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John S. Hahn
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October 29, 1993

VIA FEDERAL EXPRESS

Ms. Juliet Shin
Hazardous Materials Specialist
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: STID 3856; 1055 Eastshore Highway, Albany, CA

Dear Ms. Shin:

On behalf of Amfac Distribution Corp., I am submitting the enclosed workplan for a Preliminary Site Assessment at the above referenced property. The consultant is developing a scaled site map, and we will forward it to you when it becomes available.

Sincerely yours,

John S. Hahn

JSH/bgj

Enclosure

cc: John Frank (w/o enclosure)

8007307.

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AllWest Environmental, Inc.

Specialists in Environmental Due Diligence and Remedial Services

One Sutter Street, Suite 600
San Francisco, Ca 94104
Tel 415 391 2510
Fax 415 391 2008

# WORK PLAN FOR PRELIMINARY SITE ASSESSMENT

**1055 Eastshore Highway**
**Albany, California**

Oct 1993

ALLWEST PROJECT No. 93070.23

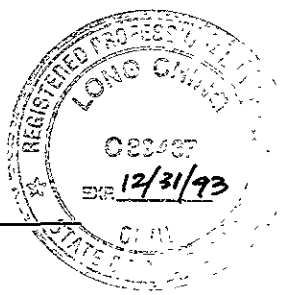
October 27, 1993

PREPARED BY:

Anibal Mata-Sol, REA
Project Manager

REVIEWED BY:

Long Ching, PE
Senior Engineer



AllWest

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# WORKPLAN FOR
# PRELIMINARY SITE ASSESSMENT
# AT

# 1055 EASTSHORE HIGHWAY
# ALBANY, CALIFORNIA

## I. INTRODUCTION

The following workplan describes the proposed characterization program at 1055 Eastshore Highway in Albany, California. The purpose of this investigation is to determine the lateral vertical extent of soil and/or groundwater contamination due to a former underground storage tank at the subject property. Included with this workplan are background information, scope of proposed work, descriptions of field procedures, drilling methods, and sampling protocols. A Site Location Map, a Generalized Site Plan, and the Proposed Soil Boring and Monitoring Well Locations Map are presented in Figures 1, 2 and 3, respectively. Also included are example of boring logs, groundwater sampling logs, and legends (Appendix A).

The proposed site characterization will obtain representative soil samples from around the former UST. Three of the seven soil borings will be converted into monitoring wells for groundwater sampling. The soil and groundwater samples will be analyzed for the presence of Total Petroleum Hydrocarbons as gasoline (TPH-G), and for the gasoline constituents Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX). The locations of sampling points and results of laboratory analyses will be used to construct an iso-concentration contour map of the soil contaminants thereby delineating the extent of soil contamination, and groundwater contour and gradient.

## A. Scope of Work

AllWest proposes that this phase of work consist of the following tasks:

1) Prepare a workplan that outlines the proposed investigative work and submit the work plan to Alameda County Department of Environmental Health (ACDEH) for agency concurrence. Notify ACDEH of the planned drilling and sampling activities to allow for agency inspection if necessary;

2) Prepare a Site Specific Health & Safety Plan to address health and safety issues during this investigation;

3) Arrange for a drilling contractor to conduct subsurface sampling and groundwater well installation;

4) Conduct utility scan for subsurface conduits to clear conflict between boring/well location and underground utilities;

5) Advance up to 7 soil borings around the former UST to a depth of 15 feet below the ground surface. The proposed boring locations are indicated on Figure 3 of this work plan. Details of boring location scheme, drilling methods, and field work quality control measures are discussed in Sections III and IV of this workplan;

6) Collect up to 14 soil samples. Soil samples will be analyzed for TPH-G and BTEX in a California certified laboratory;

7) Convert 3 of the 7 soil borings into groundwater monitoring wells. Develop and sample the wells. The groundwater samples will be analyzed for the same constituents as the soil samples. The proposed monitoring well locations are indicated on Figure 3 of this work plan;

8) Interpret field and laboratory data, and prepare a report summarizing the findings, delineating the extent of impacted soils and groundwater, and present conclusions and recommendations.

## B. Site Location

The subject property lies in the western-most part of the City of Albany, California, amidst an industrial area. The site is located on the east side of Eastshore Highway, approximately 200 feet east of the Albany off-ramp from Interstate Highway 80. San Francisco Bay is located approximately 2,000 feet west of the subject property. Refer to Site Figures, Appendix A.

## C. Background

On September 2, 1992 a 550-gallon gasoline tank and associated piping was excavated from the subject property. AllWest Environmental provided contractual services associated with tank closure.

Regulatory oversight of tank closure activities was provided by Mr. Larry Seato, Environmental Health Specialist, of the Alameda County Department of Environmental Health and Lieutenant Winding of the Albany Fire Department. AllWest personnel were on site to monitor tank closure activities and to collect minimum verification samples.

The tank was properly inerted, excavated and removed from the tank pit.

Four corrosion holes, approximately 1/8" to 1/4" in diameter, near the base of the tank on its east end, along the seam were observed after the tank was removed from the tank pit. Soil stain was observed around the fill pipe at the west end of the tank.

Water was observed at the base of the tank pit to a depth of about 2 inches in the depression formed by the tank's imprint. The water was discolored with a sheen appearing on its surface.

The depth to the base of the tank measured from ground surface was 6'- 9". 5'7"

The tank was removed and transported from the site under hazardous waste manifest by H & H Ship Services Company, a licensed hazardous waste transporter. The tank was transported to Schnitzer Steel of Oakland, California where it was properly disposed.

Due to evidence of soil and groundwater contamination observed at the tank pit, the pit was over-excavated in depth and areal extent on September 30, 1992. The pit was enlarged in a westerly and southerly direction and excavated to a depth of 10 feet.

a copy of it is in last report.

An underground storage tank unauthorized release (leak) contamination site report was completed upon receipt of analytical results and forwarded to Larry Seato of the Alameda County Environmental Health Department (ACEDEH) on September 9, 1992.

A report detailing the activities of tank closure was prepared by AllWest on October 30, 1992 and submitted to ACDEH. This report also describes the site history and vicinity in more detail.

## II. SITE DESCRIPTION

### A. Vicinity Description and Hydrogeologic Setting

The site is located on a coastal plain at an approximately elevation of 10 feet above mean sea level. The topographic gradient is invariably directed very gently to the west in the localized area of the site. San Francisco Bay lies within 2,100 feet west of the subject property. The site surface water drainage is controlled by the site grading and the storm water drainage system.

The property is located within the North Coast Range Physiographic Province within the central block of the Coast Ranges. Sediments underlying the site are undifferentiated surficial deposits of marine, alluvium and artificial fill. These, in turn, are underlain by marine and marsh deposits known as Bay Muds. The Alameda Formation is the underlying geologic unit below coastal plain and bay. It comprises continental land, marine gravels, sands, silts and clays. The subject property lies between the San Andreas Fault, located roughly 15 miles to the west, and the Hayward Fault, approximately 2 miles to the east. Both are regional, right-lateral, strike slip faults trending northwest-southeast. (Preliminary Geologic Map of Marin and San Francisco Counties and Parts of Alameda, Contra Costa and Sonoma Counties, California, Department of the Interior, U.S. Geological Survey, 1974, M.C. Blade Jr., et al.)

## B. Existing Soil Contamination and Excavation Results

Two discrete soil samples and one water sample from the tank pit were collected during the tank closure. Analyses performed on each sample included total lead content by EPA Method 6010, TPH-G and BTEX by EPA Method 8015/8020. Refer to Table I for a summary of the results.

Test results indicated that lead levels at the site are within the range of those found naturally in soils in the San Francisco Bay Area. Background levels of lead in shallow sediment cores in Bay Muds range in value from 30 to 100 parts per million (Distribution of Lead and Copper in Surface Sediments in San Francisco Bay Estuary, California. Dept. of the Interior, US Geological Survey, 1972 by D.H. Peterson, D.S. McCulloch, T.J. Conomos, and P.R. Carlson). Lead was not detected in the water sample (W-1 CTR). Refer to Table 1 for sample results.

Four discrete soil samples were collected from the stockpiled soils of the initial tank pit excavation. These were submitted to the laboratory and composited into one sample for analysis. Refer to Table I for the results.

**TABLE I**

**INITIAL EXCAVATION**
**SUMMARY OF ANALYTICAL RESULTS**
**MINIMUM VERIFICATION ANALYSIS**

| Sample | TPH-G | Benzene | Toluene | Ethylbenzene | Xylenes | Total Lead |
|---|---|---|---|---|---|---|
| S-1 West (Soil) | 8.0 | 0.2 | 0.032 | 0.21 | 0.44 | 7.0 |
| S-2 East (Soil) | 120 | 0.49 | 5.7 | 2.7 | 13 | 5.1 |
| W-1 CTR (Water) | 93 | 1.5 | 3.1 | 2.3 | 12.0 | ND |
| SP-W,S,E,N | 61 | 0.071 | 0.96 | 0.44 | 5.8 | 12.0 |

Notes:
1. ND - Non-detected
2. All results are in parts per million (ppm).

Three soils samples TS-2, TE-2, and TW-2 were collected from the south, east and west walls after the tank was over-excavated on September 30, 1992. The soil samples were analyzed for TPH-G, BTEX and total lead. Refer to Table 2 for a summary of results.

A composite samples of SP-N, S, E, W-2 of stockpiled soils from the over-excavation was also collected and analyzed for TPH-G and BTEX. These results are presented in Table 2. These stockpiled soils approximately 24 tons, were transported to Valley Rock Products by REMCO and treated as contaminated soils.

**TABLE II**

**SUMMARY OF ANALYTICAL RESULTS**

| Sample | TPH-G | Benzene | Toluene | Ethylbenzene | Xylenes | Total Lead |
|---|---|---|---|---|---|---|
| TS-2 | 830 | 5.6 | 6.3 | 21 | 110 | N/D |
| TS-2 | 1600 | 7.5 | 49 | 42 | 210 | N/D |
| TW-2 | 150 | 0.52 | 3.3 | 3.3 | 15 | N/D |
| SP-N,S,E,W-2 | 210 | N/D | 1.9 | 3.1 | 17 | N/D |

Notes:
1. ND - Non-detected
2. All results are in parts per million (ppm).

## III. PLAN FOR DETERMINING THE EXTENT OF SOIL & GROUNDWATER CONTAMINATION

### A. Drilling of Soil Borehole

Prior to the commencement of field work, the Alameda County Department of Environmental Health Hazardous Materials Division will be notified to allow for agency inspection of drilling and/or sampling activities if necessary. An underground utility locator will be employed by AllWest to ensure the proposed drilling locations will not be in conflict with underground utilities.

The approximate locations of the proposed boreholes are shown on Figure 3. The selection of borehole locations is based on a sampling scheme developed by AllWest. This phase of investigation will consist of seven (7) locations around the former UST.

The borehole drilling will be performed by Bayland Drilling of Menlo Park, a drilling contractor with valid a C-57 contractor license. The soil borings will be drilled with 3.75-inch inside diameter (I.D.) hollow stem augers. During the drilling operation, a geologist from AllWest will be present to maintain a continuous log and to collect representative soil samples. The log will contain all pertinent information on drilling and soil conditions, in particular the lithology of the soils and any odor or discoloration that suggests contamination. Boring logs will be included in the final written report. A copy of the field boring log to be used, the boring log legend, and the Unified Soil Classification System (USCS) is attached.

Soil cuttings will be screened for hydrocarbon contamination by means of soil discoloration and hydrocarbon odor, and organic vapor meter (OVM) measurements. Field instruments such as the OVM are capable of evaluating relative concentrations of vapor content, but cannot be used to give absolute levels of contamination. Drill cuttings will be temporarily stored in labelled, covered 55 gallon covered drums pending analysis.

### B. Soil Sampling Procedures

Soil samples will be obtained at regular intervals and where changes to stratigraphy occur. At a minimum, the sampling frequency will be five feet below the ground surface, and every 5 feet thereafter to the boring termination depth (15 feet).

Soil samples will be obtained from the boring by advancing the boring to a point immediately above the sampling depth and driving a 2.5-inch split-spoon sampler (modified California sampler) into the soil through the hollow center of the drill auger. The soil sampler containing three separate six-inch brass sleeves will be driven 18 inches with a standard 140 pound hammer repeatedly dropped from a height of 30 inches. The number of blows to drive the sampler each successive 6 inches will be counted to evaluate the relative consistency of the soil. All soil samples will be collected in 6-inch long by 2-inch diameter, clean brass liners, wrapped in foil, capped at both ends, labeled, and kept refrigerated for subsequent transport to the analytical laboratory and for analysis.

C. Groundwater Sampling Procedures

Three two-inch diameter wells will be constructed to evaluate and monitor groundwater conditions at the site. The wells will be completed through the depth of the aquifer to an underlying clay layer or acquitard (at a depth of 20 feet below the ground surface).

The wells will be constructed of flush threaded, two-inch diameter polyvinyl chloride (PVC) casing and will be held in tension during construction by suspending the casing above the bottom of the hole during the sand pack and seal installation. No chemical cements, glues, or solvents will be used in well construction. The bottom of the casing will have a threaded end plug and the top will have a locking slip cap. The screened portion of the wells will consist of factory-perforated 0.020-inch slotted casing, based upon a using a #8-12 filter sand pack. Sand pack selected is based upon the silty sandy clays anticipated to underlie the site. Since the groundwater table is approximately ten feet below grade, the well screens will extend from total depth of the well to approximately four or five feet above the upper zone of saturation. This should allow for monitoring the air/water interface during the anticipated seasonal fluctuations of groundwater levels. The annular space will be filled with sorted and washed sand to a minimum of two feet above the perforations. A one foot thick bentonite plug will be placed above the sand as a seal against cement entering the sand pack. The remaining annulus will be grouted with a neat cement/grout to approximately one-half foot below grade. The cement grout will consist of one sack of Portland type I/II cement (94 lbs) to 5 gallons of clean water.

The wells will have a locking cap and be protected by a water tight and tamper resistant wellhead cover installed slightly above grade to avoid ponding of surface water on the wellhead. The wellhead covers will be set in concrete. This wellhead cover design reduces the possibility of well vandalism or accidental disturbance. The wellheads will be completed below ground surface in a Christy type box.

The cover of the monitoring wells will be clearly marked "Monitoring Well." A small metal tag containing the well number and summarized construction data such as depth, hole and casing diameters, and location of the screened interval shall be permanently attached to the well located within the vault securing the wellhead.

The wellheads will be developed by surge pumping until a non turbid discharge is obtained. A log of the well development method casing volume and the total volume of water excavated for the well will be maintained.

The location of the monitoring wells will be in the central northern quadrant of the subject property. MW-1 will be installed within 10 west-southwest of the former UST, MW-2 will be installed in within 25 fee south-southwest of the former UST, and MW-3 will be installed within 40 feet east of the former tank in a hydraulically upgradient direction.

The location and elevation of the top of the casings will be surveyed. The location survey wells will have a horizontal accuracy of 0.5 foot and the top of well casing elevation will have an accuracy of 0.1 foot. Horizontal surveying control will use City of Albany benchmarks for documentation. Vertical elevation control will use mean sea level as the reference benchmark. The well casings will be marked with a permanent reference point for water level measurements by a notch filed at the top of the casing.

Groundwater Sampling

All groundwater monitoring wells will be properly developed and purged before sampling. Prior to purging the well for sampling, a sample will be collected from the surface of the water in each well wi a clear bailer. The samples will be visually inspected for the presence of floating hydrocarbons. If product is detected, the thickness of the floating product will be measured and the well will not be purged. If floating product is not observed, the well will then be purged of at least three to five well volumes before collecting a water sample for analysis.

Purge water will be monitored for pH, conductivity and temperature during well purging. Following the establishment of equilibrium conditions for these parameters and the purging recovery of groundwater to static conditions, a water sample will be retrieved from the well. The sample will be collected using a disposable Teflon bailer fitted with a bottom discharging device. The water sample will be sealed in laboratory-cleaned glass containers with Teflon lined septa, labeled, and immediately placed in iced storage. A Chain of Custody Record will be initiated by the sampler and will accompany the samples to a state certified analytical laboratory. A copy of the Chain of Custody Record will be included in the final report.

## IV. QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

### A. Sample Preservation, Storage and Handling

To prevent the loss of constituents of interest, all samples will be preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after collection and during transportation to the laboratory. Standard chain-of-custody protocols will be followed through all stages of sample handling.

### B. Field Quality Control Samples

To detect the occurrence of cross-contamination during sampling events and to reduce the probability of false-positive results, the following procedures will be observed during sampling of this project. 1) Duplicate samples will be obtained once a day or once every twenty samples obtained, whichever is greater. The duplicate samples will be obtained from sampling points which are known or suspected to be contaminated. 2) A field or travel blank will be included with each shipment of samples to the laboratory. 3) An equipment blank will be collected for each monitoring well.

### C. Chain-Of-Custody Program

All samples collected for this project will be traveled under the chain-of-custody protocol. The chain-of-custody program allows for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The document includes the signature of the collector, date and time of collection, sample number, number and type of sample containers including preservatives, parameters requested for analysis, signatures of persons and inclusive dates involved in the chain of possession. Upon delivery to the laboratory the document will also include the name of person receiving the samples, and date and time samples were received.

### D. Decontamination Procedures and Waste Disposal

During the field investigations all down-hole tools, such as augers, probes, rods, will be thoroughly steam cleaned prior to drilling each borehole. All sampling and development equipment will be thoroughly cleaned in an Alconox (or other phosphate free detergent) solution and rinsed with clean water prior to each use. The rinsate will be contained along with the steam cleaning rinsate from the auger decontamination described above.

Soil cuttings from drilling operations and rinsate water from decontamination will be contained in 55-gallon drums and stored temporarily on-site. Only those drums that meet Department of Transportation (DOT) specifications will be used. Proper disposal methods for these drummed materials will be determined based on analytical findings.

All development water, purged water and steam cleaning wastewater will be stored and labelled in 55 gallon covered drums and assumed to be contaminated until tested. Contaminated water shall be manifested, transported and disposed of according to current hazardous waste regulations.

## V. ANALYTICAL METHODS

Soil and groundwater samples selected for chemical analysis will be analyzed by a California Department of Health Services (DHS) certified analytical laboratory. Analytical methods and detection limits are summarized in the following Table 1. These analytical methods are selected based upon the type of contaminations detected during the initial facility closure investigation.

**TABLE 1**

**PROPOSED CHEMICAL ANALYSES AND DETECTION LIMITS**

| Proposed Chemical Analyses | Detection Limit |
|---|---|
| **(Soil Samples)** | |
| Total Petroleum Hydrocarbons as Gasoline (EPA Method mod. 8015) | 10 mg/kg (ppm) 1 ppm |
| Volatile Hydrocarbons as Benzene, Ethylbenzene, Toluene, and Total Xylenes,BTEX, (EPA Method 602) | 5 ppb for Benzene, Toluene, and Ethylbenzene, 10 ppb for Xylenes. Ea |
| **(Groundwater Samples)** | |
| Total Petroleum Hydrocarbons as Gasoline (EPA Method mod. 8015) | 50 µg/L (ppb) |
| Volatile Hydrocarbons as BTEX (EPA Method 602) | 0.5 ppb for BTE, and 1 ppb for Xylenes. |

## VI. REPORT PREPARATION

A written report summarizing the results of this investigation will be prepared at the completion of the program. The report will contain descriptions on field activities, soil profile, laboratory results and our interpretations regarding the nature, and concentration of released contaminant. Also included in the report will be boring/well location map, boring logs, and copy of chain-of-custody documents and analytical laboratory reports.

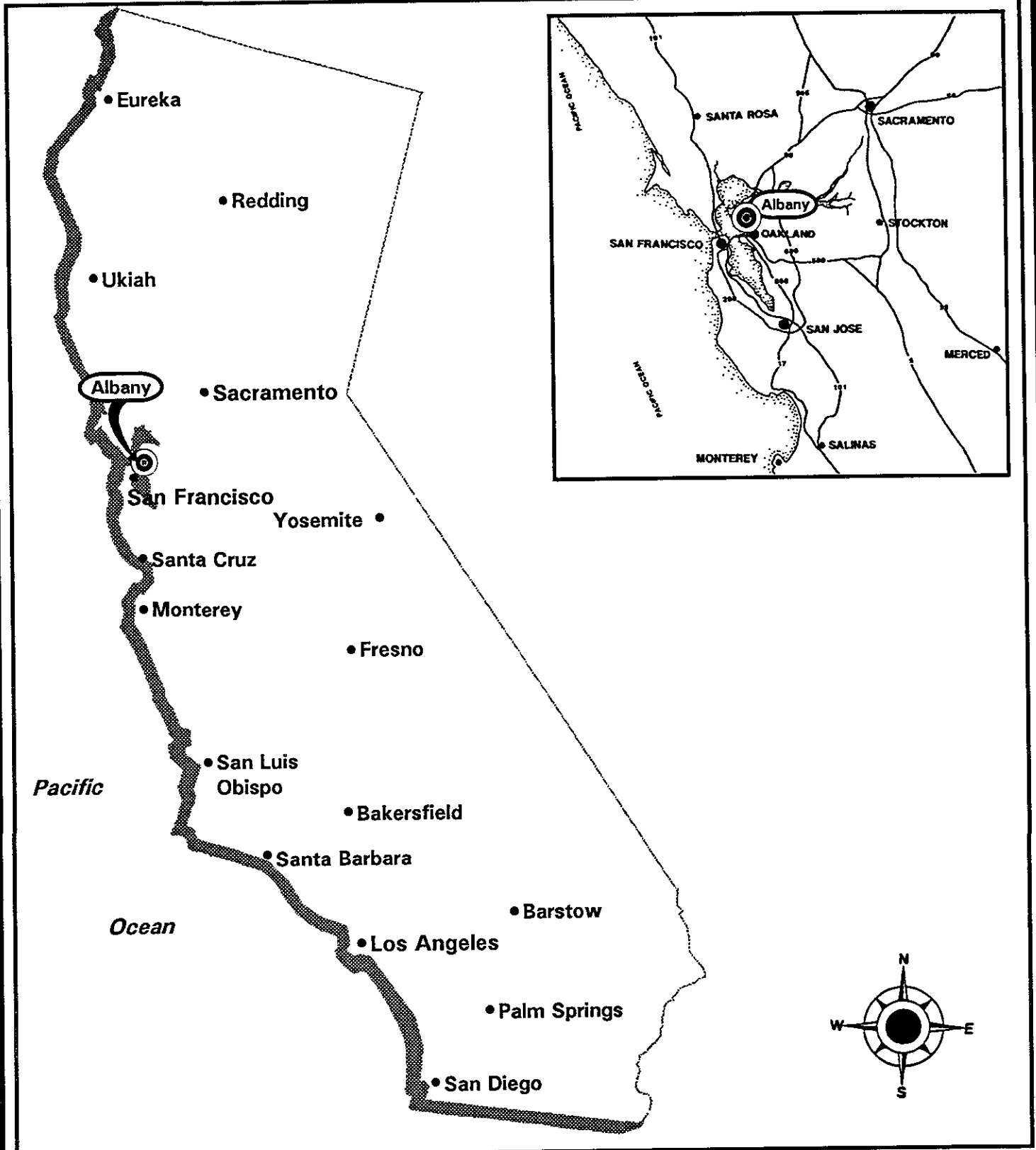
## VII. PROJECT STAFF AND SCHEDULE

Mr. Long Ching, a California registered civil engineer, will provide technical oversight for this project and act as the project manager and regulatory liaison. Additionally, AllWest's staff of engineers, geologists, and technicians will be employed to perform the various tasks of the project.

The field investigation program is planned for three days. A 7-day turn-around time is anticipated for laboratory analyses on soil and groundwater samples.

The written report will be prepared in three weeks after the completion of all field and laboratory work. The total project time span for this phase of work is estimated at four to five weeks after the approval of this work plan.

# FIGURES

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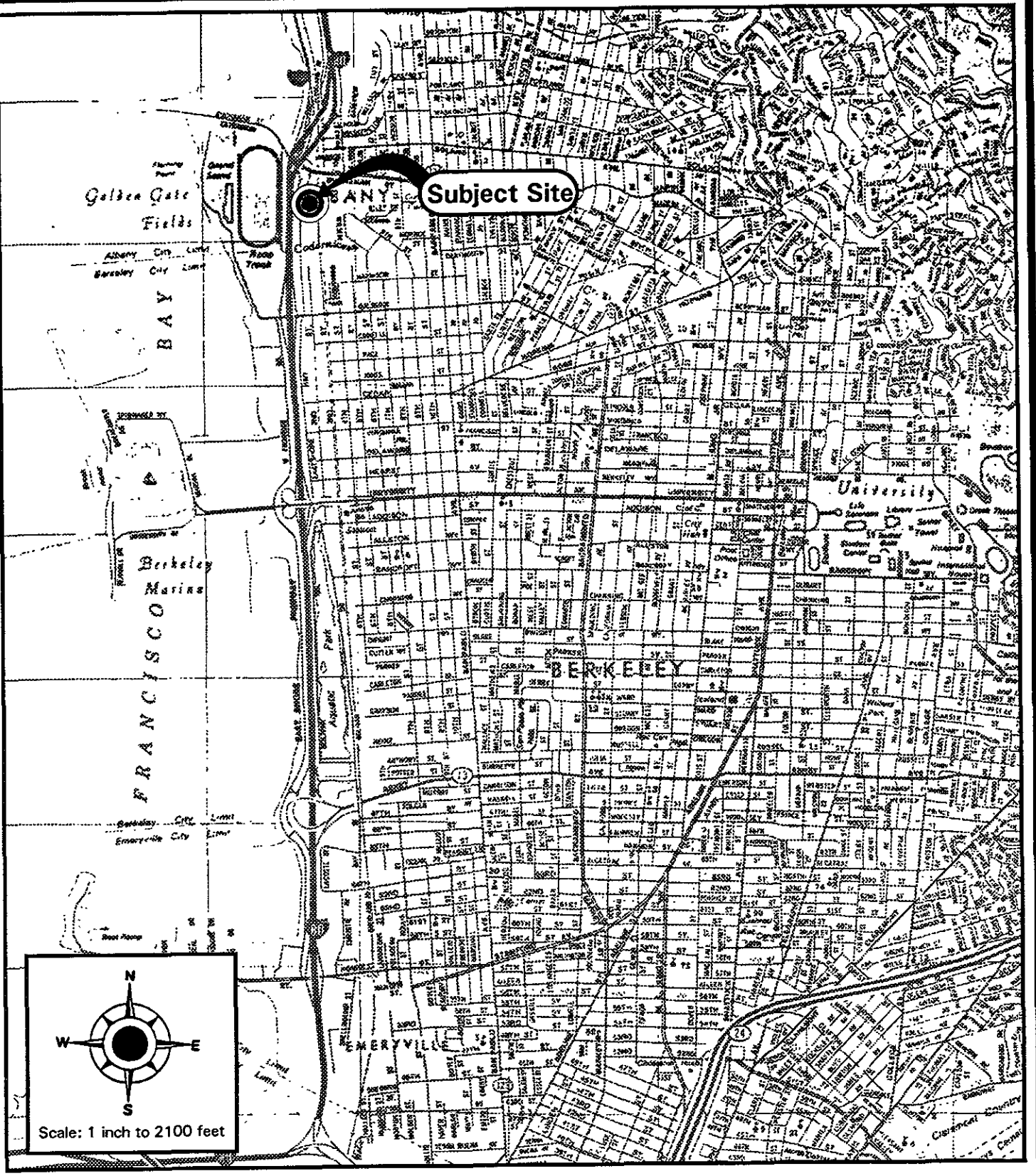
| | | | |
|---|---|---|---|
| October 1993 | **Site Location Map** | Project 93070.23 | Figure 1 |
| 1055 East Shore Highway, Albany, California | | | Source *AllWest* |

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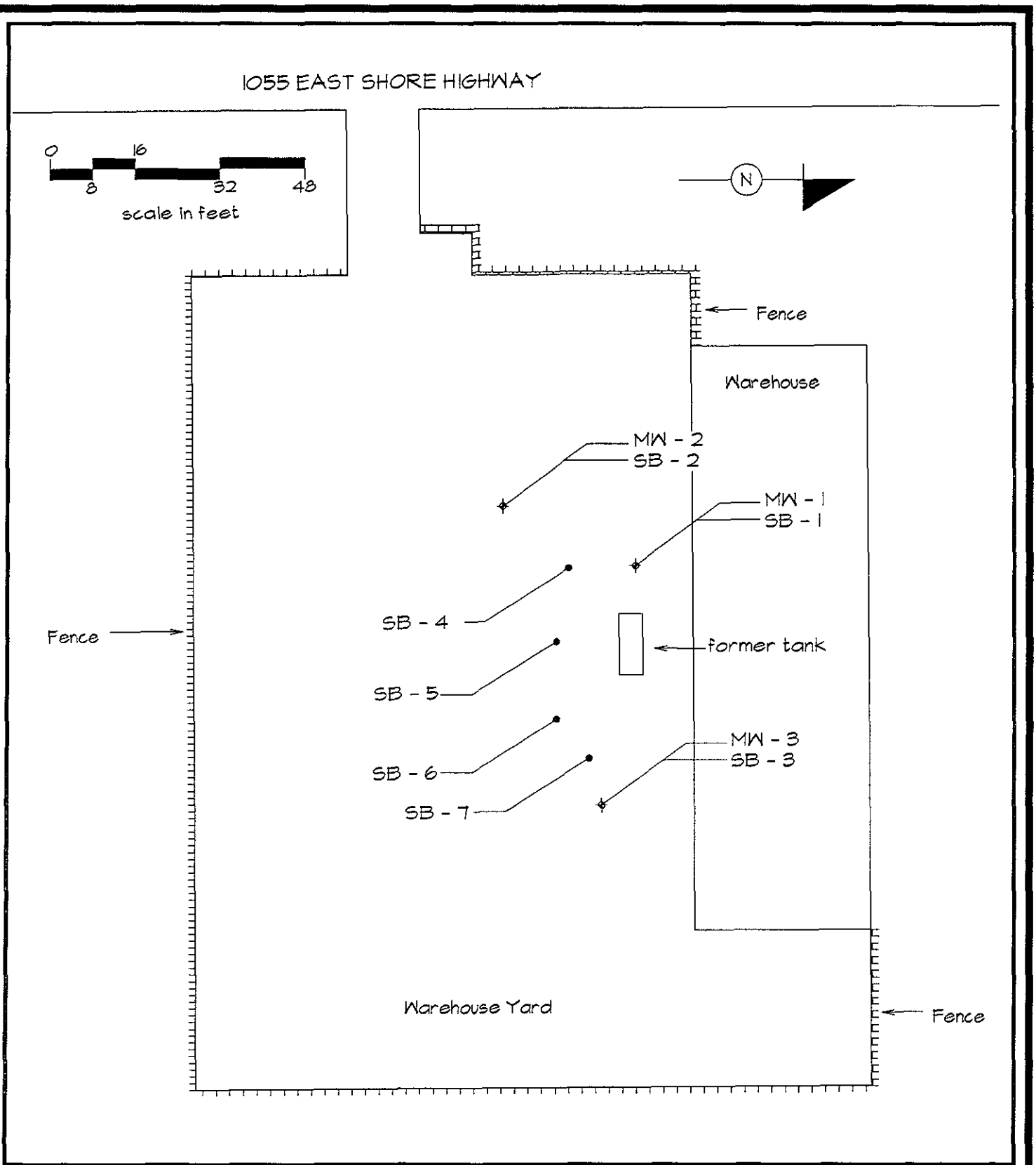
| | | | |
|---|---|---|---|
| October 1993 | **Site Vicinity Map** | Project 93070.23 | Figure 2 |
| 1055 East Shore Highway, Albany, California | | | Source *Rand McNally* |

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| October 1993 | **Proposed Location of Soil Borings & Monitoring Wells** | Project 93070.23 | Figure 3 |
|---|---|---|---|
| 1055 East Shore Highway, Albany, California | | | Source *AllWest* |

# APPENDIX A

## UNIFIED SOIL CLASSIFICATION SYSTEM

| PRIMARY DIVISIONS | | | GROUP SYMBOL | SECONDARY DIVISIONS |
|---|---|---|---|---|
| COARSE GRAINED SOIL | GRAVELS<br>More than half of course fraction is larger than No. 4 sieve. | Clean gravels (less than 5% of fines) | GW | Well graded gravel-sand mixtures, little or no fines. |
| | | | GP | Poorly graded gravels or gravel-sand mixtures, little or no fines. |
| | | Gravel with fines | GM | Silty gravels or gravel-sand-silt mixtures, with non-plastic fines. |
| | | | GC | Clayey gravels or gravel-sand-clay mixtures, with plastic fines. |
| | SANDS<br>More than half of course fraction is smaller than No. 4 sieve. | Clean sands (less than 5% of fines) | SW | Well graded sands or gravelly sands, little or no fines. |
| | | | SP | Poorly graded sands or gravelly sands, little or no fines. |
| | | Sands with fines | SM | Silty sands or sand-silt mixtures, with non-plastic fines. |
| | | | SC | Clayey sands or sand-clay mixtures, with plastic fines. |
| FINE GRAINED SOIL | SILTS AND CLAYS<br>Liquid Limit less than 50% | | ML | Inorganic silts and very fine sands, rock flour, or clayey silts, with slight plasticity. |
| | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays. |
| | | | OL | Organic silts and organic silty clays of low plasticity. |
| | SILTS AND CLAYS<br>Liquid Limit greater than 50% | | MH | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts. |
| | | | CH | Inorganic clays of high plasticity, fat clays. |
| | | | OH | Organic clays of medium to high plasticity, organic silts. |
| HIGHLY ORGANIC SOILS | | | PT | Peat and other highly organic soils. |

## BORING LOG LEGEND


Sampling Interval


Relatively Undisturbed Sample Collected and Preserved


Sampler Driven, Sample Not Collected


Disturbed Sample Collected and Preserved

| ALLWEST ENVIRONMENTAL | LOG OF BORING: | SHEET 1 OF |
|---|---|---|
| | PROJECT NAME: | |
| | PROJECT NUMBER: | |
| | DRILLING DATE: | |

DRILLING CONTRACTOR:
DRILL RIG: AUGER:
SAMPLER: HAMMER:
LOGGED BY: CHECKED BY:

| Blow Count | Well | Depth in Feet | Sample Interval | USCS Code | Soil Description |
|---|---|---|---|---|---|
| | | 0 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10 – 11 – 12 – 13 – 14 – 15 – 16 – 17 – 18 – 19 – 20 – | | | |

BORING: PROJECT: SHEET OF

| Blow Count | Well | Depth in Feet | Sample Interval | USCS Code | Soil Description |
|---|---|---|---|---|---|
| | | 20 – | | | |
| | | 21 – | | | |
| | | 22 – | | | |
| | | 23 – | | | |
| | | 24 – | | | |
| | | 25 – | | | |
| | | 26 – | | | |
| | | 27 – | | | |
| | | 28 – | | | |
| | | 29 – | | | |
| | | 30 – | | | |
| | | 31 – | | | |
| | | 32 – | | | |
| | | 33 – | | | |
| | | 34 – | | | |
| | | 35 – | | | |
| | | 36 – | | | |
| | | 37 – | | | |
| | | 38 – | | | |
| | | 39 – | | | |
| | | 40 – | | | |

COMMENTS:

| | | | | | |
|---|---|---|---|---|---|
| WATER LEVEL | | | | | BORING DEPTH = |
| TIME | | | | | |
| DATE | | | | | |

Boring2

# APPENDIX B

AllWest Environmental, Inc.

Specialists in Physical Due
Diligence and Remedial Services

One Sutter Street Suite 600
San Francisco, Ca 94104
Tel 415 391 2510
Fax 415 391 2008

# Site Specific Health and Safety Plan

## Subsurface Investigation
## at
## 1055 Eastshore Highway
## Albany, California

ALLWEST PROJECT NO. 93170.23

October 27, 1993

PREPARED BY:

Marvin Snapp
Project Manger

REVIEWED BY:

Anibal Mata-Sol
Health & Safety Director

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**TABLES AND ATTACHMENTS**

# SITE SPECIFIC HEALTH & SAFETY PLAN

**Subsurface Investigation**
**1055 Eastshore Highway**
**Albany, California**

## I. ENTRY OBJECTIVES

AllWest Environmental, Inc. (AllWest) and Bayland Drilling (CONTRACTOR) plan to perform a subsurface investigation in the parking lot of 1055 Eastshore Highway, Albany, California. The purpose of the investigation is to sample representative soil and groundwater samples to test for Total Petroleum Hydrocarbons as gasoline (TPH-G) and the gasoline constituents of Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX). Seven soil samples will be advanced to the soil groundwater interface. Three soil borings will be converted to groundwater monitoring wells. Soil cuttings will be continuously screened for the presence of volatile organics. Waste water, purged groundwater and soils cuttings will be placed in 55-gallon drums. AllWest will be on site to direct the overall project and perform the environmental assessment. The investigation is planned for the month of November 1993, pending work plan approval by the Alameda County Department of Environmental Health.

## II. ON-SITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out the job function(s):

| | |
|---|---|
| Project Manager | Long Ching, AllWest Environmental |
| Project Geologist | Long Ching/Anibal Mata-Sol, AllWest Environmental |
| Health & Safety Manager | Anibal Mata-Sol, AllWest Environmental |
| Site Safety Officer | Anibal Mata-Sol, AllWest Environmental |
| Contractor | Tim Tyler, Bayland Drilling |

Other personnel scheduled to be on site:

1. Bayland Drilling (traffic control and site restoration)

All personnel arriving/departing the site must notify the Project Manager and the CONTRACTOR's Site Superintendent or Foreman.

## III. SITE BACKGROUND

Site Status: _X_ Active __ Inactive __ Unknown

Site Description:

On September 2, 1992 a 550-gallon gasoline tank and associated piping was excavated from the subject property. AllWest Environmental provided contractual services associated with tank closure.

The tank was properly inerted, excavated and removed from the tank pit.

Four corrosion holes, approximately 1/8" to 1/4" in diameter, near the base of the tank on its east end, along the seam were observed after the tank was removed from the tank pit. Soil stain was observed around the fill pipe at the west end of the tank.

Water was observed at the base of the tank pit to a depth of about 2 inches in the depression formed by the tank's imprint. The water was discolored with a sheen appearing on its surface.

The depth to the base of the tank measured from ground surface was 6'- 9".

The tank was removed and transported from the site under hazardous waste manifest by H & H Ship Services Company, a licensed hazardous waste transporter. The tank was transported to Schnitzer Steel of Oakland, California where it was properly disposed.

Due to evidence of soil and groundwater contamination observed at the tank pit, the pit was over-excavated in depth and areal extent on September 30, 1992. The pit was enlarged in a westerly and southerly direction and excavated to a depth of 10 feet.

Waste Types: _X_ Liquid _X_ Solid __ Sludge __ Gas __ None

| Waste Characteristics: | | | |
|---|---|---|---|
| | __ Corrosive | __ Flammable | __ Inert |
| | _X_ Volatile | __ Reactive | _X_ Toxic |
| | __ Radioactive | __ Irritant | __ Other |

Waste Categories: Wastes that may be encountered during the proposed work are soil cuttings possible containing minor concentrations of volatile organics.

## IV. HAZARDS

Hazards Rating: __ High __ Moderate _X_ Low __ Unknown

Hazards/Toxic Substances Likely To Be Encountered: No known chemical hazards are known to exist on-site. The only likely contaminants that would be encountered at on-site's soils may be volatile hydrocarbons in low to trace concentrations. Observe the necessary precautions while handling soil cuttings from drilling.

Reactivity, Stability, Flammability Of Substance(s) Exist On Site: Analytical data of soil groundwater samples collected by AllWest indicated that the soil and groundwater indicated that the soil contained the following concentrations: TPH-G ranging from 150 to 1,600 ppm, Benzene ranging from 0.52 to 7.5 ppm, Toluene from 3.3 to 49 ppm, Ethylbenzene from 3.3 to 42 ppm, and total Xylenes from 15 to 210 ppm. Representative groundwater samples collected from the bottom of the pit revealed the following constituents:

TPH-G = 93 ppm
Benzene = 1.5 ppm
Toluene = 3.1 ppm
Ethylbenzene = 0.44 ppm
total Xylenes = 12 ppm

Weather Conditions Anticipated: Possible adverse weather conditions to be anticipated on site are hot temperatures with moderate winds.

## V. PERSONAL PROTECTION

The level of personal protection designated here should be considered the minimal acceptable level. Project personnel may elect to upgrade the level of protection at their discretion.

Level of Protection Required: __A __B __C _X_D (Minimum)

Level D protection includes hard hats, safety glasses, and steel toed boots.

Personal Protective Equipment: A minimum of Level D protection will be required on site for all personnel. Safety glasses, hearing protection, and neoprene gloves will be worn if conditions warrant them. Should the level of volatiles present in the breathing zone increase to 100 ppm, Level C protection will be required. Level C protection includes PVC boots, a tyvek suit, an air purifying respirator equipped with combination cartridges (particulate and organic vapor), and protective gloves in addition to the Level D protection.

Equipment: Health and Safety related equipment to be used on site includes: two 20 BC type Fire Extinguishers, Organic Vapor Meter (OVM), and First Aid Kit. The equipment will be provided by the CONTRACTOR.

## VI. DECONTAMINATION PROCEDURES

All operations conducted at this site have the potential to contaminate monitoring equipment and personal protective equipment (PPE). To prevent the transfer of contamination to vehicles, administrative areas and personnel, the following procedures must be followed:

- Equipment Decontamination

  Whenever possible, equipment should be decontaminated with a solution of Alconox or soap and thoroughly rinsed with water prior to leaving the site. This must be done outside a 10-foot radius of any work area.

- Personal Decontamination

  **Level D**
  Segregated equipment drop
  Wash/rinse outer boot (as appropriate)
  Wash/rinse chemical resistant outer glove, then remove (as appropriate)
  Remove hard hat, goggles/safety glasses/face shield
  Remove and throw out inner disposable gloves in designated lined receptacles (as appropriate)

**Level C**
Segregated equipment drop
Wash/rinse outer boots
Wash/rinse chemical resistant outer gloves, then remove
Remove outer boots and place to dry (if reusable)
Remove chemical resistant suit (remove by rolling down the suit)
Remove first pair(s) of disposable gloves
Remove respirator/hard hat/face shield dispose of cartridges and wash respirator
Remove last pair of disposable gloves

**Level B**
Segregated equipment drop
Wash/rinse outer boots
Wash/rinse chemical resistant outer gloves, then remove
Cross hotline (into clean area) and change air tanks, then redress or
Cross hotline (into clean area)
Remove boots and gloves
Remove SCBA, if worn over chemical resistant suit
If SCBA is worn under the suit, remove the chemical resistant suit then the SCBA
Remove hard hat

## VII. CHEMICAL OF CONCERN

Potential health effects from a chemical exposure are dependant on several exposure factors such as: toxicity of substances, duration of exposure, concentration during exposure and the overall health of the person exposed.

The hazardous chemicals encountered during this investigation are anticipated to be: Volatile petroleum hydrocarbons.

## VIII. MSDS INFORMATION

Material Safety Data Sheets (MSDS) on chemical substances encountered at the site shall be made available to all persons (including subcontractors) working at the site. For emergency situation not specifically addressed by this site safety plan refer to MSDS recommendations for action information.

## IX. 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 prior to leaving the site. Contaminated clothing will be removed and collected in a drum for disposal.

Shaking or blowing of potentially contaminated clothing or equipment to remove dust or other materials not permitted.

The Site Safety Officer will be responsible for taking necessary steps to protect employees from physical hazards, including

Falling objects, such as tools or equipment.
Falls from elevations.
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.

Field operations personnel will be cautioned to inform each other of the non-visual 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

Exposure to Hot Temperature: Work schedules will be adjusted to provide sufficient rest periods in a shaded area for cooling purposes.

Heatstroke and heat exhaustion can occur when one is working in a hot environment, sitting in a hot automobile, or over-exerting while performing field duties such as monitoring or surveying.

Avoiding direct sunlight will not necessarily protect one from the ill effects of heat. It is possible to suffer heatstroke even when the temperature is fairly low. Excessive humidity can induce over-heating by interfering with the perspiration evaporation-cooling process of the body, causing excessive sweating and the loss of salt and water.

*Heat Exhaustion*

The signs and symptoms of heat stroke or heat exhaustion are variable with the developing condition. Headache, a light to severe dizziness, some mental confusion or loss of physical coordination; and pale, sweaty skin are all symptoms of heat exhaustion. To care for a person who has suffered heat exhaustion, move them to a cool place and keep them at rest. Fan the patient's body to expedite the cooling process, and watch for the signs of shock. If the patient becomes unconscious, or fails to recover rapidly, alert the local EMS service.

*Heat Stroke* (a.k.a. "Sunstroke")

Heat stroke is a much more serious condition than heat exhaustion. The temperature of the body can rise to such a point that the victim's brain cells will start to die. The EMS system must be notified immediately upon determination that heat stroke has or is occurring. Symptoms of heatstroke are dry, hot skin, deep breaths followed by shallow breathing, dilated (large) pupils, loss of consciousness, and convulsions or twitching of the muscles. Care for the patient includes cooling the body as quickly as possible, in any manner possible. Removing the clothing and placing wetted towels or sheets over the patient will help cool the body down. If available, ice packs can be placed in strategic locations on the body, such as under the armpits, on the ankles, or resting on the neck, in order to speed the cooling. Remember that the EMS system must be alerted immediately upon the determination that heat stroke is occurring or has occurred.

Replacement of the electrolytes lost during sweating is very important. Copious amounts of liquids must be consumed to replace these and balance out the blood. Quickick, Squincher, or Gatoraide are three examples of beverages that will allow the electrolyte balance to be restored. Many contractors will have drinks of this type available for their personnel, and the employees performing the work should be encouraged to drink as often as possible, even when they are not thirsty. Make sure that the proper drinks are specified.

The choice of on-the-job clothing is very important. Cotton is a very good choice for hot summer weather. Due to regulatory requirements, however, workers in asbestos related occupations do not have a choice for clothing. When working in Personal Protective Equipment such as Tyvek TM suits, it is essential to strip down as far as possible.

Careful monitoring of the employees engaged in demanding work during hot, humid days is a must to guard against the dangers of heat exhaustion and heat stroke, but as an employee of AllWest, you need to *protect yourself first* from the dangers of overheating in the field. Know the warning signs and first aid necessary to prevent heat stroke and heat exhaustion.

## X. MEDICAL SURVEILLANCE

CONTRACTOR and subcontractors engaged in project activities must be participants 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 under 29 CFR 1910.120 of the Federal Administrative Code will also be observed.

## XI. SAFETY AND ORIENTATION MEETING

Field personnel from the CONTRACTOR 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 CONTRACTOR's site foreman. In addition, fit-testing of respiratory protective devices will be conducted as part of the safety orientation meeting when the use of a respirator may be required.

## XII. WORK ZONES AND SECURITY MEASURES

The area where active excavation work is being performed will be designated as an Exclusion Zone. Only essential personnel will be allowed into an Exclusion Zone. When it is practical and local topography allows, approximately 20 to 75 feet of space surrounding the Exclusion Zone will be designated as a Contamination Reduction Zone.

## XIII. TRAFFIC CONTROL

Bayland Drilling is responsible for providing necessary traffic controls if required. Cones, wooden barricades, or a suitable alternative will be used to deny the public access to the Contamination Reduction Zone. 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 sign will be used when necessary to redirect motorists or pedestrians.

## XIV. PROJECT PERSONNEL

AllWest Environmental, Inc. will oversee and act accordingly during all phases of the project. The following management structure will be instituted for the purpose of successfully and safely completing this project.

### Project Manager

The Project Manager will be responsible for implementing the project and obtaining any necessary personnel or resources for the completion of the project. Specific duties will include:

Coordinating the activities of CONTRACTOR and all subcontractors, to include informing them of the required personal protective equipment and insuring their signature acknowledging this Site Health and Safety Plan (Attachment A),

Selecting a Site Safety Officer and field personnel for the work to be undertaken on site.

Ensuring that the tasks assigned are being completed as planned and on schedule,

Providing authority and resources to ensure that the Site Safety Officer is able to implement and manage safety procedures,

Preparing reports and recommendations about the project to clients and affected AllWest Environmental, Inc. personnel,

Ensuring that persons allowed to enter the site (i.e., EPA, contractors, state officials, visitors) are made aware of the potential hazards associated with the substances known or suspected to be on site, and are knowledgeable as to the on-site copy of the specific site safety plan.

Ensuring that the Site Safety Officer is aware of all of the provisions of this site safety plan and is instructing all personnel on site about the safety practices and emergency procedures defined in the plan, and

Ensuring that the Site Safety Officer is making an effort to monitor site safety, and has designated a Field Team Leader to assist with the responsibility when necessary.

### Health & Safety Manager

The Health & Safety Manager shall be responsible for the overall coordination and oversight of the site health and safety plan. Specific duties will include:

Approving the selection of the types of personal protective equipment (PPE) to be used on site of specific tasks,

Monitoring the compliance activities and the documentation processes undertaken by the Site Safety Officer,

Evaluating weather and chemical hazard information and making recommendations to the Project Manager about any modifications to work plans or personal protection levels in order to maintain safety,

Coordinate upgrading or downgrading PPE with Site Safety Officer, as necessary, due to changes in exposure levels, monitoring results, weather, other site conditions,

Approving all field personnel working on site, taking into consideration their level of safety training, their physical capacity, and their eligibility to wear the protective equipment necessary for their assigned tasks (i.e., Respirator Fit Testing Results), and,

Overseeing the air monitoring procedures as they are carried out by site personnel for compliance with all company health and safety policies.

**Site Safety Officer**

The Site safety Officer shall be responsible for the implementation of the site safety plan on site. Specific duties will include:

Monitoring the compliance of field personnel for the routine and proper use of the PPE that has been designated for each task;

Routinely inspecting PPE and clothing to ensure that it is in good condition and is being stored and maintained properly;

Stopping work on the site or changing work assignments or procedures if any operation threatens the health and safety of workers or public;

Monitoring personnel who enter and exit the site and all controlled access points;

Reporting any signs of fatigue, work-related stress, or chemical exposures to the Project Manager and/or Health & Safety Manager;

Dismissing field personnel from the site if their actions or negligence endangers themselves, co-workers, or the public, and reporting the same to the Project Manager and/or Health & Safety Manager;

Reporting any accidents or violations of the site safety plan to the Project Manager and/or Health & Safety Manager, and documenting the same for the project in the project records;

Knowing emergency procedures, evacuation routes and the telephone numbers of the ambulance, local hospital, poison control center, fire and police departments;

Ensuring that all project-related personnel have signed the personnel agreement and acknowledgments from contained in this site safety plan;

Coordinate upgrading and downgrading PPE with the Health & Safety Manager, as necessary, due to changes in exposure levels, monitoring results, weather, and other site conditions; and

Perform air monitoring with approved instruments in accordance with requirements stated in this Site Safety Plan.

## XV. AMENDMENTS

Any changes in the scope of work of this project and/or site conditions must be amended in writing on the Site Safety Plan Amendment Sheet (Attachment B) and approved by the Health and Safety Manager.

## XVI. EMERGENCY RESPONSE PROCEDURES

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.

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

The CONTRACTOR shall develop a contingency plan which address procedures to be followed in the event of fire, personal accidents and explosions which may result in environmental contamination. The plan shall be reviewed and approved by AllWest before work commences.

EMERGENCY TELEPHONE NUMBERS

| | |
|---|---|
| Fire and Police: | 911 |
| Ambulance: | 911 |
| Alta Bates Emergency | (510) 540-1303 |
| AllWest: | 415-391-2510 |
| Underground Service Alert (USA): | 800-422-4133 |

CHEMTREC: 800-424-9300

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

MEDICAL:

Alta Bates Hospital
3001 Colby Street
Berkeley, California
(510) 540-1303

## XVII. LIMITATIONS AND AUTHORITY STATEMENT

AllWest Environmental does not guarantee the health or safety of any persons entering this site. Due to the potential hazards of this site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the HEALTH & SAFETY guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The HEALTH & SAFETY guidelines in this plan were prepared specifically for this site and should not be used on any other site without prior research and evaluation by personnel trained in HEALTH & SAFETY practices. The Allwest Project manager will responsible for implementing this plan. Both the AllWest Project Manager and the Health & Safety manager have the authority to audit site activities for compliance with this plan and may suspend, modify or halt contractors' work practices whose conduct does not meet the requirements specific to this plan.

## TABLE 1
## DEFINITION OF HAZARD EVALUATION GUIDELINES

**HAZARD: Airborne Contaminants**

| Guideline | Explanation |
|---|---|
| Threshold Limit Value Time-Weighted Average (TLV-TWA) | The time-weighted average concentration for a normal 8-hour work day and a 40-hour work week, to which nearly all workers may be repeatedly exposed without adverse effect. |
| Permissible Exposure Limit (PEL) | Time-weighted average concentrations similar to (and in many cases derived from) the Threshold Limit Values > |
| Immediately Dangerous to Life and Health (IDLH) | "IDLH" or "immediately dangerous to life or health" means any atmospheric condition that poses an immediate threat to life, or which is likely to result in acute or immediate severe health effects. This includes oxygen deficiency conditions. |

**HAZARD: Explosion**

| Guideline | Explanation |
|---|---|
| Lower Explosive Limit (LEL) | The minimum concentration of vapor in air below which propagation of a flame will not occur in the presence of an ignition source. |
| Upper Explosive Limit (UEL) | The maximum concentration of vapor in air above which propagation of a flame will not occur in the presence of an ignition source. |

**HAZARD: Fire**

| Guideline | Explanation |
|---|---|
| Flash Point (flash p) | The lowest temperature at which the vapor of a combustible liquid can be made to ignite momentarily in air. |

ATTACHMENT A

# AGREEMENT AND ACKNOWLEDGEMENT STATEMENT

Site Health and Safety Plan Agreement

AllWest personnel have the authority to stop work performed by the Contractor and his subcontractors at this site if any work is not performed in accordance with the requirements of this Site Health and Safety Plan.

AllWest Environmental, Inc., project personnel contractor and subcontractor personnel are required to sign the following agreement prior to conducting work at the site.

1. I have read and fully understand the Site Health and Safety Plan and my individual responsibilities.

2. I agree to abide by the provisions of the Site Safety Plan.

| | |
|---|---|
| Name | Signature |
| Company | Date |
| Name | Signature |
| Company | Date |
| Name | Signature |
| Company | Date |
| Name | Signature |
| Company | Date |

**ATTACHMENT B**

# SITE SAFETY PLAN AMENDMENT SHEET

Project Name: _____

Project Number: _____

Location: _____

Changes in field activities or hazards:

Proposed Amendment:

Proposed by: _____ Date: _____

Approved by: _____ Date: _____
Project Manager

_____ Date: _____
Health & Safety Manager

Declined by: _____ Date: _____

Amendment Number: _____

Amendment Effective Date: _____