends additional soil excavation and sampling and a preliminary groundwater investigation. The results of these activities would form the basis for conclusions regarding the subsurface quality at the site and possible recommendations for additional investigation. The proposed groundwater investigation is preliminary in nature and, depending on the findings, additional work may be recommended to delineate potential subsurface contamination.

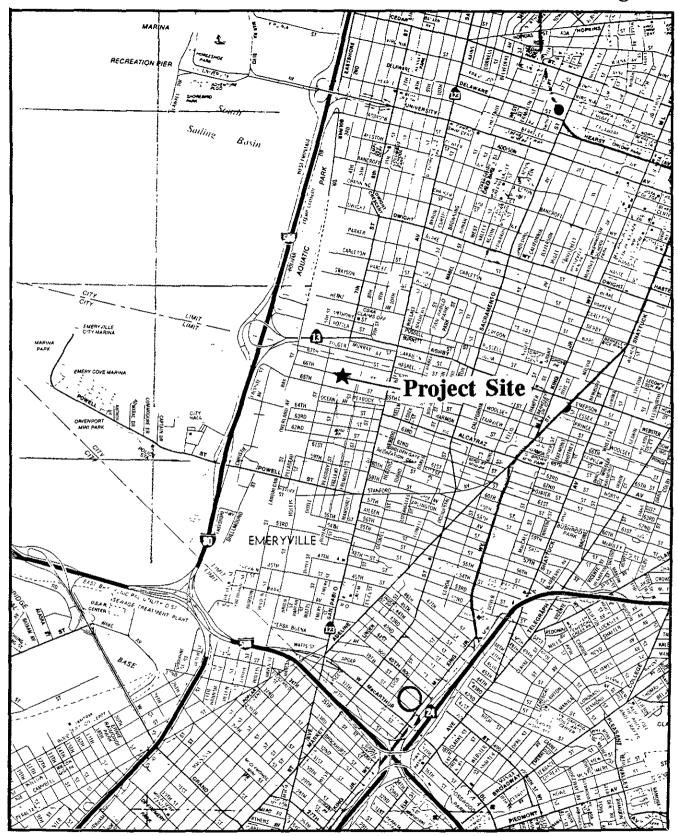
#### BACKGROUND

On 2 November 1990, two 1,000-gallon unleaded gasoline tanks and one 10,000-gallon diesel tank were removed from the site by Verl's Construction, Inc. of San Leandro. The former locations of the tanks are shown on Figure 2. Tank removal and soil sampling activities were documented in a report by Environmental Geotechnical Consultants. Liquid was observed to leak from corroded seams of the diesel tank during removal activities. One gasoline tank had no visible holes; the second gasoline tank was apparently punctured by the backhoe during excavation activities. A copy of the report documenting tank removals is included in Appendix A.

Analytical results of soil samples collected from the excavation and spoil pile contained petroleum hydrocarbon compounds, indicating that a release had occurred in the former vicinity of the underground tanks. A water sample was collected from standing water from the bottom of the excavation and was found to contain diesel. The analytical results of soil and water sampling are summarized in Table 1; the laboratory reports are included in Appendix A.

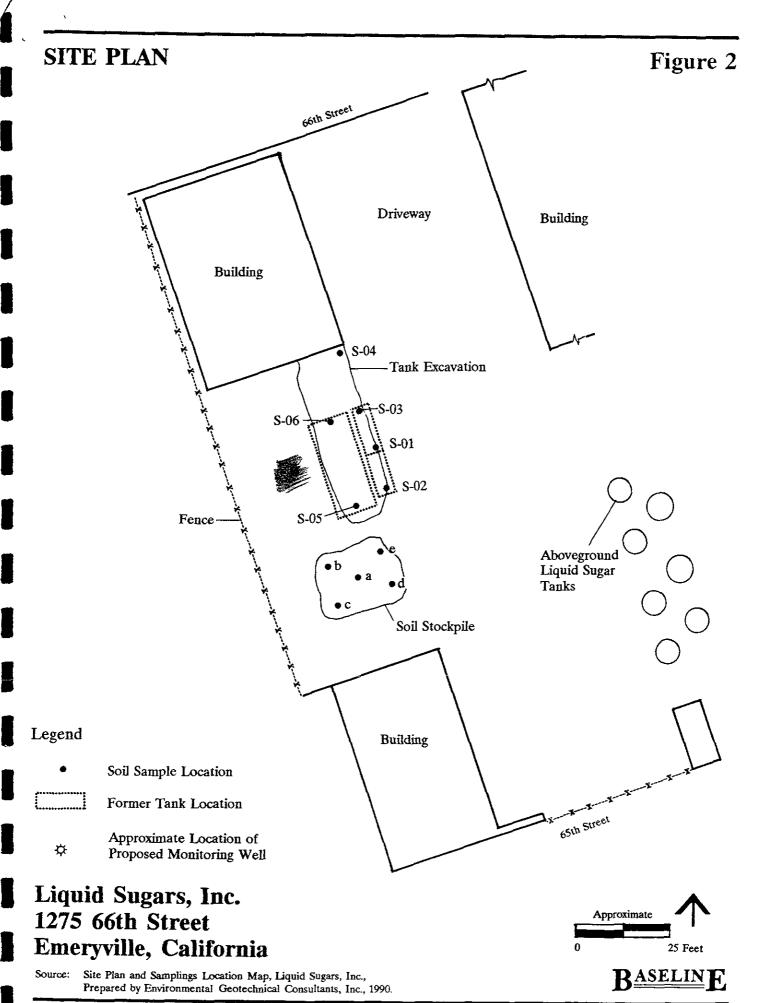
### **REGIONAL LOCATION**

Figure 1



Liquid Sugars, Inc. 1275 66th Street Emeryville, California





#### TABLE 1 SUMMARY OF ANALYTICAL RESULTS

Liquid Sugars, Inc. 1275 66th Street, Emeryville

Sample Type	Sample Location	Sample Identification	Date	Gasoline	Diesel	Benzene	Toluene	Ethyl- benzene	Xylenes	Total Lead
Soil: (mg/kg)						· · · · · · · · · · · · · · · · · · ·				
	Excavation <sup>1</sup>	1102-S-01 1102-S-02 1102-S-03 1102-S-04 1102-S-05 1102-S-06	11/2/90 11/2/90 11/2/90 11/2/90 11/2/90 11/2/90	374907 14907 	10.000 17	0.008	45.000 95.000 18.000 2.100 1.100 0.0077	22.000 43.000 12.000 5.400 0.560 0.011	110.000 210.000 64.000 11.000 3.900 0.042	6.3 7.1 7.0 3.6
<u>Water:</u> (mg/L)	Spoil Pile <sup>2</sup>	1102-P1	11/2/90	00/	1900	120	4.80 🗸	4.60 🟏	23.0	
	Excavation <sup>3</sup>	W-1	12/5/90	ND ·	<b>Ö</b> ğur	ND T	ND	ND	ND	

#### Notes:

ND = Constituent not detected.

-- = Constituent not analyzed.

Sampling locations are shown in Figure 2.

Laboratory reports are included in Appendix A.

Samples collected from depths ranging from seven to sixteen feet below ground surface.
 Sample composited from five locations (a-e), Figure 2.
 Sample also analyzed for volatile organics by EPA Method 8240. Volatile organics were not detected.

#### HYDROGEOLOGY

The site is located on the relatively level topography of the East Bay Plain. The shallow stratigraphy of this area is mapped as interfluvial basin deposits of Quaternary age (ACFC and WCD, 1988). These deposits, generally less than ten feet thick, consist of unconsolidated silts and clays rich in organic material. Underlying the interfluvial basin deposits is older alluvium of Pleistocene age. The older alluvium consists of layers of poorly consolidated to unconsolidated clay, silt, sand, and gravel, with thicknesses exceeding 1000 feet.

Shallow groundwater flow directions in the site vicinity have been determined to be toward the northwater are allowed opening in the site vicinity have been determined to be toward the northwater are allowed opening in the site. The verified groundwater flow direction near the subject site is shown graphically on Figure 3. In general, and the state of the site of

#### PROPOSED WORK PLAN

The identification of an unauthorized release from the diesel and gasoline storage tanks at the site necessitates an investigation of the potential impact to soil and groundwater quality near the former tank locations. The following recommendations are made as part of this work plan:

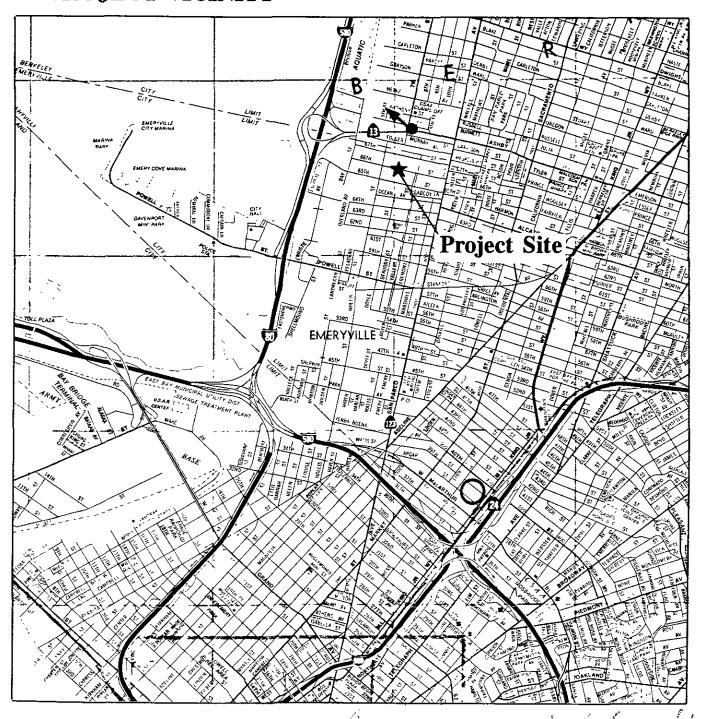
1. Excavate hydrocarbon-contaminated soils from the bottom and sidewalls of the excavation to the extent possible. Any groundwater that may have collected in the bottom of the excavation would be removed prior to soil removal activities by a licensed waste hauler/vacuum truck operator. The concrete slab surrounding the tank excavation would be removed as needed for expansion of excavation. A backhoe or hydraulic excavator would be used to expand the excavation until the excavation until the excavation is a single property of the excavation would be used to expand the excavation until the excavation is a single property of the excavation and sidewalls of the excavation would be removed as needed for expansion of excavation.

The state and field instrumentation indicate all containinated soils have been removed or until soils from a reconstructed. Site constraints include buildings to the north and south of the excavation. Soils would not be excavated from below the groundwater table.

24 factions of sample would be collected from the sidewalls of the expanded excavation by driving thin-walled brass tubes into native soil brought to the surface in the backhoe bucket. The tubes would be capped, labeled, stored in a cooled container, and submitted under chain-of-custody for 24-hour turnaround to Curtis and Tompkins Ltd. of Berkeley. The samples would be analyzed for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, and benzene, toluene, xylenes, and ethylbenzene (BTXE).

## GROUNDWATER FLOW DIRECTION IN PROJECT VICINITY

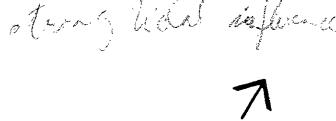
Figure 3



Legend

Groundwater Flow Direction at Super-7, 901 Ashby, Berkeley

Liquid Sugars, Inc. 1275 66th Street Emeryville, California



BASELINE

3000 Feet

If any of the verification samples indicate that greater than 100 mg/kg of hydrocarbon compounds remain in the subsurface, further excavation activities would be conducted to remove the contaminated soils, if possible. Additional verification samples would be collected, as described above.

When verification sampling indicates that hydrocarbon contamination in the soil above 100 mg/kg has been removed from the vicinity or physical constraints at the site preclude further soil removal, the excavation would be backfilled with clean fill material and compacted to engineering specifications.

All soils excavated during tank removal and over-excavation activities would be temporarily stored on-site and covered with plastic sheeting. BASELINE would collect two tamples of the stockpiled // soils for analysis of extractable lead, aquatic toxicity, and organic volatiles. The purpose of the same services would be according to Title 26 of the collifornia Code of Regulation and street efforce could be treated on site. Although the soils may not be hazardous waste, we anticipate the levels of hydrocarbons in the soils may exceed levels that would be accepted by Class II and III landfill sites.

BASELINE recommends that contaminated soils be treated by enhanced bioremediation. Nutrients would be added to the stockpiled soils to promote bacteriological activity. Naturally occurring bacteria in the soil are able to metabolize petroleum hydrocarbons. Supplying nutrients to the soils would increase the bacteria population, which in turn reduce contaminant levels. When soil sampling indicates that contaminants have been reduced to acceptable levels, treated soils would be hauled to a Class III landfill such as Durham Road Landfill in Fremont or Redwood Sanitary Landfill in Novato. It is expected that on-site treatment would be about ten weeks in duration.

3. Upon completion of additional soil excavation, one monitoring well would be installed at the approximate location shown in Figure 2. The well would be placed in a downgradient position within ten feet of the former tank excavation to determine whether the shallow groundwater quality has been affected by releases from the former underground tanks. The groundwater flow direction in the immediate vicinity of the site has been determined to be directed toward the northwest.

The well would be constructed with 2-inch PVC pipe casing and machine slotted well screen. Due to the fine-grained nature of the subsurface materials anticipated at the site, a 0.020-inch slot

screen and a fine sand filter pack would be installed. The well would be installed in a nominal 8-inch boring advanced with hollow-stem augers. The sand filter and a 2-foot thick bentonite seal would be tremied into the annular space between the borehole and well through the hollow-stem augers. The remainder of the annular space would be filled with a cement-bentonite grout. The well head will be accessible to authorized personnel through a 14-inch manhole cover and a padlocked watertight well cap. A typical well construction diagram is shown in Figure 4.

During well installation, soil samples would be collected in the unsaturated soil at five-foot intervals unless significant stratigraphic changes are observed or visual and air monitoring screening indicate that hydrocarbons may be present, in which case soil samples would be collected at more frequent intervals. The soil samples would be collected with a California Modified sampler, lined with thin-walled brass tubes, driven in advance of the hollow-stem augers. The brass tubes collected from the sampler would be labeled, sealed and stored in a cooled container. The soil samples collected from the unsaturated zone would be submitted under chain-of-custody to a certified laboratory for analysis of total petroleum hydrocarbons as diesel and gasoline (EPA Method 8015) and BTXE (EPA Method 8020). Sampling methods are described in Appendix B. The drill cuttings generated during drilling would be added to the stockpile of existing excavated soil for bioremediation treatment.

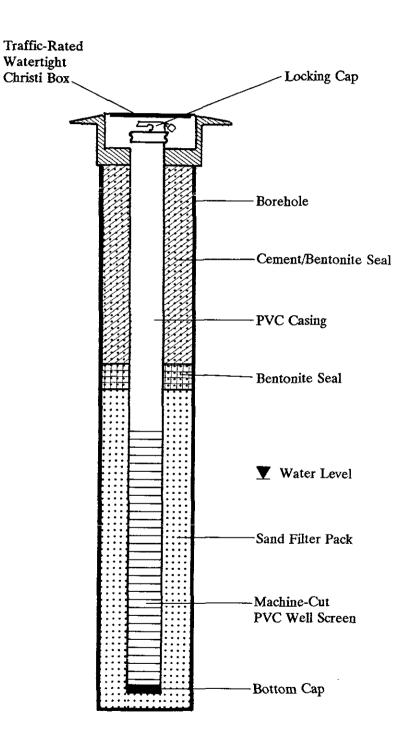
4. The monitoring well would be developed no less than 48 hours following well installation by pumping water from the well until clear water is produced. After a minimum of 24 hours following well development, a minimum of five well volumes of water would be removed from the well and groundwater samples would be collected (purging). The wells would be purged by pumping at a low rate with a double diaphragm pump. Water levels would be measured (with accuracy to 0.01 foot) with a dual interface probe before purging and after sampling. Measurable thickness of free product, if any, would be recorded. Groundwater samples would be examined for sheen, odor, and floating product. Water generated during development and purging would be stored in labeled, secured 55-gallon drums until analytical results have been obtained to determine disposal options.

The groundwater samples would be stored in a cooled container and submitted, under chain of custody, to a California certified laboratory for analysis. The samples would be analyzed for TPH as gasoline and diesel (EPA Method 8015) and BTXE (EPA Method 602).

5. The monitoring well would be surveyed to mean sea level by a licensed surveyor. All water level measurements will be measured and recorded with respect to mean sea level.

### MONTIORING WELL CONSTRUCTION DETAILS

Figure 4



- 6. All field work will be conducted following health and safety precautions as described in a Site Safety Plan (Appendix B).
- 7. Further recommendations regarding the site would be provided in a report within one month of receipt of analytical results. The report would be submitted to the Regional Water Quality Control Board, San Francisco Bay Region, and Alameda County Department of Environmental Health.

#### LIMITATIONS

The conclusions presented in this report are professional opinions based on the data described. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented apply to site conditions existing at the time of study. 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 standards can also occur as a 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.

#### REFERENCES

Alameda County Flood Control and Water Conservation District (ACFC and WCD), 1988, Geohydrology and Groundwater Quality Overview, East Bay Plain Area, Alameda County, California 205(J) Report.

APPENDIX B SITE SAFETY PLAN

#### SITE SAFETY PLAN

Project No.: 91501 Field Activities Date: February 1991

Client: Liquid Sugars, Inc. Address: P.O. Box 96, Oakland, CA 94604

Contact Person: Mr. Taylor Partch Telephone No.: (415) 420-7286

Job Location: 1275 66th Street, Emeryville, CA

<u>Project Description</u>: Observation and soil sampling during additional excavation of contaminated soils associated with tw 1,000-gallon gasoline and one 10,000-gallon diesel underground storage tanks at the site. One groundwater monitoring well will be installed after additional soil removal.

Project Manager: Irene Kan Site Health & Safety Manager: Bruce Amen

Site History: Two 1,000-gallon gasoline tanks and one 10,000-gallon diesel tank were removed from the site in Novembe 1990. Soil samples collected from the excavation contained elevated levels of petroleum hydrocarbons.

#### Chemical Hazards:

CHEMICAL NAME	DESCRIPTION	HEALTH & SAFETY STANDARDS	PERSONS EXPOSED* AND POTENTIAL ROUTES OF EXPOSURE	SYMPTOMS OF ACUTE EXPOSURE	
Gasoline	Flammable liquid	8-hr. TLV=300 ppm Flashpt.=-50° F LEL=1.4%, UEL=7.6%	Inhalation, dermal	Headache, dizzines eye/skin irritation	
Diesel	Combustible liquid	No TLV	Inhalation, dermal	Minor eye/skin irritation	
Benzene	Carcinogen, aromatic HC	8-hr. TLV=10 ppm PEL=1 ppm	Inhalation, dermal	Headache, dizzines	
Toluene	Aromatic HC	8-hr. TLV=100 ppm	Inhalation, dermal	Headache, dizzines	
Xylenes	Aromatic HC	8-hr. TLV=100 ppm	Inhalation, dermal	Headache, dizzines	
Ethylbenzene	Aromatic HC	8-hr. TLV=100 ppm	Inhalation, dermal	Headache, dizzines	

Contractor and samplers.

Note: Health and safety standards refer to airborne concentrations to which nearly all workers may be repeatedly expodaily without harmful effects. The concentrations are time-weighted averages for a normal 8-hour work period.

Physical Hazards: Fire and explosion (primarily gasoline), heavy equipment, noise, overhead and underground utilities.

<u>Personal Protective Equipment Required</u>: First aid kit, hard hat, eye protection, noise protection, chemical-protective glo steel-toed rubber boots, respirator with organic vapor cartridge.

(continu

#### SITE SAFETY PLAN - continued

Air Monitoring Strategy (including action levels): Monitor breathing zone with combustible gas meter (ppm scale). If greater than 5 ppm in breathing zone for one minute or greater than 30 ppm instantaneous, don respirator and/or go upwind of excavation. Measure breathing zone concentration of benzene during excavation using detector tube. Don respirator if fuel odor persists or if benzene concentration is detectable in breathing zone. If benzene concentration in breathing zone exceeds 10 ppm, go to area where not detectable (respirator will not offer adequate protection). Record all measurements in field notebook.

Monitor LEL levels in work area during excavation and in boring during well installation. If LEL >0%, proceed with caution and monitor continuously. If LEL >20%, stop work until LEL <0%.

Site Control Measures: 1) Place used protective gear and decontamination equipment in BASELINE-provided containers for proper disposal; 2) no smoking within 50 feet of work area; 3) no source of heat or ignition within 50 feet of work area if greater than 20% LEL reading measured; 4) no eating, drinking, or smoking in exclusion zone (defined by BASELINE); 5) drinking water available on-site; 6) decontaminate boots and sampling equipment prior to leaving site; 7) inform workers (including non-BASELINE workers) on-site of elevated HC or benzene readings and document; 8) BASELINE will conduct tail-gate safety meetings before field work begins, as needed; 9) all potentially affected contractors and field personnel will read this Plan and sign before field work begins; 10) Liquid sugars will identify presence of underground utilities in proposal work area.

<u>Decontamination Procedures (personal and equipment)</u>: Decontaminate boots and soil sampling equipment with TSP and water. Wash and rinse sampling equipment with deionized water. Steam-clean augers and drilling equipment. Store rinse water in 55-gallon drums (labeled) pending receipt of laboratory results.

Hospital/Clinic: Alta Bates Hospital Phone: (415) 540-0337

Hospital Address: 3001 Colby at Ashby, Berkeley (see map)

Paramedic: 911 Fire/Police Dept.: 911

Emergency Procedures: Call 911 for fire or serious injury. Proceed to hospital (see map) if necessary for minor injuries. Call Yane Nordhav or Irene Kan [(415) 420-8686] in case of injury or accident.

Prepared by: Bruce Amen

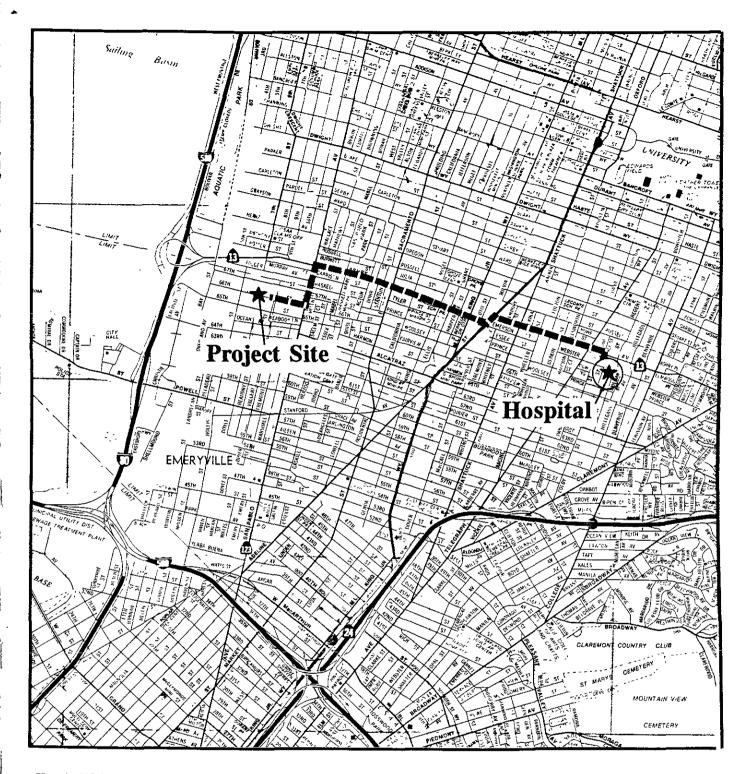
Reviewed/Approved by: Irene Kan

<u>Date</u>: <u>Date</u>:

Read by: Date:

Read by: Date:

Read by: Date:



Hospital/Clinic: Alta Bates Hospital

**Telephone No.:** (415) 540-0337

Hospital Address: 3001 Colby, at Ashby, Berkeley.

<u>Directions</u>: Left onto 66th Street to San Pablo. Left onto San Pablo to Ashby. Right onto Ashby to Colby. Right onto Colby. Left into hospital entrance.