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SITE INVESTIGATION WORK PLAN
Zichichi Property
703-715 Cleveland Avenue
Albany, California

Prepared for
California Department of Transportation
Contract Number 53P614
Task Order 04-180151-01

June 19, 1992

Prepared by
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Site Safety Plan

**SITE INVESTIGATION WORK PLAN
Zichichi Property
703-715 Cleveland Avenue
Albany, California**

Caltrans Task Order No. 04-180151-01

1.0 INTRODUCTION

At the request of the California Department of Transportation (Caltrans) Nations Groundwater Associates (NGA) has prepared this work plan for performing a subsurface environmental investigation at property owned by Mssrs. Robert Zichichi, Frank Zichichi, and Andrew Zichichi, in Albany, California. The property is located at 703-715 Cleveland Avenue and is referred to by Caltrans as right-of-way parcel number 51139. The property is herein referred to as the site. Tasks described in this work plan will be completed in accordance with Caltrans Contract Number 53P614 and Caltrans District 04 Task Order No. 04-180151-01.

1.1 Purpose

The purpose of this investigation is to evaluate whether soil and/or ground water contamination has occurred on a portion of the site. We understand that Caltrans may acquire the above-referenced parcel in conjunction with the reconstruction of the Interstate Highway 80/580 interchange.

1.2 Scope of Work

Activities to be carried out to achieve the purpose of this work plan are listed below; they are discussed in greater detail in following sections:

- prepare a site specific Health and Safety Plan discussing the precautions and protective equipment required for work at the site;
- contact Underground Services Alert (USA) at least 48 hours prior to drilling to identify public utility lines at the site;
- drill six 8-inch-diameter borings; the borings will be drilled to the ground-water surface, which is anticipated to occur at about ten feet below ground surface;
- collect relatively undisturbed soil samples from each boring at depths of three and five feet, and immediately above the ground-water surface;

- evaluate drill cuttings and soil samples for evidence of hydrocarbons using a photoionization detector (PID);
- submit selected soil samples to a California-certified laboratory for chemical analysis; soil sample analyses to be performed are discussed in section 4.1.
- collect ground-water samples from undeveloped borings; submit ground-water samples to a California-certified laboratory for chemical analysis; ground-water analyses to be performed are discussed in section 4.2
- collect water and sludge samples from a sump within one site structure; collect water samples from two run-off collector sumps; submit all sump samples for laboratory analysis as described in sections 4.1 and 4.2;
- interpret field and laboratory data of soil and ground-water analyses to evaluate the site for the presence of subsurface contamination;
- interpret laboratory data of sump sample analyses to evaluate waste-water chemical characteristics;
- summarize the results of drilling, field observations, laboratory analyses and procedures in a report; the report will present our conclusions and recommendations (if necessary) for further work, including a discussion of possible remedial actions (if warranted).

2.0 BACKGROUND

2.1 Site Description

According to information provided by Caltrans, the site is located between the east- and west-bound lanes of Interstate Highway 80 in Albany, California. The City of Albany is located in the East Bay area of the San Francisco Bay Region. The site location is shown on the Site Vicinity Map, Figure 1. The site is at an approximate elevation of 20 feet above mean sea level (U.S. Geological Survey 7.5 Minute Richmond Quadrangle) and is located about 400 feet east of the San Francisco Bay.

We understand that the site is owned by Messrs. Robert Zichichi, Frank Zichichi, and Andrew Zichichi. Businesses at the site include Cabello Brothers Automotive, Expert Auto Repair, D & M Body Shop, and Metric Motion automobile repair. The general configuration of on-site structures is shown on the Generalized Site Plan, Figure 2. We understand that an initial Site Assessment (ISA) performed by Caltrans personnel revealed the presence of an abandoned underground storage tank, probably gasoline, at the Metric Motion site. Information provided by Caltrans indicates that, in addition, an abandoned underground diesel storage tank may be present beneath the building occupied by Metric Motion. Gasoline pumps remain at the Metric Motion site. A concrete-lined sump is present inside the Metric Motion building; the sump receives waste water from washing of the concrete slab floor. Waste water drains from the sump into a sanitary sewer. Additional sumps are present at the back of Cabello Brothers Automotive and Expert Auto Repair, outside the buildings. These sumps are used to collect runoff from the fill slope of adjacent eastbound lanes of Interstate Highway 80. Runoff is collected in the sumps, then pumped into a sanitary sewer for disposal. Information provided by Caltrans indicates that the previous ISA did not identify possible hazardous waste concerns at the three other on-site businesses.

3.0 PROPOSED SOIL BORINGS

3.1 Soil Borings and Sampling

NGA will contact USA to delineate public utility lines at the site prior to initiating drilling. Before drilling, each borehole (B-1 through B-6) will be probed for subsurface utilities. Each boring will be drilled to the ground-water surface, an approximate depth of ten feet. The location of soil borings B-1 through B-6 are indicated on Figure 2. Borings B-1 and B-2 will be drilled adjacent to the underground gasoline storage tank in front of the Metric Motion building. Actual boring locations around the tank will be determined following additional evaluation of the tank geometry. Borings B-3 and B-4 will be drilled along the south exterior wall of the Metric Motion building as shown on Figure 2. Boring B-5 will be drilled about 50 feet west of the Metric Motion Building; boring B-6 will be drilled adjacent to Cabello Brothers Automotive.

All soil borings will be drilled using conventional hollow-stem auger drilling methods. Auger flights and sampling equipment will be steam-cleaned before use to minimize the possibility of cross-contamination between borings. Soil sampling equipment will be

washed prior to each use with a solution of Alconox. The driller will collect rinsate generated during steam cleaning of augers and other equipment. Rinsate will be stored on site in appropriately labelled drums.

Drilling will be performed under the guidance of a field geologist; the earth materials in the borings will be logged in the field using the Unified Soil Classification System. Soil samples will be collected at depths of three and five feet and, if feasible, just above the ground-water surface (sample depth of about nine feet). Soil samples will be collected using a California-modified, split-spoon sampler equipped with cleaned brass sleeves.

During drilling, samples will be collected by advancing the auger to a point immediately above the sampling depth and driving the sampler through the auger into the native soil. The sampler will be driven 18 inches or to refusal with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to give an indication of soil consistency. Refusal will be defined as more than 50 blows for a 6-inch interval.

The soil sample contained in the middle 6-inch sample sleeve at each sampling depth will be tested with a photoionization detector (PID). The PID is useful for evaluation of relative concentrations of volatile hydrocarbons, but cannot be used to measure hydrocarbon concentrations with the confidence of laboratory analyses. Each of the three soil samples we anticipate collecting from borings B-1 through B-6 will be submitted for chemical analysis. At Caltrans' request, we will evaluate in the field the need to collect and chemically analyze additional soil samples based on field observations during drilling.

The soil sample contained in the lower 6-inch sample sleeve at each sampling depth will be quickly sealed with aluminum foil and plastic caps, and placed into a self-sealing plastic bag. Soil samples will be labeled and placed quickly in iced storage for transport to the analytical laboratory for testing. Chain-of-Custody (COC) Records will be initiated by the geologist in the field and accompany the samples to the laboratory. Copies of the COC Records will be presented in our report.

Cuttings generated during drilling will be placed into Department of Transportation-approved 55-gallon drums. Following receipt of soil and ground-water analytical results NGA will arrange for disposal of cuttings and rinsate water.

3.2 Collection of Ground-Water and Sump Samples

If ground water is encountered in any of the soil borings, ground-water sample(s) will be collected from the boring(s) using disposable bailer(s). A water and sludge sample will also be collected from the on-site sump inside Metric Motion; at Caltrans' request, we will also attempt to collect water samples from the two outside runoff-collector sumps. Water samples will be transferred slowly into laboratory-cleaned, 40-milliliter glass vials which contain a preservative, and 1-liter sample bottles, and sealed with Teflon-lined lids. The samples will be labeled and placed quickly in iced storage. COC Records will be initiated in the field by the geologist and will accompany the samples to the analytical laboratory. Copies of the COC Records will be included in our report. Any subjective evidence of hydrocarbons detected in the ground water sample will be recorded. If floating product is detected, the thickness of floating product will be estimated, but we will not collect a ground-water sample.

4.0 LABORATORY ANALYSES

4.1 Soil Samples

All soil samples and the sludge sample collected for laboratory analysis will be analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) and diesel (TPHd), and Aromatic Volatile Organics using Environmental Protection Agency (EPA) Methods 8015 modified and 8020, respectively. In addition, three soil samples selected in the field and the sludge sample will be analyzed for 17 metals listed in the California Assessment Manual (CAM), Total Petroleum Hydrocarbons, Organochlorine Pesticides and PCBs, and Non-Halogenated Volatile Organics using EPA Methods 6010 (ICAP), 418.1, 8080, and 8015, respectively. Laboratory analyses will be performed within the normal turn-around time of the laboratory performing the analyses.

4.2 Ground-Water and Sump Samples

If ground-water and outside sump samples are collected for laboratory analysis, each sample will be analyzed for TPHg and TPHd using EPA Method Modified 8015, and for Purgeable Aromatic Hydrocarbons using EPA Method 602. In addition to these analyses, the water sample collected from the inside sump will be analyzed for halogenated volatile organics, 17 CAM metals, and organochlorine pesticides and PCBs, using EPA methods 601 and 6010, and 8080, respectively.

5.0 REPORT PREPARATION

After we interpret field and laboratory data, we will prepare a report summarizing sediments encountered, field and laboratory results, hydrocarbon distribution in soil and ground water (if any) and recommendations for further work (if necessary). If warranted, our report will include an evaluation of possible remedial actions.

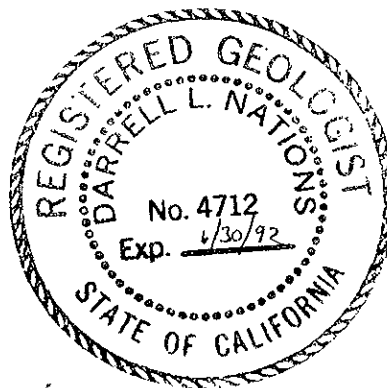
6.0 PROJECT STAFF

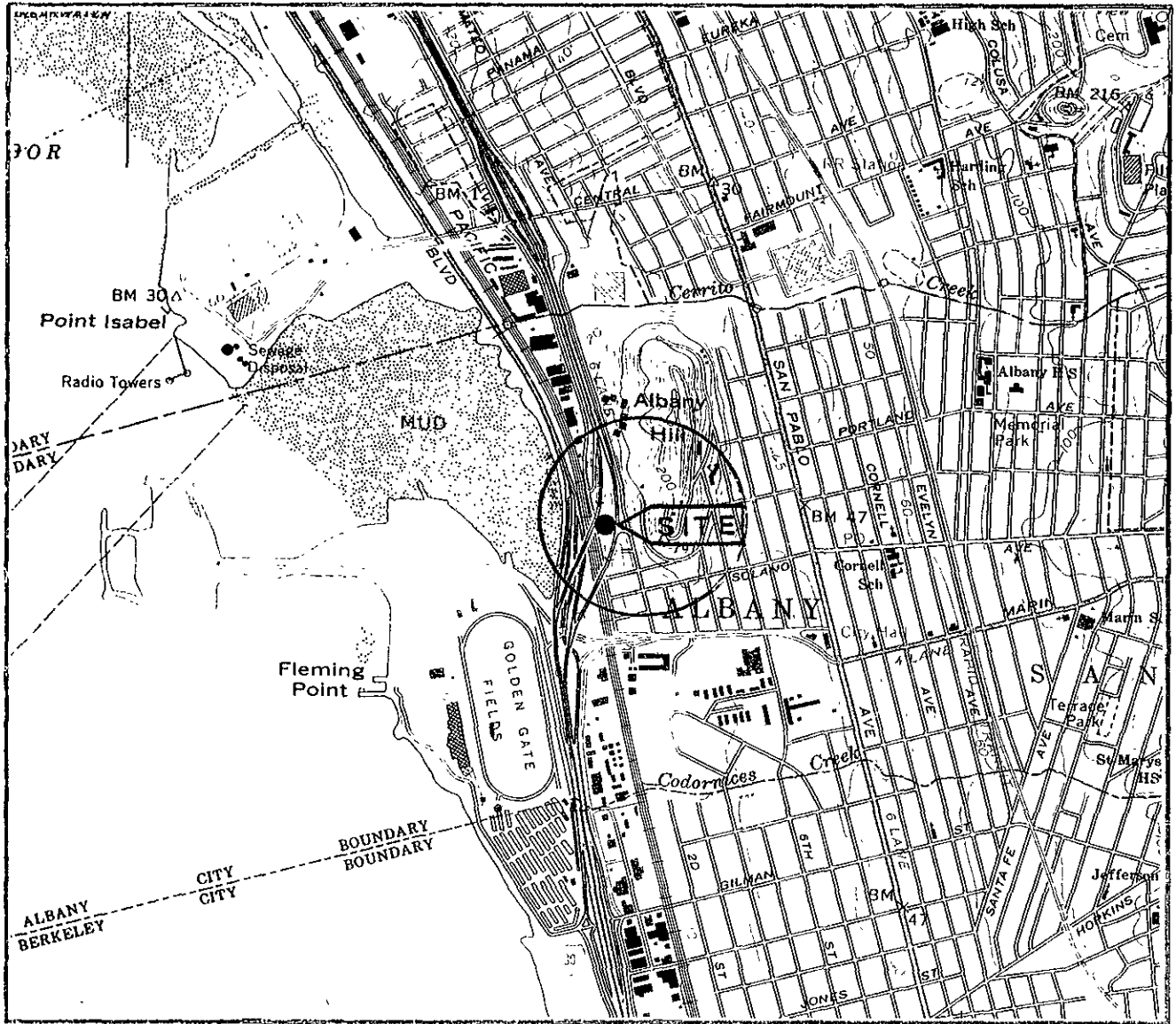
Mr. Darrell Nations, (California-registered geologist #4712), will be in overall charge of this project. Mr. Barry I. Marcus, Senior Geologist, will manage field and office operations.

7.0 SIGNATURES

This work plan was prepared by: *Barry I. Marcus* Date: 6/19/92
Barry I. Marcus
Senior Geologist

This work plan was reviewed by: *Darrell Nations* Date: 6/19/92
Darrell Nations, R.G.
California Registered
Geologist #4712





Source: Modified U.S.G.S. 7.5-Minute Quadrangle
 Richmond, California (1980)

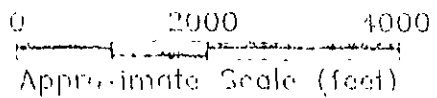
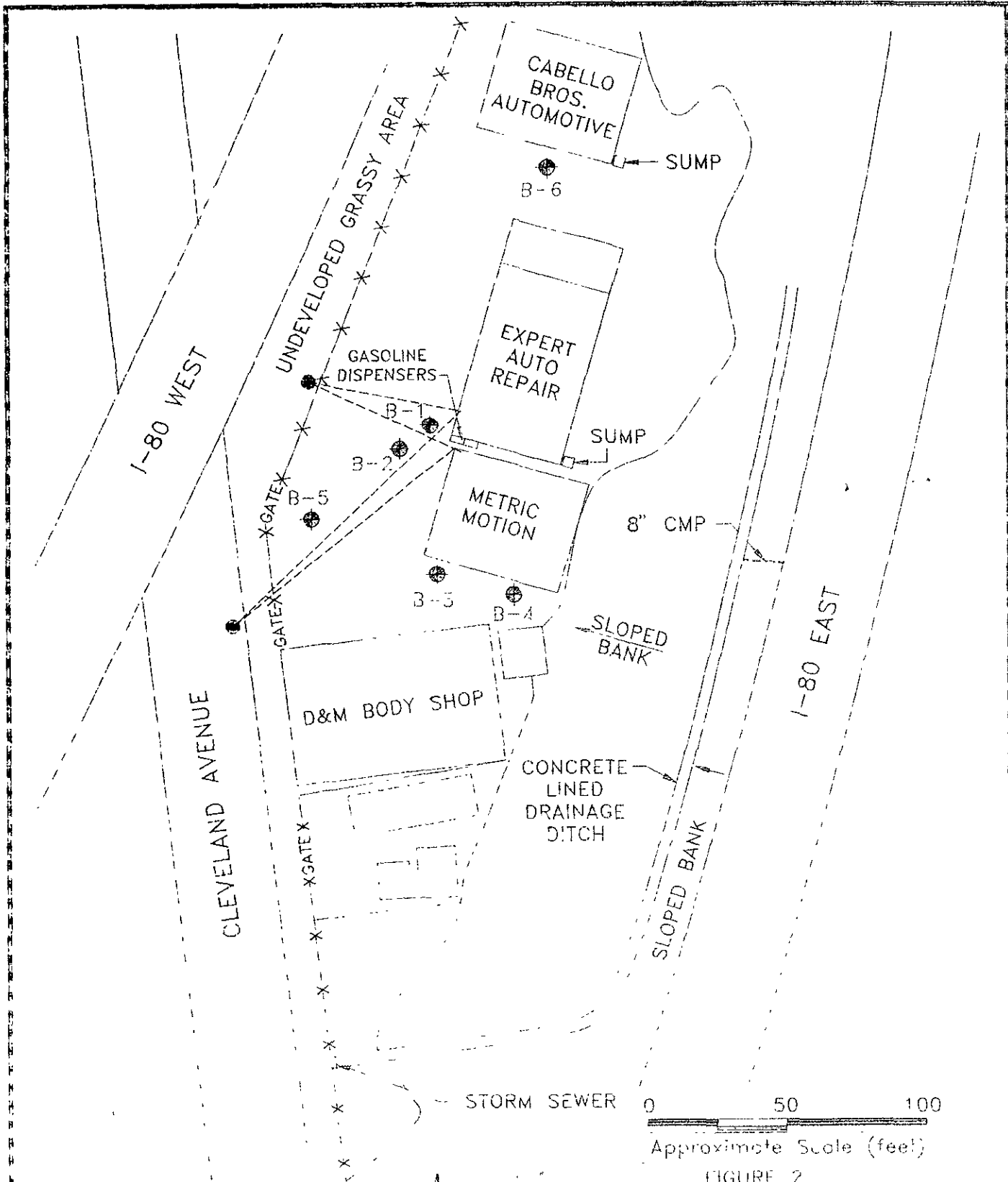


FIGURE 1
 SITE LOCATION MAP
 ZICHICHI PROPERTY
 703-715 CLEVELAND AVENUE
 ALBANY, CALIFORNIA

| | |
|---|---|
| CALTRANS TASK ORDER NO. 04-180151-01 | <i>Nations Groundwater Associates</i> |
|---|---|



EXPLANATION

- ⊕ Proposed Soil Boring
- Power Lines
- - - - - Utility Line

FIGURE 2
 SITE MAP
 ZIONCH PROPERTY
 703-713 CLEVELAND AVENUE
 ALBANY, CALIFORNIA

CA. TRAVIS T. G. O. P. R. 14
 04-180151 C.

Nabors
 Groundwater
 Associates

APPENDIX

Site Safety Plan

SITE SAFETY PLAN

**SITE INVESTIGATION
703-715 Cleveland Avenue
Caltrans Right-of-Way
Parcel Number 51139
Albany, California**

California Department of Transportation
Contract Number 53P614
Task Order 04-180151-01

INTRODUCTION

This Site Safety Plan describes basic safety requirements for the site investigation (soil borings) at 703-715 Cleveland Avenue (Right-of-Way Parcel No. 51139) in Albany, California. The provisions set forth in this Plan apply to the employees of Nations Groundwater Associates (NGA), and its subcontractors working on this project. The subcontractors may elect to modify these provisions, but only to upgrade or increase the safety requirements, and only with the concurrence of NGA, as designated and accepted in writing.

This Site Safety Plan will address the expected potential hazards that may be encountered on the worksite for this project. Work is scheduled to begin at the site on July 6, 1992, with the duration estimated at one day. If changes in site or working conditions occur as activities progress, addenda to this plan will be provided by NGA.

AUTHORITY FOR SITE SAFETY

The NGA personnel responsible for project safety are the Project Manager and the Field Geologist. The Project Manager is responsible for implementing the provisions of this Plan, for providing a copy of this Plan to the Field Geologist, and for advising the Field Geologist on health and safety matters. The Project Manager and Field Geologist have the authority to audit site activities for compliance with the provisions of this Plan. They may suspend or modify work practices or dismiss subcontractors whose conduct does not meet the requirements specified in this Plan.

The Field Geologist is responsible for communicating the information contained in this Plan to the responsible representative of each subcontractor working for NGA on the project. The Field Geologist will also act as the Site Safety Officer. As such, the Field Geologist is responsible for addressing the following items:

- implementing the Site Safety Plan, company policy, and procedures;
- requiring and maintaining adequate safety supplies and equipment inventory onsite;
- conducting a pre-work safety meeting and advising workers regarding hazards;
- site control, decontamination, and contamination-reduction procedures;
- reporting accidents or incidents;

The Field Geologist has the authority to suspend work any time he or she finds that the provisions of the Plan are inadequate for worker safety. The Field Geologist will inform the Project Manager promptly of deficiencies within the Plan or individuals or subcontractors whose conduct is not consistent with the requirements of this Plan.

MEDICAL SURVEILLANCE

NGA personnel and subcontractors engaged in project activities must participate in a medical surveillance program and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements of Title 8, Section 5216, of the California Administrative Code will be observed. The applicable requirements under 29 CFR 1910.120 of the Federal Administrative Code will also be observed.

SAFETY AND ORIENTATION MEETING

Field personnel from NGA and its subcontractors will attend a project-specific training meeting for safety issues and review the project tasks before beginning work. The meeting will be led by the Project Manager or Field Geologist.

HAZARD ASSESSMENT

The major contaminants expected to be encountered on the project are gasoline and its hydrocarbon constituents, diesel fuel, and

other hydrocarbon constituents such as petroleum oil, and lead. The anticipated contaminants and their exposure standards are listed in Table 1.

| TABLE 1 EXPOSURE LIMITS OF ANTICIPATED CHEMICAL CONTAMINANTS 703-715 Cleveland Avenue Albany, California | | | | | | |
|---|--|------|------|---------|-----|------|
| Contaminant | Cal OSHA | | | ACGIH | | |
| | PEL | CL | STEL | TWA TLV | CL | STEL |
| Benzene [skin] (carc) | 1* | --- | 5* | 10* | --- | --- |
| Ethylbenzene | 100* | --- | 125* | 100* | --- | 125* |
| Gasoline | 300* | --- | 500 | 300* | --- | 500* |
| Toluene [skin] | 100* | 500* | 150* | 100* | --- | 150* |
| Xylenes [skin] | 100* | 300* | 150* | 100* | --- | 150* |
| Lead | 0.05# | --- | --- | 0.15# | --- | --- |
| PEL | - permissible exposure limit: 8 hour, time-weighted average, California Occupational Safety and Health Administration Standard (CAL-OSHA) | | | | | |
| CL | - ceiling limit: maximum concentration of airborne contaminant which employees may be exposed (CAL-OSHA) | | | | | |
| TWA | - time-weighted average: 8 hour, [(same as threshold limit value (TLV)], American Conference of Governmental Industrial Hygienists (ACGIH) | | | | | |
| STEL | - short-term exposure limit: 15 minute time-weighted average (ACGIH) | | | | | |
| # | - milligrams of substance per cubic meter of air | | | | | |
| * | - parts of gas or vapor per million parts air | | | | | |
| [carc] | - substance identified as a suspected or confirmed carcinogen | | | | | |
| [skin] | - substance may be absorbed into the bloodstream through the skin, mucous membranes, or eyes | | | | | |

It is not anticipated that the potential levels of exposure will reach the permissible exposure limits (PEL) or threshold limit values (TLV). Inhalation and dermal contact are the potential exposure pathways. Protective clothing will be mandatory for field personnel specified in this Plan. In addition, respiratory protective devices are required to be worn by each person on site or to be within easy reach should irritating odors be detected or irritation of the respiratory tract occur.

A brief description of the physical characteristics, incompatibilities, toxic effects, routes of entry, and target organs has been summarized from the NIOSH Pocket Guide to Chemical Hazards for the contaminants anticipated to be encountered. This information is used in onsite safety meetings to alert personnel to the hazards associated with the expected contaminants.

Benzene

Benzene is a colorless, aromatic liquid. Benzene may create an explosion hazard. Benzene is incompatible with strong oxidizers, chlorine, and bromine with iron. Benzene is irritating to the eyes, nose, and respiratory system. Prolonged exposure may result in giddiness, headache, nausea, staggering gait, fatigue, bone marrow depression, or abdominal pain. Routes of entry include inhalation, absorption, ingestion, and skin or eye contact. The target organs are blood, the central nervous system (CNS), skin, bone marrow, eyes, and respiratory system. Benzene is carcinogenic.

Ethylbenzene

Ethylbenzene is a colorless, aromatic liquid. Ethylbenzene may create an explosion hazard. Ethylbenzene is incompatible with strong oxidizers. Ethylbenzene is irritating to the eyes and mucous membranes. Prolonged exposure may result in headache, dermatitis, narcosis, or coma. Routes of entry include inhalation, ingestion, and skin or eye contact. The target organs are the eyes, upper respiratory system, skin, and the CNS.

Toluene

Toluene is a colorless, aromatic liquid. Toluene may create an explosion hazard. Toluene is incompatible with strong oxidizers. Prolonged exposure may result in fatigue, confusion, euphoria, dizziness, headache, dilation of pupils, lacrimation, insomnia,

dermatitis, or photophobia. Routes of entry are inhalation, absorption, ingestion, and skin or eye contact. The target organs are the CNS, liver, kidneys, and skin.

Xylene Isomers

Xylene is a colorless, aromatic liquid. Xylene may create an explosion hazard. Xylene is incompatible with strong oxidizers. Xylene is irritating to the eyes, nose, and throat. Prolonged exposure may result in dizziness, excitement, drowsiness, staggering gait, corneal vacuolization, vomiting, abdominal pain, or dermatitis. Routes of entry are inhalation, absorption, ingestion, and skin or eye contact. The target organs are the CNS, eyes, gastrointestinal tract, blood, liver, kidneys, and skin.

Lead

Pure lead is a blue-gray "heavy metal". The most common inorganic lead salts are typically white, yellow or colorless solids. Lead does not present an explosion hazard but is incompatible with strong oxidizers. Routes of exposure to lead compounds include inhalation, ingestion, and skin or eye contact. Target organs of lead toxicity include the gastrointestinal tract, the central nervous system, kidneys, liver, and blood. Symptoms of excessive lead exposure include metallic taste in the mouth, physical weakness, abdominal pain, anorexia, and constipation. Long-term exposure may result in neurological deficits, hypertension, and blood disorders.

GENERAL PROJECT SAFETY REQUIREMENTS

Project activities will be conducted in accordance with the following minimum safety requirements:

- eating, drinking, and smoking will be restricted to a designated area;
- gross decontamination and removal of all personal protective equipment will be performed before leaving the site;
- the Field Geologist will be responsible for taking steps to protect employees from physical hazards including:
 - * falling objects, such as tools or equipment;

- * tripping over hoses, pipes, tools, or equipment;
 - * slipping on wet or oily surfaces;
 - * insufficient or faulty protective equipment;
 - * insufficient or faulty equipment or tools;
- all personnel will be required to wash hands and faces before eating, drinking, or smoking in the aforementioned designated areas;
 - field personnel will be cautioned to inform each other of the nonvisual effects of the presence of toxics, such as:
 - * headaches;
 - * dizziness;
 - * nausea;
 - * blurred vision;
 - * cramps;
 - * irritation of eyes, skin, or respiratory tract;
 - * changes in complexion or skin discoloration;
 - * changes in apparent motor coordination;
 - * changes in personality or demeanor;
 - * excessive salivation or changes in pupillary response;
 - * changes in speech ability or pattern.

PROTECTIVE EQUIPMENT REQUIREMENTS

Field personnel and visitors are required to wear the following protective clothing and equipment, as a minimum, while in the work area at the Cleveland Avenue site:

- hard hat;
- safety glasses;
- steel-toed boots.

Field personnel engaged in work are required to wear the following equipment:

- hard hat;
- safety glasses;

- steel-toed boots (rubber, neoprene, or polyvinyl chloride [PVC]);
- orange or red safety vest (if equipment or motor vehicles are operating onsite or nearby);
- standard Tyvek coveralls (when required by Field Geologist);
- respirator with organic vapor and acid gas cartridge (if lowest PEL or TLV is exceeded in the breathing zone or Field Geologist decides respirators should be worn).

RESPIRATORY PROTECTION PROGRAM

This section summarizes NGA Respiratory Protection Program. NGA subcontractors must have company medical surveillance and respiratory protection programs including adequate training of their employees. Subcontractors must provide personal protective equipment as required in this Site Safety Plan for their employees. NGA will attempt to verify worker training but does not assume the responsibility of the employer in any way. The following sections outline the NGA Respiratory Protection Program.

Respirators are not issued to employees until the Company physician conducts a complete physical and decides the employee can 1) wear personal protective equipment and 2) wear a respirator. After the physician has issued written approval to NGA, the Health and Safety Coordinator conducts the required training including these basic topics:

- applicable OSHA regulations 1910.134 and 1910.120;
- nature of respiratory hazards to be encountered in the work environment and how to select proper respiratory equipment;
- use of respirators and proper fitting;
- functions and limitations of respirators;
- cleaning, disinfection, inspection, maintenance, and storage of respirators.

Functions and Limitations of Respirators

Respirators are not intended for and may not be used in atmospheres which are, or may become, immediately dangerous to life or health (IDLH) or in atmospheres where the identity or concentration of the contaminant(s) is unknown. Respirators may not be used in atmospheres containing less than 19.5 percent oxygen.

Cartridges or canisters for respirators are selected and supplied to employees by the Health and Safety Coordinator. The failure to choose or use a respirator equipped with cartridges or filters suitable for the contaminant(s) in the atmosphere or likely to be released in the atmosphere may result in the respirator providing little or no protection against the contaminated atmosphere. The Site Safety Plan specifies the contaminant(s) to be encountered and type of cartridge or canister appropriate for personal protection.

Assuming that the respirator is properly fitted, in good condition, free from leaks, and has the proper cartridges for the contaminant(s) present, the length of time the respirator will provide protection also depends on the conditions of use.

The conditions of use include but are not limited to the following:

- the concentration of contaminant(s) in the atmosphere;
- the temperature and humidity of the ambient atmosphere;
- any previous use of the cartridges and filters;
- the elapsed time since the removal of the cartridges or filters from their protective packaging;
- the emotional state of the wearer;
- the level of physical activity of the wearer.

Cartridges designed and specified to protect the wearer against airborne particles are not appropriate for protection against gases and vapors. Cartridges designed and specified for protection against specific gases and vapors are not appropriate for protection against airborne particles or other gases or vapors beyond the scope of that type of cartridge. Every cartridge is labeled with specific instructions defining the use and limitations of that particular type of cartridge. If the label is missing or

the type of cartridge is inappropriate then it may not be used under any circumstances.

Danger Signals Indicating Possible Respirator Failure

If any of the danger signals in the following list are experienced while wearing a respirator, immediately return to a fresh air environment. The cartridges or filters may be inappropriate or used up or abnormal conditions may be creating vapor concentrations which are beyond the limits of the cartridges or filters. Danger is indicated when the individual subject to exposure:

- smells or tastes chemicals, or if eyes, nose, or throat become irritated;
- has difficulty breathing;
- notices that the breathing air becomes uncomfortably warm;
- experiences headaches, dizziness, cramps, nausea, or blurred vision;
- experiences changes in complexion or skin discoloration;
- experiences changes in motor coordination, personality, or demeanor;
- experiences changes in speech ability or pattern;
- experiences excessive salivation or changes in pupillary response.

Qualitative Respirator Fit Test

Qualitative fit testing of each respirator must be conducted before the respirator may be used to check that a good fit is still obtained. The following steps should be taken in qualitative fit test of the respirator.

1. Don the face piece with cartridge or filters in place. Pull straps together and equally to avoid distorting the mask.
2. Adjust the face piece. Do not overtighten it.

3. Negative Pressure Leak Check: close off both inlet connections with palms of hands, inhale slowly, and hold breath momentarily. No leakage should be detected and the face piece should be drawn slightly to the face.
4. Positive Pressure Leak Check: close opening in the exhalation valve guard by placing palm of one hand over face of guard; exhale slowly maintaining slight positive pressure. No leakage should be detected between the face seal and the face.
5. Should any leakage be noted:
 - a) adjust the headstraps and face piece slightly; recheck for leakage;
 - b) check condition of exhalation valve and seat; check that both inlet gaskets are present and in proper condition.
 - c) in the event the face piece cannot be adjusted so there is no leakage, DO NOT ENTER THE AREA REQUIRING PROTECTION. Due to your particular facial features, a different style or size face piece may be required to obtain a proper facial fit.

Note: Failure to perform a qualitative fit test of the respirator each time the respirator is donned may result in little or no respiratory protection.

Inspection, Cleaning, and Storage

The respirator should be inspected, cleaned, and properly stored after use each day. The following steps are the basic elements of each procedure:

A. Inspection

1. examine face seal for rips, tears, holes, deformation, or stiffness;
2. examine face piece plastic center shell for cracks, missing components, or damaged threads;

3. examine harness for breaks, cuts, frays, tears, and missing or damaged hardware;
4. examine inhalation and exhalation valves and valve seats for cuts, cracks, or foreign matter which may not allow the valve to close completely. Check that valves are properly installed and are not distorted;
5. examine cartridges for signs of abuse or damage. Discard damaged items;
6. any respirator malfunction or deficiencies noted must be reported to the Health and Safety Coordinator who will issue a new respirator or correct the deficiencies using only approved spare parts from the manufacturer of the specific model in need of repair. Spare parts from any other manufacturer may not be used under any conditions. Instructions in the manual provided by the manufacturer should be followed when the respirator needs repairing or replacing;

B. Cleaning

1. unthread cartridges or filters;
2. wash the face piece after use, with warm water and a mild detergent;
3. disinfect the face piece if it was used by another person. The mask should routinely (once per month) be disinfected even if respirator is used solely by one individual. A hypochlorite solution may be used (i.e., 2 tablespoons chlorine bleach per gallon of water for an acceptable solution);
4. after cleaning and air-drying, check that the face piece is not damaged and that components removed prior to cleaning have been installed properly;

C. Storage

1. place the respirator in its storage box in a heat-sealed or resealable plastic bag. Store flat, with the face piece and exhalation valve in an approximately normal position, to prevent the face seal from taking a

permanent "set;"

2. replacement components should be stored in sealed packages in a cool, clean, low-humidity location until ready for use.

WORK ZONES AND SECURITY MEASURES

The Project Manager will call Underground Services Alert (USA) and the utilities will be marked before any drilling is conducted onsite and the borings will be drilled at safe distances from the utilities. The client will also be advised to have a representative onsite to advise us in selecting locations of borings with respect to utilities or underground structures. NGA assumes no responsibility for utilities not so located. The first 5 feet will be probed before any drilling equipment is operated.

Each of the areas where the borings will be drilled will be designated as Exclusion Zones. Only essential personnel will be allowed into an Exclusion Zone. When it is practical and local topography allows, approximately 25 to 75 feet of space surrounding those Exclusion Zones will be designated as Contamination Reduction Zones.

Cones, wooden barricades, or a suitable alternative will be used to deny public access to these Contamination Reduction Zones. The general public will not be allowed close to the work area under any conditions. If for any reason the safety of a member of the public (e.g., motorist or pedestrian) may be endangered, work will cease until the situation is remedied. Cones and warning signs will be used when necessary to redirect motorists or pedestrians.

EXPOSURE MONITORING PLAN

It is not anticipated that project personnel exposure will exceed the PELs or STELs of the materials; however, proper personal protective equipment will be worn while working at the site. In addition, the work area will be monitored using a photoionization detector (PID) to detect the concentration of the volatile hydrocarbons in the ambient atmosphere.

If the lowest STEL is consistently being exceeded in the breathing zone, then a respirator must be worn. If the concentration exceeds 1,000 parts per million (ppm), the use of a respirator is inappropriate and personnel must withdraw from the site.

POSSIBLE EXPLOSIVE ATMOSPHERES

Gasoline has a flammable range from approximately 1.4 to 7.6 percent in air. One percent in air is equivalent to 10,000 ppm; thus the lower explosive limit (LEL) is 14,000 ppm. Normally explosive levels may be reached in tanks, pits, or other confined spaces. Any area suspected of containing potentially explosive levels of gasoline will be evaluated with an intrinsically safe or explosion-proof combustible gas indicator (CGI). Personnel response will be based on the following action levels from CGI readings:

- Less than 10 percent of LEL* then Continue activities and monitoring
- 10 to 25 percent of LEL then Continue monitoring with extreme caution as higher levels are found
- Greater than 25 percent of LEL then Explosion hazard. Cease activities and vacate area immediately

* CGI readings in percent of lower explosive limit

If an explosion potential is present onsite beyond 25 percent of the LEL then all NGA's personnel and subcontractors must immediately withdraw from the site. The hazard potential will be evaluated by NGA's management and a plan of action will be assessed.

DECONTAMINATION PROCEDURES

Drilling equipment and personal protective equipment will undergo gross decontamination onsite. This gross decontamination will include washing contaminated equipment with an Alconox or trisodium phosphate (TSP) solution. Steam-cleaning is an acceptable alternative.

EMERGENCY RESPONSE PROCEDURES

In the event of a fire, explosion, or property damage, the NGA office will be immediately notified. If necessary, local fire or response agencies will be called.

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to the nearest hospital or emergency medical clinic for emergency treatment. A physician's attention is required regardless of the severity of the injury.

Overt Personnel Exposure

If overt personnel exposure occurs during the project, typical responses should include the following:

Skin or Eye Wash and rinse affected area thoroughly with copious amounts of soap and water, then provide appropriate medical attention. Eyes and skin should be rinsed for a minimum of 15 minutes upon chemical contamination.

Inhalation: Move to fresh air and, if necessary, decontaminate and transport to emergency hospital.

Ingestion: Decontaminate and transport to emergency hospital.

Puncture Wound Decontaminate and transport to emergency hospital.
or Laceration:

EMERGENCY TELEPHONE NUMBERS

Police 911
Fire Department 911

Hospital:
Brookside Hospital (510) 235-7000
2000 Vale Road
San Pablo, California

Directions to Hospital: From the site, go north on Interstate Highway 80 to the San Pablo Avenue Exit. Go north on San Pablo Avenue to Vale Road. Proceed west on Vale Road to hospital. Hospital is on left side of the street (see Emergency Service Route Map).

Additional Contingency Telephone Numbers

Poison Control Center (800) 523-2222
NGA (916) 361-8095

CHEMTREC (800) 424-9300

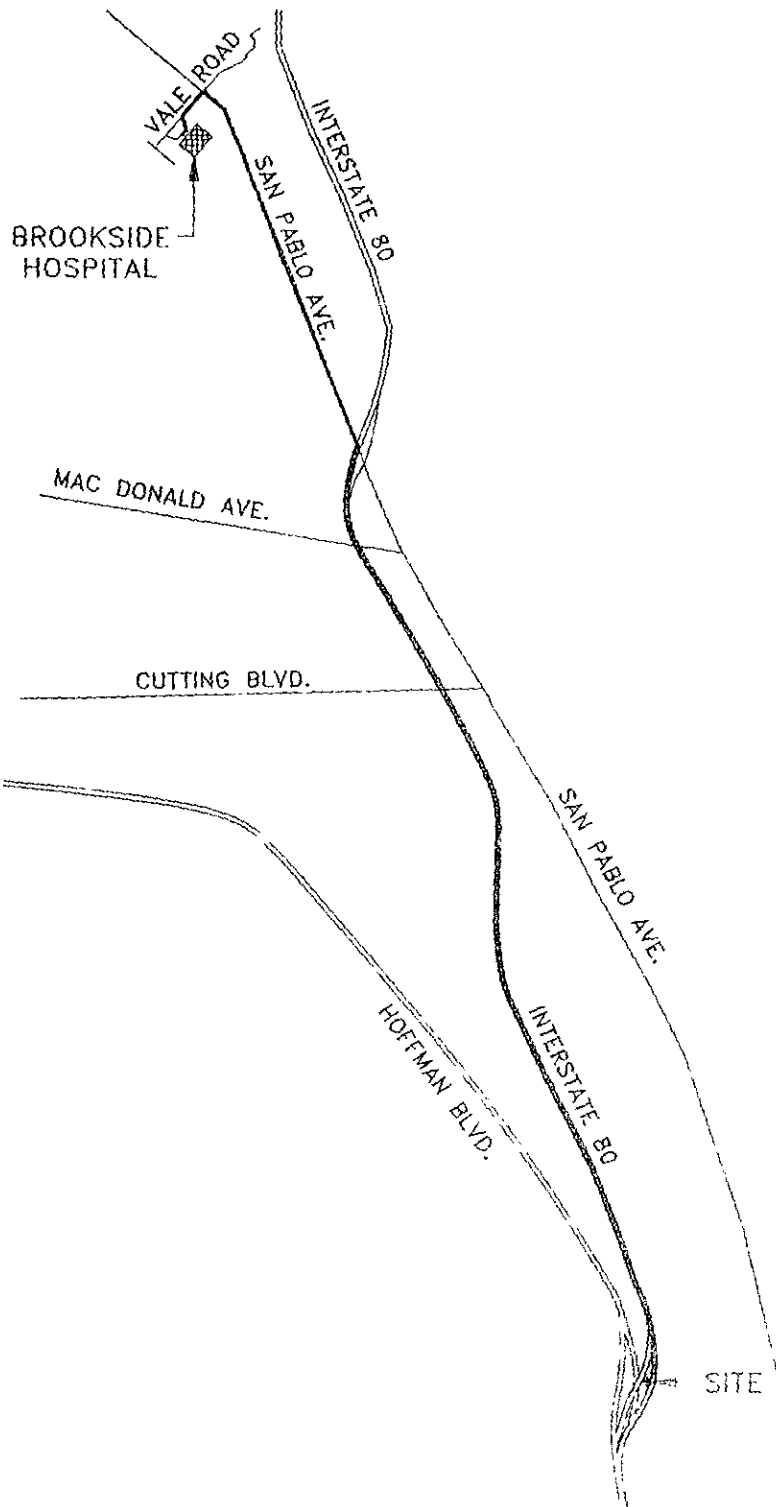
Note: Only call CHEMTREC in an emergency. CHEMTREC stands for Chemical Transportation Emergency Center, a public service of the Chemical Manufacturer's Association. CHEMTREC can usually provide hazard information, warnings, and guidance when given the identification number or the name of the product and the nature of the problem. CHEMTREC can also contact the appropriate experts.

This Site Safety Plan has been reviewed by the following persons:

Project Manager: Donell Nathan

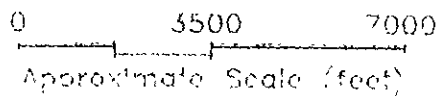
Health and Safety Coordinator: Donell Nathan for Benny Marcus

Amendments or modifications to this Plan may be written on a separate page and attached to this Plan. Any amendments or modifications must be reviewed and approved by the personnel named above.



EXPLANATION

----- Emergency Service Route



EMERGENCY SERVICE MAP
 ZICHICHI PROPERTY
 703-715 CLEVELAND AVENUE
 ALBANY, CALIFORNIA

CA/TRANS TASK ORDER NO.
 04-180151-01

Nations
Groundwater
Associates