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1:10 pm, May 11, 2007

Alameda County
Environmental Health

SPRINGTOWN GAS

909 BLUEBELL DRIVE
LIVERMORE, CA 94551

May 3, 2007

Mr. Jerry Wickham
Hazardous Materials Specialist
ACHCSA-EHS
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

SUBJECT: PROPOSED WORK PLAN FOR GROUNDWATER INVESTIGATION FOR THE PROPERTY
909 Bluebell Drive, Livermore, CA

Dear Mr. Wickham:

Enclosed, please find a copy of the May 3, 2007 subject Proposed Work Plan for Groundwater Investigation prepared by my consultant, Enviro Soil Tech Consultants.

I declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowledge.

Sincerely,

MASOOD AMINI

File No. 10-93-567-ST

PROPOSED WORK PLAN FOR GROUNDWATER INVESTIGATION FOR THE PROPERTY LOCATED AT 909 BLUEBELL DRIVE LIVERMORE, CALIFORNIA MAY 2, 2007

PREPARED FOR:
MR. MASOOD AMINI
SPRINGTOWN GAS
909 BLUEBELL DRIVE
LIVREMORE, CALIFORNIA 94551

BY:
ENVIRO SOIL TECH CONSULTATNS
131 TULLY ROAD
SAN JOSE, CALIFORNIA 95111

ENVIRO SOIL TECH CONSULTANTS

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ENVIRO SOIL TECH CONSULTANTS

Environmental & Geotechnical Consultants
131 TULLY ROAD, SAN JOSE, CALIFORNIA 95111
Tel: (408) 297-1500 Fax: (408) 292-2116

May 2, 2007

File No. 10-93-567-ST

Mr. Masood Amini Filabadi
Springtown Gas
909 Bluebell Drive
Livermore, California 94551

SUBJECT: PROPOSED WORK PLAN FOR GROUNDWATER INVESTIGATION FOR THE PROPERTY
Located at 909 Bluebell Drive, in
Livermore, California

Dear Mr. Filabadi:

In accordance with correspondence received from Alameda County Health Care Services Agency, Environmental Health Division, Enviro Soil Tech Consultants has prepared the attached work plan to continue the environmental site assessment at your facility. The plan is intended to describe the objectives and procedures that we propose in order to evaluate the extent of groundwater contamination.

If you have any questions or require additional information, please feel free to contact our office at 408-297-1500 or via email at info@envirosoiltech.com.

Sincerely yours,

ENVIRO SOIL TECH CONSULTANTS

VICTOR B. CHERVEN, Ph.D.
P.G. #3475

LAWRENCE KO
C. E. #34928

REGISTERED PROFESSIONAL ENGINEER
LAWRENCE SHIH-DING KOO
C 34928
Exp. 9-30-07
CIVIL
STATE OF CALIFORNIA

FRANK HAMEDI-FARD
GENERAL MANAGER

PROPOSED WORK PLAN FOR SOIL AND GROUNDWATER INVESTIGATION
Springtown Gas
909 Bluebell Drive
Livermore, California

1.0 INTRODUCTION

Enviro Soil Tech Consultants (ESTC) completed a preliminary investigation of soil and groundwater contamination at the referenced site in March 2007. The location of the property is shown in Figure 1. Petroleum hydrocarbons, primarily Methyl Tertiary Butyl Ether (MTBE) and Tertiary Butanol (TBA), were detected in several borings, indicating that both soil and groundwater have been impacted by a release from the former underground storage tanks (UST's) and/or product lines. Based on those results, ESTC inferred that the Alameda County Health Care Services Agency, Environmental Health Division (ACHCSA-EHD) would require further investigation to determine the magnitude of the impact. In a subsequent comment letter dated April 20, 2007, ACHCSA-EHD directed the property owners—Masood and Sharbano Amini—to submit a work plan for additional investigation by June 28, 2007.

2.0 PROPOSED SCOPE OF WORK

ACHCSA-EHD has requested an investigation of the lateral and vertical extent of the contamination and an assessment of the potential for ongoing releases. In order to meet these objectives, ESTC proposes the following scope of work.

TASK 1-DRILL TWO CONE PENETROMETER TEST BORINGS

Nine borings were drilled in February 2007, confirming that soil is impacted by petroleum hydrocarbons to a depth of at least 15 feet. No borings were drilled deeper than 22 feet, so the maximum depth at which contamination is present is unknown. Further, the characteristics of the soil below this depth are also unknown, making it difficult to predict the most appropriate depths at which to collect soil and groundwater samples. Therefore, the first task will be to drill two cone penetrometer tests (CPT) borings to an approximate depth of 50 feet in order to obtain a CPT log of the subsurface soil types and identify appropriate sample depths. The proposed CPT boring locations are shown in Figure 2.

After the initial test borings have been completed and the boring logs have been inspected and interpreted, the CPT rig will move over a few feet and drill a second boring at each location in order to collect groundwater sample(s) at the selected depths. The samples will be sealed in 40-ml glass vials, labeled, and preserved in a cooled ice chest for later transport to the testing laboratory.

TASK 2-DRILL FOUR GEOPROBE BORINGS

After the CPT borings have been drilled and the logs have been interpreted, four additional borings will be drilled to collect soil samples and additional groundwater samples. This will likely place during the same field mobilization as the CPT drilling in order to expedite the investigation. These borings will be drilled using direct-push (Geoprobe) drilling equipment, which was used to drill the previous borings at the site (Figure 2). The new borings will be drilled deeper than the previous ones, but the exact depth is unknown at this time and will be determined based on the results of the CPT borings. As directed by ACHCSA-EHD, the Geoprobe borings will be located west and northwest of the UST's and dispensers, in the presumed direction of groundwater flow (Figure 2).

The soil samples will be logged, described, and screened for evidence of hydrocarbons. Samples of the core will be selected for laboratory analysis based on evidence of contamination, and will be capped and labeled and preserved in a cooled ice chest.

Groundwater samples may be collected at multiple depths, depending on whether partially separate water-bearing zones are identified in the CPT boring logs. If so, drilling will be halted at each sample depth and a water sample will be collected before drilling to the next deeper zone. A sample bailer will be lowered through temporary casing to collect the samples prior to backfilling with cement grout. No drill cuttings will be generated, and no waste handling will be necessary.

TASK 3-LABORATORY ANALYSIS

The samples from Tasks 1 and 2 will be analyzed at a state-certified laboratory. EPA method 8015 will be used to detect Total Petroleum Hydrocarbons in the gasoline range (TPHg), Ethanol, and Methanol. EPA method 8260 will be used to detect volatile aromatic hydrocarbons (BTEX), gasoline oxygenates, and lead scavengers (EDB and 1,2-DCA). The samples will be analyzed on standard 2-week turnaround.

TASK 4-DRILL FOUR MONITORING WELLS

Figure 2 also shows the location of four proposed groundwater monitoring wells. One well will be located east of the dispenser island near the station building; the other three wells will be located nearer to the USTs and/or dispensers where contaminated groundwater is known or assumed to be present. The purpose of installing these wells is

to begin mapping the groundwater flow direction and the plume of contaminated groundwater. These wells will not be drilled during the same mobilization as the CPT and/or Geoprobe borings, but instead will be drilled later, after the data from those borings have been analyzed and final well locations and depths have been selected.

The wells will be drilled with either a hollow-stem auger rig or with a Geoprobe rig equipped with hollow-stem augers. Drill cuttings and rinseate from the wells will be placed in 55-gallon drums and temporarily stored on site. Soil samples will be collected at 5-foot intervals, at selected depths based on the results of Tasks 1 and 2, and at depths where contamination is evident.

At present, we assume that the wells will be screened within the uppermost water-bearing zone, where hydrocarbons have previously been detected. Several of the borings that were drilled in February 2007 encountered stiff to highly plastic clay near the surface, and the clay extended to depths of 20 feet or more. Groundwater did not enter the borings until they reached a depth of approximately 17 feet, but it is likely that the surficial clay is a significant barrier to groundwater flow. We anticipate that the piezometric surface may be as shallow as 10 or 12 feet, and that the water level may rise to this level after the wells have been constructed and developed. Therefore, we estimate that the screened interval may be from 10 to 25 feet in order to extend above the prevailing water level and also extend deep enough to sample the first permeable water-bearing zone below the clay bed.

Although we presently estimate constructing wells only within the uppermost water-bearing zone, we are prepared to set wells in deeper zones if the CPT and/or Geoprobe borings indicate that more than one water-bearing zone has been impacted. In

that event, the drilling rig will be moved over approximately 5 feet and a second well will be drilled to the deeper horizon. No soil samples will be collected from the second boring, as they would simply duplicate the results of the first boring. The screened interval in the deeper boring would be no more than 5 feet to insure that only the deeper zone is being sampled.

If there has been significant hydrocarbon migration in groundwater, it is possible that the plume extends off site beyond the proposed wells. If so, it may be necessary to propose additional wells in a later work plan addendum, after the groundwater flow direction has been determined.

TASK 5-LABORATORY ANALYSIS

The samples from Task 4 will be analyzed in the same manner as those from Tasks 1 and 2 at a state-certified laboratory.

TASK 6-SURVEY MONITORING WELLS

After the new wells have been allowed to stabilize, a licensed surveyor will be retained to survey their locations and the elevations of the well casings. This information will be used to determine the elevation of the piezometric surface and the direction of groundwater flow.

TASK 7-DEVELOP AND SAMPLE MONITORING WELLS

Once the wells have stabilized and the concrete has set, the surge-and-purge method will be used to develop the wells, remove sediment, and tighten the sand pack. Twenty-five to fifty (25-50) gallons of water will be purged from each well before samples are collected.

After being developed, the wells will be allowed to recover and equilibrate with atmospheric pressure before the depth to the static water level is measured. The depth will be recorded on the well monitoring sheet, and then a water sample will be collected from each well. The samples will be placed in 40-ml vials, preserved in a cooled ice chest, and transported to a state-certified laboratory.

TASK 8-ASSESS ONGOING RELEASE

ACHCSA-EHD described the concentration of MTBE and TBA in soil in the vicinity of the UST's as "highly elevated" and suggested the possibility that there is an ongoing release of gasoline vapor from the UST's or piping. However, we note that only 5 of the 19 soil samples that were collected in February had concentrations greater than 1 part per million and only two samples exceeded 10 parts per million, so it is somewhat of an exaggeration to term these concentrations "highly elevated". ESTC will work with the property owners to examine fuel inventory logs and previous installation activities to insure that all joints and seals are secure and make any necessary corrections if it is determined that a leak is occurring.

TASK 9-REPORT

Upon completion of all field and laboratory work, a registered California geologist will analyze the data and prepare a report.

A P P E N D I X "A"

FIGURES

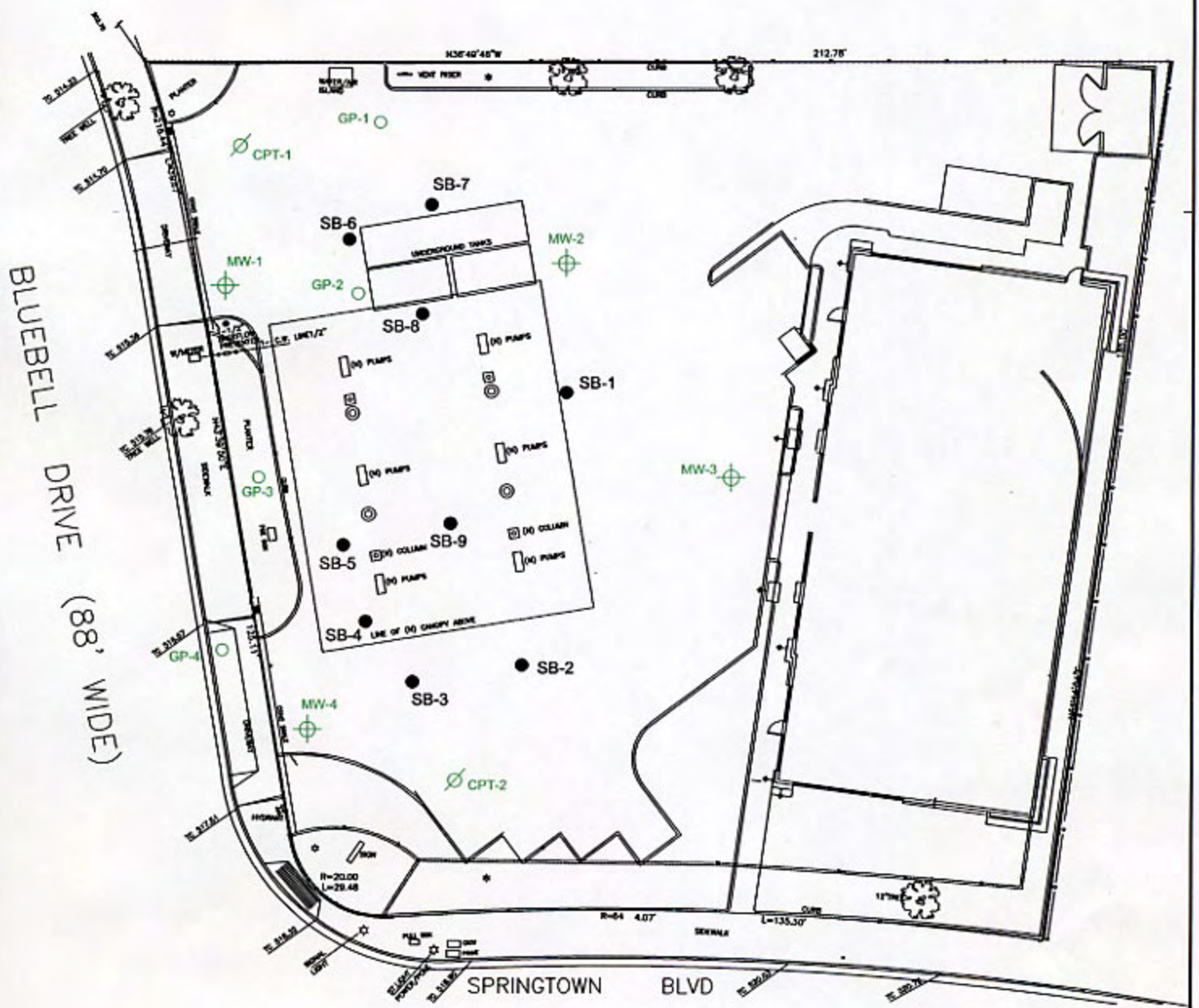
File No. 10-93-567-ST

ENVIRO SOIL TECH CONSULTANTS

Figure 1

M1

Enviro Soil Tech Consultants 131 Tully Road San Jose, CA 95112	PROJECT 909 Bluebell Drive Livermore, California PROJECT # 10-93-567-ST DATE: 4/30/2007	Figure 2 **Site Map**



Legend

- ● = Soil Boring
- ○ = Proposed Geoprobe
- ⌀ = Proposed CPT Boring
- ⊕ = Proposed Monitor Well

Scale

0 10 20
5 15

M2

A P P E N D I X "B"

ATTACHMENT A

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ATTACHMENT A
STANDARD FIELD PROCEDURES
FOR GEOPROBE@ SAMPLING

DECRIPTION:

This document describes ESTC's standard field methods for Geoprobe soil and groundwater sampling. These procedures are designed to comply with Federal, State and Local regulatory guidelines. Specific field procedures are summarized below:

OBJECTIVE:

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate groundwater depth and quality and to submit samples for chemical analysis.

SOIL CLASSIFICATION/LOGGING:

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or Civil Engineer (CE). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand silt, clay or gravel).
- Approximate percentage of each grain size category.
- Color.
- Approximate water or separate-phase hydrocarbon saturation percentage.

- Observed odor and/or discoloration.
- Other significant observation (i.e. concentration, presence of marked horizon, mineralogy) and estimated permeability.

SOIL SAMPLING:

Geoprobe soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one-half feet of the soil column is collected for every five feet of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

SAMPLE STORAGE, HANDLING AND TRANSPORT:

Sampling tubes chosen for analysis are trimmed off excess soil and capped with aluminum foil, Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

FIELD SCREENING:

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

GRAB GROUNDWATER SAMPLING:

Groundwater samples are collected from the open borehole using bailers, advancing disposable Tygon tubing into the borehole and extracting groundwater using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

DUPLICATES AND BLANKS:

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells samples. Laboratory supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipped blank may also be analyzed if non-dedicated sampling equipment is used.

GROUTING:

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

File No. 10-93-567-ST

A P P E N D I X "C"

STANDARD OPERATION PROCEDURES

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DRILLING AND SOIL SAMPLING PROCEDURE

A direct push technology (Geoprobe) tool will be used in drilling soil borings to the desired depths.

Prior to drilling, all drilling equipment will be thoroughly steam-cleaned to minimize the possibility of cross-contamination and/or vertical migration of possible contaminants.

In addition, sampling equipment will be washed between samples with Tri-sodium Phosphate (TSP) solution or an equivalent EPA-approved detergent followed by a rinse in distilled water.

During the drilling operation, undisturbed soil samples will be taken from the required depth by forcing a 2-inch sampler lined with polyethylene or bass tubes driven into undisturbed sediments at the bottom of the borehole by means of hydraulic push technologies.

The selected sampling tubes will be immediately trimmed, the ends covered tightly with aluminum foil and plastic caps, sealed with tape labeled, placed in a plastic bag and stored in a cold ice chest in order to minimize the escape of any volatile present in the samples. Soil samples will be sent to a state-certified hazardous waste laboratory for analysis accompanied by a chain-of-custody record.

Soil samples collected at each sampling interval will be inspected for any possible contamination (odor or peculiar colors). Soil vapor concentrations will be measured in the field by using a Photoionization Detector (PID), Photovac Tip Air Analyzer. The soil sample will be sealed in a Zip-Loc plastic bag and placed in the sun to enhance volatilization of the hydrocarbons from the sample. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons and to establish which soil samples will be analyzed at the laboratory. The data will be recorded on the drilling log at the depth corresponding to the sampling point.

Other soil samples may be collected to document the stratigraphy and estimate relative permeability of the subsurface materials.

Soil tailings that are obtained during drilling will be stored at the site, pending the analytical test results to determine proper disposal.

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File No._____

Date_____

By_____

Job_____

Site Description_____ (continued on reverse side)

Type of Drill Rig_____ Hole Diameter_____

(NOTE: WATER LEVEL, TIME, DATE AT END OF LOG, CAVING, ETC…)

Sample Quality	Blows/6-inch	Sample Loc. No.	Depth		Soil Classification	Penetrometer
			1			
			2			
			3			
			4			
			5			
			6			
			7			
			8			
			9			
			0			
			1			
			2			
			3			
			4			
			5			
			6			
			7			
			8			
			9			
			0			
			1			
			2			

MONITORING WELL INSTALLATION

The boreholes for the monitoring wells will be drilled with Geoprobe equipment insert with hollow-stem auger at least two inches larger than the casing outside diameter (O.D.).

The monitoring wells will be cased with threaded, factory-perforated and blank, schedule 40 PVC. The perforated interval consisted of slotted casing, generally 0.010 to 0.040 inch wide by 1.5-inch long slot size, with 42 slots per foot (slots which match formation grain size as determined by field grain-size distribution analysis). A PVC cap will be fastened to the bottom of the casing (no solvents, adhesive, or cements were used), the well casing will be thoroughly washed and steam-cleaned.

After setting the casing inside the borehole, kiln-dried sand or gravel-filter material will be poured into the annular space to fill from the bottom of the boring to two feet above the perforated interval. A one to two feet thick bentonite plug will be placed above this filter material to prevent grout from infiltrating down into the filter material. Approximately one to two gallons of distilled water will be added to hydrate the bentonite pellets. Then the well will be sealed from the top of the bentonite seal to the surface with concrete or neat cement containing about 5% bentonite (see Well Construction Detail).

To protect the well from vandalism and surface water contamination, Christy box with a special type of Allen screw will be installed around the wellhead, (for wells in parking lots, driveways and building areas). Steel stove pipes with padlocks will be usually set over wellheads in landscaped areas.

In general, groundwater monitoring wells extend to the base of the upper aquifer, as defined by the consistent (less than 5 feet thick) clay layer below the upper aquifer, or at least 10 to 15 feet below the top of the upper aquifer, whichever is shallower. The wells do not extend through the laterally extensive clay layer below the upper aquifer. The wells are terminated one to two feet into such a clay layer.

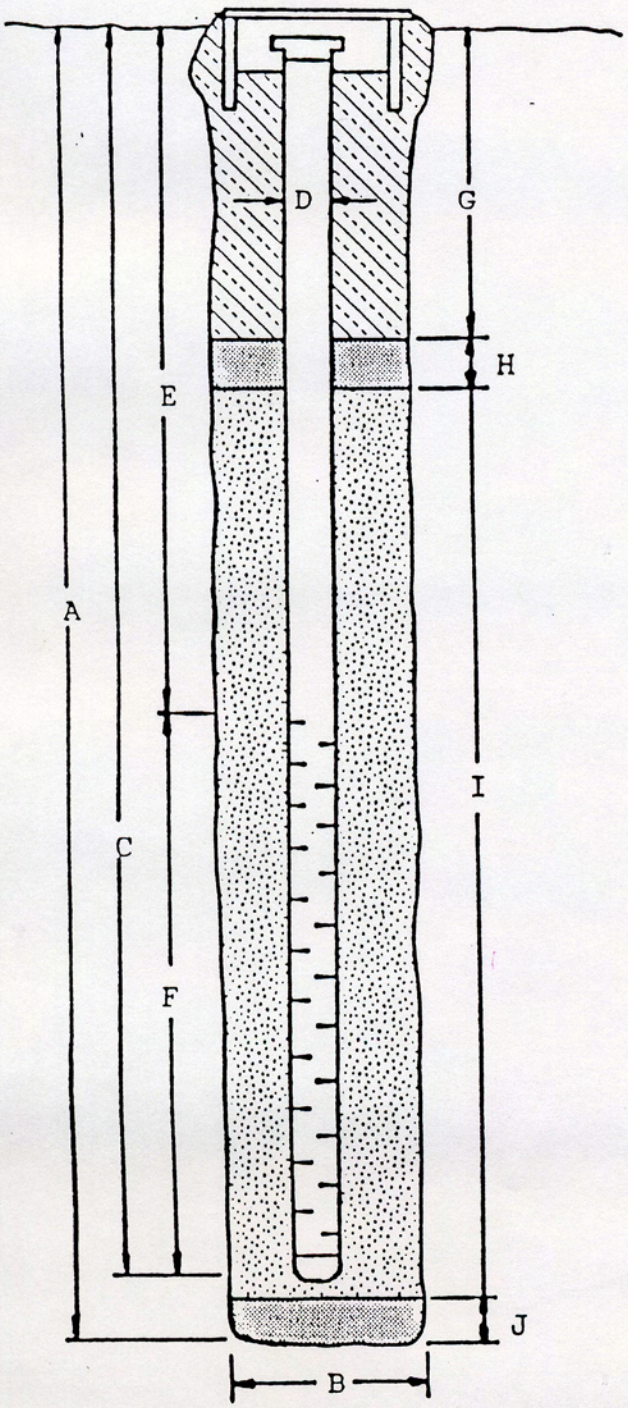
WELL DETAILS

PROJECT NAME: _____ BORING/WELL NO. _____

PROJECT NUMBER: _____ CASING ELEVATION: _____

WELL PERMIT NO.: _____ SURFACE ELEVATION: _____

G-5 Vault Box



A. Total Depth: _____

B. Boring Diameter: _____

Drilling method: _____

C. Casing Length: _____

Material: _____

D. Casing Diameter: _____

E. Depth to Perforations: _____

F. Perforated Length: _____

Perforated Interval: _____

Perforation Type: _____

Perforation Size: _____

G. Surface Seal: _____

Seal Material: _____

H. Seal: _____

Seal Material: _____

I. Gravel Pack: _____

Pack Material: _____

Size: _____

J. Bottom Seal: _____

Seal Material: _____

WELL DEVELOPMENT

For all newly installed groundwater monitoring wells, the well casing, filter pack and adjacent formations were cleared of disturbed sediment and water.

Well development techniques including pumping, bailing, surging, swabbing, jetting, flushing or air lifting by using a stainless steel or Teflon bailer, a submersible stainless steel pump, or air lift pump. The well development will continued until the discharged water appeared to be relatively free of all turbidity.

All water and sediment generated by well development will be collected in 55-gallon steel drums (Department of Transportation approved), closed head (17-H) for temporarily storage, and then will be disposed of properly, depending on analytical results.

to assure that cross-contamination did not occur between wells, all well development tools will be steam-cleaned or thoroughly washed in a Trisodium Phosphate (TSP) solution followed by a rinse in distilled water before each well development.

ENVIRO SOIL TECH CONSULTANTS

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MONITORING WELL SURVEY SHEET

NAME: _____ DATE: _____

FACILITY NAME AND ADDRESS: _____

_____

PROJECT NO.: _____

FIELD ACTIVITIES

WELL NUMBER	ROD READING	RIM ELEVATION	WATER ELEVATION

WARNING: HAVE YOU SURVEYED ALL WELLS? LOCATED ALL WELLS?

HAVE YOU CHECKED FOR & SURVEYED EXISTING MONITORING WELLS ON ADJACENT PROPERTIES OR PROPERTIES ACROSS THE STREET?

DO WE HAVE ACCURATE SKETCHES AT 1"=30' (AND 1"=100' IF NECESSARY)? IF NOT, MAKE THEM.

GROUNDWATER SAMPLING

Prior to collection of groundwater samples, all of the sampling equipment (i.e. bailer, cables, bladder pump, discharge lines and etc...) will be cleaned by pumping TSP water solution followed by distilled water.

Prior to purging, the well "Water Sampling Field Survey Forms" will be filled out (depth to water and total depth of water column will be measured and recorded). The well then will be bailed or pumped to remove four to ten well volumes or until the discharged water temperature, conductivity and pH stabilized. "Stabilized" is defined as three consecutive readings within 15% of one another.

The groundwater sample will be collected when the water level in the well recovered to 80% of its static level.

Forty milliliter (ml.) glass volatile organic analysis (VOA) vials with Teflon septa will be used as sample containers. The groundwater sample will be decanted into each VOA vial in such a manner that there will be a meniscus at the top. The cap quickly will be placed over the top of the vial and securely tightened. The VOA vial will then be inverted and tapped to see if air bubbles is present. If none is present, then the sample will be labeled and refrigerated for delivery under chain-of-custody to the laboratory. The label information should include a sample identification number, job identification number, date, time, type of analysis requested and the sampler's name.

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131 TULLY ROAD, SAN JOSE, CALIFORNIA 95111

Tel: (408) 297-1500 **Fax: (408) 292-2116**

FILE NO.:_____ **WELL NO.:**_____

DATE:_____ **SAMPLER:**_____

DEPTH TO WELL:_____ **1 WELL VOLUME:**_____

DEPTH TO WATER:_____ **5 WELL VOLUME:**_____

HEIGHT OF WATER COLUMN:_____ **ACTUAL PURGED VOLUME:**_____

CASING DIAMETER: _____**2"** _____**4"**

CALCULATIONS:

2" x 0.1632_____

4" x 0.653_____

PURGE METHOD:_____**BAILER** _____**DISPLACEMENT PUMP** _____**OTHER**

SAMPLE METHOD:_____**BAILER** _____**OTHER**

SHEEN:_____**NO** _____**YES, DESCRIBE:**_____

ODOR:_____**NO** _____**YES, DESCRIBE:**_____

FIELD MEASUREMENTS

TIME	VOLUME	Ph	TEMP.	E.C.

VOLUME OF WATER IN CASING OR HOLE

Diameter of Casing or Hole (inch)	Gallon per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meter per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
1½	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
2½	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
3½	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.113×10^{-3}
4½	0.826	0.1104	10.26	10.26×10^{-3}
5	1.020	0.1364	12.67	12.67×10^{-3}
5½	1.234	0.1650	15.33	15.33×10^{-3}
6	1.469	0.1963	18.24	18.24×10^{-3}
7	2.000	0.2673	24.84	24.84×10^{-3}
8	2.611	0.3491	32.43	32.43×10^{-3}
9	3.305	0.4418	41.04	41.04×10^{-3}
10	4.080	0.5454	50.67	50.67×10^{-3}
11	4.937	0.6600	61.31	61.31×10^{-3}
12	5.875	0.7854	72.96	72.96×10^{-3}
14	8.000	1.069	99.35	99.35×10^{-3}
16	10.44	1.396	129.65	129.65×10^{-3}
18	13.22	1.767	164.18	164.18×10^{-3}
20	16.32	2.182	202.68	202.68×10^{-3}
22	19.75	2.640	245.28	245.28×10^{-3}
24	23.50	3.142	291.85	291.85×10^{-3}
26	27.58	3.687	342.52	342.52×10^{-3}
28	32.00	4.276	397.41	397.41×10^{-3}
30	36.72	4.909	456.02	456.02×10^{-3}
32	41.78	5.585	518.87	518.87×10^{-3}
34	47.16	6.305	585.68	585.68×10^{-3}
36	52.88	7.069	656.72	656.72×10^{-3}

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
SAMPLERS: *(Signature)*	

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	ANALYSES REQUESTED (2)	REMARKS

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	

SOP12

ENVIRO SOIL TECH CONSULTANTS

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Tel: (408) 297-1500 Fax: (408) 292-2116

File No. 10-93-567-ST

SAMPLE MANAGEMENT

Sample Type: Soil, Oil Solvents, Solids, Highly Contaminated Liquid (c)

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Weak Acids and Bases		plastic or glass		
Photosensitive materials		amber glass		
Volatile Organic		40 ml glass vial with TFE lined septum		
Non-Volatile Organic		glass with TFE lined cap		
Measurement – General Chemical Categories, Inorganic				
Inorganic, general		plastic or glass		
Metals, total		plastic or glass		
Measurement – General Chemical Categories, Organic				
Acid extractables		glass with TFE lined cap		
Base/neutral extractables		glass with TEF lined cap		
Measurement Specified Chemicals – Inorganic				
Hydrofluoric Acid		plastic		
Phosphoric Acid		plastic		

SAMPLE MANAGEMENT

Sample Type: Waste

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Measurement – General Chemical Categories, Inorganic				
Ammonia			add 1 ml conc H_3PO_4	24 hours
Arsenic			add 6 ml conc HNO_3/L	6 months
Chlorine			cool 4°C	24 hours
Chromium VI			add 6 ml conc H_2SO_4/L	24 hours
Cyanide, total			add 2.5 ml of 50% NaOH/L, cool 4°C	24 hours
Fluoride			cool 4°C	7 days
Mercury, total			add 5 ml conc HNO_3L	28 days
Mercury, dissolved			filter, add 5 ml conc HNO_3/L	38 days
Selenius			add 5 ml conc HNO_3/L	
Sulfide			add 2 ml conc HCl/l	
Zinc			add 2 ml conc HC1/1	

Sample Type: Soil, Oil, Solvents, Solids, Highly Contaminated Liquids (c)

Strong acids, pH<2	glass
Strong bases, pH>12.5	plastic

SAMPLE MANAGEMENT

Sample Type: Water and Wastewater

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Sulfate	50 ml	plastic or glass	cool 4°C	7 days/28 days
Sulfide	500 ml	plastic or glass	cool 4°C, add 4 drops 2N Zn acetate/100 ml	24 hours/28 days
Sulfite	50 ml	plastic or glass lined septum	determine on site	No Holding
Measurement – Specific Chemicals Organic				
NTA	50 ml	plastic or glass waterline & center	cool 4°C	24 hours
Measurement – Physical Properties				
Acidity			cool 4°C	24 hours
Alkalinity			cool 4°C	24 hours
pH			determine on site cool 4°C	6 hours
Measurement – General Chemical Categories, Inorganic				
Metals, dissolved			filter on site, add 5 ml conc HNO_3/L	6 months
Metals, total			add 5 ml conc HNO_3/L	6 months
Measurement – General Chemical Categories, Organic				
Phenolics			add H_2PO_4 to pH 4 & 1 g $CuSO_4$/L, cool 4°C	24 hours

SAMPLE MANAGEMENT

Sample Type: Water and Wastewater

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Measurement – Specific Chemicals, Inorganic				
Ammonium	50 ml	plastic or glass	cool 4°C, add H_2SO_4 To pH<2	24 hours/28 days
Boron	100 ml	plastic	None Required	28 days/28 days
Chlorine	200 ml	plastic or glass	determine on site	No Holding
Chromium VI	300 ml	plastic or glass rinse with 1:1 HNO_3	cool 4°C	24 hours/28 days
Cyanide, total	500 ml	plastic or glass add NaOH to pH>12	cool 4°C	24 hours/14 days
Cyanide, amenable to chlorination	50 ml	plastic or glass	add 100 mg NaS_2O_3	
Fluoride	300 ml	plastic	None Required	7 days/28 days
Iodide	100 ml	plastic or glass	cool 4°C	24 hours/-
Iodine	500 ml	plastic or glass	determine on site	½ hour/-
Mercury, total	500 ml	plastic or glass rinsed with 1:1 HNO_3	cool 4°C add HNO_3 to pH<2	28 days/28 days
Mercury, dissolved	100 ml	plastic or glass	filter on site add HNO_3 to pH<1	glass: 38 days hard plastic: 13 days
Nitrate	100 ml	plastic or glass	cool 4°C add H_2SO_4	24 hours/48 hours
Nitrate & nitrate	200 ml	plastic or glass	cool 4°C add H_2SO_4	24 hours//28 days
Nitrate	100	plastic or glass	cool 4°C or freeze	

SAMPLE MANAGEMENT

Sample Type: Water and Wastewater

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Measurement – General Chemical, Organic				
Acid extractables		2 liter glass with TFE lined cap		
Base//neutral extractable		2 liter glass with TFE lined cap		
MBA's	250 ml	plastic or glass	cool 4°C	24 hours
Oil and Grease	1000 ml	glass, wide mouthed, calibrated	cool 4°C H_2SO_4 to pH<2	24 hours/28 days
Organic		glass rinsed with organic solvents, TFE cap		
Phenolics	500 ml	glass		24 hours/28 days
Purgeables by purge	50 ml	glass with TFE cap		

SAMPLE MANAGEMENT

Sample Type: Water and Wastewater (a, b, c)

General Composition	***Sample Volume***	***Sample Container***	***Preservative***	***Holding Time*** **(recommended/regulatory)**
Non-Volatile Organic		2 liter glass with TFE with lined cap		
Photosensitive materials		1 liter amber glass		
Volatile Organic		40 ml glass vial with TFE lined cap (collect in duplicate)		
Volatile	100 ml		cool 4°C	7 days
Measurement – Physical Properties				
Acidity	100 ml	plastic or borosilioate glass	cool 4°C	24 hours/14 days
Alkalinity	200 ml	plastic or glass	cool 4°C	24 hours/14 days
pH	25 ml	plastic or glass	determine on site	2 hours/2 hours
Temperature	1000 ml	plastic or glass	determine on site	No Holding
Measurement – General Chemical Categories, Inorganic				
Metals, dissolved	200 ml	plastic(g) or glass	filter on site (f)	6 months(e)
Metals, total	100 ml	plastic(g) or glass rinsed with 1:1 HNO_3	HNO_3 to pH<2 (g)	6 months/6 months (e)

File No. 10-93-567-ST

A P P E N D I X "D"

OUTLINE OF DRUM HANDLING PROCEDURES

ENVIRO SOIL TECH CONSULTANTS

File No. 10-93-567-ST

OUTLINE OF DRUM HANDLING PROCEDURES FOR THE PROPERTY LOCATED AT 909 BLUEBELL DRIVE LIVERMORE, CALIFORNIA

1. Test material per site-specific test requirements.
2. Classify Material as: Clean/Non-Hazardous.
3. Labeling of Drums:

    * Pending Label: Used to describe material pending final analytical testing. Labels must be immediately affixed to drum during field work.

    * Non-Hazardous Label: Required within 24 hours after analytical results are received.

    * Hazardous Label: Required within 24 hours after analytical results are received.

    * For Pick-Up Label: Must be affixed to drum prior to arrange pick-up date by certified hauler.

4. Remove within 21 days of generation. Empty drums, where material was disposed in bulk, must be removed the same day they are emptied.

5. Disposal of Material:

    * Clean: Any local landfill.

    * Non-Hazardous: Class III Landfill.

    * Hazardous: Class I landfill.

6. Manifests may be signed by the on-site contractor or consultant, owner, or other authorized representatives. The transporter should not sign the manifest.

    It is the responsibility of the contractor, consultant and owner to arrange for a person to sign the manifest on the day of pick-up.

7. Reporting:

   Reports shall include the following:

   * Completed soil and water work sheets.

   * Copy of the analytical results.

   * State how and where material was disposed.

   * If drums are emptied and material was disposed of in bulk, state how empty drums were handled.

   * The signed blue and yellow copies of the hazardous waste manifest.

SOIL:

1. Test Requirements and Methods: Per STE site-specific test requirements.

   * TPH: EPA Method 8015.

   * BTEX: EPA Method 8020.

   * TOG: 503 D&E.

   * Lead:

     - Total Lead - EPA Method 7421.

     - Inorganic (soluble) Lead: DOS Title 22, Waste Extraction Test, 22-66700.

     - Organic - EPA Method 8240.

   * Ignitable:

2. Classification:

   * Clean: TPH, BTEX, TOG, VOC and non-detectable (<100 ppm).

   * Non-Hazardous if any are true:

     - TPH less than 1,000 ppm.

     - Lead - Inorganic (soluble) Lead less than 5 ppm (STLC) or less than 100 ppm (TTLC).

       - Organic Lead less than 13 ppm (TTLC).

   * Hazardous if any are true:

     - TPH greater than 1,000 ppm.

     - Lead - Inorganic (soluble) Lead greater than 5 ppm (STLC) or greater than 1,000 ppm (TTLC).

       - Organic Lead greater than 13 ppm (TTLC).

     - Ignitable - If TPH>1,000 ppm, then conduct Bunsen Burner Test.
       - If soil bums vigorously and persistently soils are RCRA D001.

   * VOC - less than 1,000 ppm.

3. Responsibility for Disposal:

   * Clean: Consultant, contractor or owner.

   * Non-Hazardous: Consultant, contractor or owner.

4. Types of Drums: DOT-17H for a solid, solidified, or sludge material.

5. Disposal Facility:

   * Clean: Any local landfill.
   * Non-Hazardous: Class III or II landfill.
   * Hazardous: Class I landfill.

WATER:

1. Test Requirements and Methods: Per site-specific test requirements.

   * TPH: EPA Method 8015.

   * BTEX: EPA Method 602.

2. Classification:

   * Clean Water: TPH and BTEX non-detectable.

   * Hazardous:

     - Water with dissolved product and detectable TPH and BTEX.

     - Water with free product.

     - Free product only.

3. Responsibility for Disposal:

   * Clean: Consultant/Contractor.

   * Non-Hazardous: Consultant, contractor or owner.

4. Types of Drums: DOT-17C or DOT-17E for liquid or slurry.

5. Disposal Facility:

   * Clean Water: Into sanitary sewer per Local Sewer District approval or into storm sewer with proper approval from Water Board.

   * Non-Hazardous:

     - Water with TPH and BTEX only.

- Water with free product.
- Arrange certified waste hauler to pick and dispose.

* Hazardous:
  - Free product only.
  - Arrange disposal by a certified hazardous waste hauler.

A P P E N D I X "E"

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN
FOR THE PROPERTY
LOCATED AT 909 BLUEBELL DRIVE
LIVERMORE, CALIFORNIA

GENERAL:

This Health and Safety Plan (HSP) contains the minimum requirements for the subject site field work. The field activities include drilling, soil sampling and/or water sampling. All personnel and contractors will be required to strictly adhere with this HSP requirements.

The objective of the HSP plan is describe procedures and actions to protect the worker, as well as unauthorized person, from inhalation and ingestion of and direct skin contact with potentially hazardous materials that may be encountered at the site. The plan describes (1) personnel responsibilities and (2) protective equipment to be used as deemed when working on the site. At a minimum, all personnel working at the site must read and understand the requirements of this HSP. A copy of this HSP will be on-site easily accessible to all staff and government field representatives.

HAZARD ASSESSMENT:

The major contaminants expected to be encountered on the project are gasoline and its hydrocarbon constituents. The anticipated contaminants and their exposure standards are listed in Table 1. 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.

TABLE 1
EXPOSURE LIMITS OF ANTICIPATED CHEMICAL CONTAMINANTS
IN PARTS PER MILLION (ppm)

Contaminant	PEL	EL	ED	CL	TWA	STEL
Benzene*[skin] & [carc]	1	---	---------	---	10	5
Ethylbenzene	100	---	---------	---	100	125
Toluene [skin]	100	200	10 min per 8 hours	500	100	150
Xylene (o, m & p isomers) [skin]	100	200	30 min per 8 hours	300	100	150

PEL - permissible exposure limit: 8 hours, time-weighted average, California Occupational Safety and Health Administration Standard (CAL-OSHA).

EL - excursion limit: maximum concentration of an airborne contaminant to which an employee may be exposed without regard to duration provided the 8 hours time-weighted average for PEL is not exceeded (CAL-OSHA).

ED - excursion duration: maximum time period permitted for an exposure above the excursion limit but not exceeding the ceiling limits (CAL-OSHA).

CL - Ceiling limit: maximum concentration of airborne contaminant which employees may be exposed permitted (CAL-OSHA).

TWA - time-weighted average: 8 hours, [same as threshold limit value (TLV)], American Conference of Governmental Industrial Hygienists (ACGIH).

STEL - Short-term exposure limit: 15 minutes time-weighted average (ACGIH).

[carc] - substance identified as a suspected or confirmed carcinogen.

[skin] - substance may be absorbed into the bloodstream through the skin, mucous membranes or eyes.

* - Federal OSHA Benzene limits given for PEL and STEL; STEL has a 50 minutes duration limit.

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 on-site 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.

GENERAL PROJECT SAFETY RESPONSIBILITIES:

Key personnel directly involved in the investigation will be responsible for monitoring the implementation of safe work practices and the provisions of this plan are (1) the drilling project supervisor and (2) Enviro Soil Tech Consultants (ESTC) project field engineer. These personnel are responsible for knowing the provisions of the plan, communicating plan requirements to workers under their supervision and regulatory agencies inspectors and for enforcing the plan.

The personnel-protective equipment will be selected to prevent field personnel from exposure to fuel hydrocarbons that may be present at the site. To prevent direct skin contact, the following protective clothing will be worn as appropriate while working at the site:

1. Tyvek coveralls.
2. Butyl rubber or disposable vinyl gloves.
3. Hard hat with optional face shield.
4. Steel toe boots.
5. Goggles or safety glasses.

The type of gloves used will be determined by the type of work being performed. Drilling personnel will be required to wear butyl rubber gloves because they may have long duration contact with the subsurface materials. ESTC sampling staff will wear disposable gloves when handling any sample. These gloves will be changed between each sample.

Personnel protective equipment shall be put on before entering the immediate work area. The sleeves of the overalls shall be outside of the cuffs of the gloves to facilitate removal of clothing with the least potential contamination of personnel. If at any time protective clothing (coveralls, boots and gloves) become torn, wet or excessively soiled, it will be replaced immediately.

Total organic vapors will be monitored at the site with a portable PID. Should the total organic vapor content approach that of the threshold limit value (TLV) for any of the substances listed in Table 1, appropriate safety measures will be implemented under the supervision of the site project engineer. These precautions include, but are not limited to, the following: (1) donning of respirators (with appropriate cartridges) by site personnel, (2) forced ventilation of the site, (3) shutdown of work until such time as appropriate safety measures sufficient to insure the health and safety of site personnel can be implemented.

No eating, drinking or smoking will be allowed in the vicinity of the drilling operations. ESTC will designate a separate area on site for eating and drinking. Smoking will not be allowed at the vicinity of the site except in designated areas. No contact lenses will be worn by field personnel.

WORK ZONES AND SECURITY MEASURES:

The project engineer will call Underground Service Alert (USA), and the utilities will be marked before any drilling is conducted on-site, and the borings will be drilled at safe distances from the utilities. The client will also be advised to have a representative

on-site to advise us in selecting locations of borings with respect to utilities or underground structures. ESTC assumes no responsibility to utilities not so located. The first 5 feet will be hand augered 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.

LOCATION AND PHONE NUMBERS OF EMERGENCY FACILITIES:

For emergency reasons, the closest facilities addresses and phone numbers are listed below:

City of Livermore Fire Department	911
Valley Memorial Hospital 1111 East Stanley Blvd., Livermore, CA	(925) 447-7000

ADDITIONAL CONTINGENCY TELEPHONE NUMBERS:

Poison Control Center. . . . . .(800) 523-2222

Enviro Soil Tech Consultants Administrative Office. . . . . (408) 297-1500

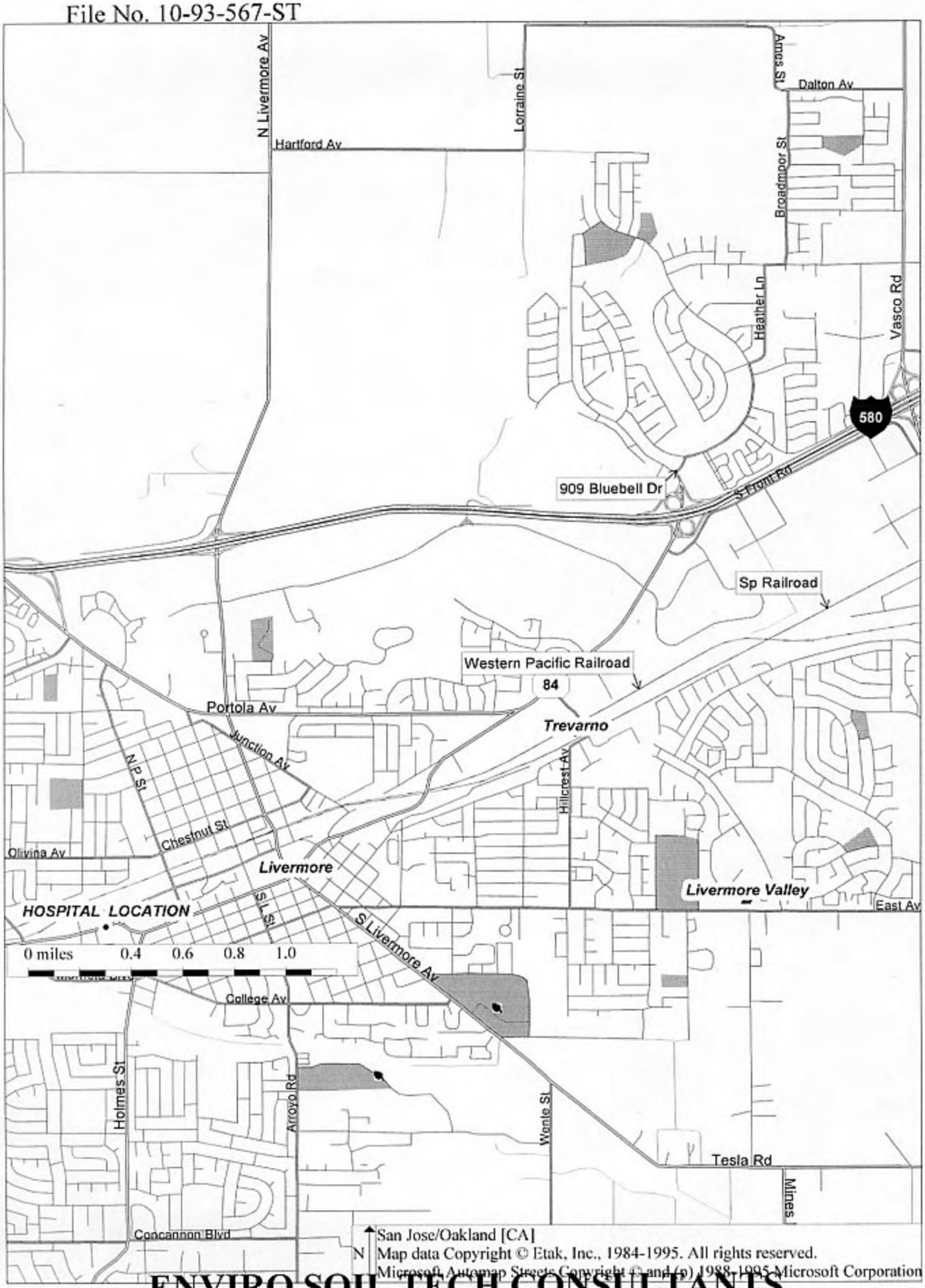
CHEMTREC. . . . . .(800) 424-9300

NOTE: Only call 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 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 project engineer, ESTC's field personnel and all subcontractors.

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 name above.

File No. 10-93-567-ST



ENVIRO SOIL TECH CONSULTANTS

HSP9

A P P E N D I X "F"

TYPES OF PROTECTIVE CLOTHING AND RESPIRATION SHOULD BE USED

TYPES OF PROTECTIVE CLOTHING AND RESPIRATION THAT SHOULD BE USED AT HAZARDOUS WASTE SITES LOCATED AT 909 BLUEBELL DRIVE LIVERMORE, CALIFORNIA

The degree of hazard is based on the waste material's physical, chemical, biological properties and anticipated concentrations of the waste. The level of protective clothing and equipment worn must be sufficient to safeguard the individual. A four category system is described below.

LEVEL A:

Level A consists of pressure-demand SCBA (air supplying respirator with back mounted cylinders), fully encapsulated resistant suit, inner and outer chemical resistant steel safety boots (toe, shank and metatarsal protection), and hard hat. Optional equipment might include cooling systems, abrasive resistant gloves, disposable oversuit and boot covers, communication equipment and safety line. Level A is worn when the highest level of respiratory, skin, and eye protection is required. Most samplers will never wear Level A protection.

LEVEL B:

Level B protection is utilized in areas where full respiratory protection is warranted, but a lower level of skin and eye protection is sufficient (only a small area of head and neck is exposed). Level B consists of SCBA, splash suit (one or two piece) or disposable chemical resistant coveralls, inner and outer chemical resistant gloves, chemical resistant safety boots, and hard hat with face shield. Optional items include glove and boot covers and inner chemical resistant fabric coveralls.

LEVEL C:

Level C permits the utilization of air-purifying respirators. Level B body, foot and hand protection is normally maintained. Many organizations will permit only the use of approved full-face masks equipped with a chin or harness-mounted canister. However, many sites are visited by personnel wearing a half-mask cartridge respirator.

LEVEL D:

Level D protection consists of a standard work uniform of coveralls, gloves, safety shoes or boots, hard hat and goggles or safety glasses.

Two basic types of respirators are air-purifying and air-supplying. Air-purifying respirators are designed to remove specific contaminants by means of filters and/or sorbents. Air-purifying respirators come in various sizes, shapes and models, and can be outfitted with a variety of filters, cartridges and canisters. Each mask and cartridge or canister is designed for protection against certain contaminant concentrations. Just because a cartridge says it is for use against organic vapors does not mean that it is good for all organic vapors.

Air-supplying respirators are utilized in oxygen-deficient atmospheres (less than 19.5 percent) or when an air-purifying device is not sufficient. air is supplied to a face-mask from an uncontaminated source of air via and air line from stationary tanks, from a compressor or from air cylinders worn on the back (SCBA). Rated capacities of the SCBA's are normally between 30 and 60 minutes. Only positive pressure (pressure demand) respirators should be used in high concentration hazardous environments.

Respirators often malfunction during cold weather or after continued use. Only NIOSH (National Institute for Occupational Safety and Health) and MSHA (Mine Safety and Health Administration) approved respirators should be used.

Contact lenses are not permitted for use with an respirator. Contact lenses should not be worn at any site since they tend to concentrate organic materials around the eyes; soft plastic contact lenses can absorb chemicals directly. In addition, rapid removal of contact lenses may be difficult in an emergency. Since eye glasses can prevent a good seal around the temple when wearing goggles or full face masks, spectacle adapters are available for masks and goggles.