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Alameda County  
Environmental Health

August 30, 2007

Alameda County Environmental Health Services  
Mr. Jerry Wickham  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Subject: Site Investigation and Remedial Action Workplan:  
Excavation of Impacted Soils, Groundwater Investigation, Well Closure, and  
Historical Review  
461 McGraw Avenue, Livermore, California 94550  
EIS Project # 717-2**

Dear Mr. Wickham,

On behalf of Whitney Newland, Administrator of the Estate of Crandal Mackey, “deceased”, Probate Court-authorized agent for Call Mac Transportation Company, Environmental Investigation Services Inc. (EIS) is submitting this workplan for your approval. This workplan was prepared to address the comments in Alameda County Environmental Health Services’ (ACEH) letter regarding *Fuel Leak Case No. RO0000311 and Geotracker Global ID T0600102204, Call Mac Transportation, 461 McGraw Avenue, Livermore, CA 94550*, issued August 3, 2007. A separate workplan will be prepared for the soil gas survey requested in the letter from ACEH.

The site is located northeast of the intersection of McGraw Avenue and Preston Avenue in Livermore, Alameda County, California. The nearest surface water is Arroyo Seco, located approximately ½ mile south of the site. Water in Arroyo Seco flows to the northwest. The site location is shown on Figure 1. Figure 2 depicts the site plan, including features of concern. The site is currently vacant, but was formerly used by Call Mac Transportation Company as truck and trailer storage yard.

## **BACKGROUND**

On July 26, 2007, EIS issued *Soil Removal and Site Investigation Report, 461 McGraw Avenue, Livermore, California 94550*. This report includes a description of the background for site. ACEH’s August 3, 2007, letter was issued in response to this report. In their letter, ACEH states that no additional investigation or soil removal for several locations, including the vicinity of the former pump island and underground storage tank (UST), the former lead-acid battery storage area, the surface stains attributed to Golden State Metals, Inc. (except for Area DO3, see Figure 2), three of the former aboveground storage tank areas (AST Areas T-1, T-2, and T-3, see Figure 2), and the water supply well in the northeast corner of the site.

The August 3, 2007, letter also included requests for additional work. ACEH requested remediation of the arsenic-impacted material of the building pad, explanation of the future use and/or disposal of the loading dock, additional excavation in area DO3, proper abandonment of the well in excavation T-4, a historical review for the site, the installation and sampling of three monitoring wells, and a soil gas survey.

This workplan addresses all of ACEH's requests for additional work except for the soil gas survey. As the design of the soil gas survey depends on the results of the historical review, EIS will submit a workplan for the soil gas survey once the historical review is complete.

## **SCOPE OF WORK**

The Site Investigation and Remedial Action Activities will consist of the following tasks:

- ◆ Conduct an historical review of the property and prepare a report describing research sources and findings.
- ◆ Excavate and dispose of approximately 300 tons of arsenic-impacted soil from the building pad (Figure 3). Collect ten confirmation soil samples from the base of the excavation to be analyzed for arsenic using United States Environmental Protection Agency (EPA) Method 6010B.
- ◆ Excavate and dispose of approximately 90 tons of soil from Excavation DO3. Collect four confirmation soil samples from the base of the excavation and two confirmation soil samples from the sidewalls of the excavation. All samples will be analyzed for total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), and as oil (TPH-o) using EPA Method 8015B, and for methyl tert-butyl ether (MTBE), and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021B.
- ◆ Collect one four-point composite soil sample for waste profiling of the stockpiled soil and debris removed from Excavation E4. The sample will be analyzed for Title 22 Metals using EPA Method 6010B, TPH-o and TPH-d using EPA Method 8015M, and volatile organic compounds (VOCs) using EPA Method 8260B.
- ◆ Dispose of the soil and debris stockpile from Excavation E4, and dispose of portions of the loading dock where debris is intermixed with the soil. Any loading dock soil observed to be free of debris will be used to backfill open excavations onsite.
- ◆ Install and develop three monitoring wells: one near Excavation T-4, one near boring B-3, and one near Excavation DO3. Have the wells located by a professional land surveyor. Conduct two groundwater sampling events with a four-week interval between the events. Groundwater samples will be analyzed for TPH-g, TPH-d, and TPH-o using Method 8015B; for MTBE and BTEX using Method 8021B; and for Title 22 Metals using Method 6010B.
- ◆ Determine the total depth of the well in Excavation T-4, and decommission it according to Zone 7 Water District.
- ◆ Prepare a report describing all site activities, field methods, field observations, laboratory analyses, analytical results, conclusions, and recommendations.

These tasks are further detailed below.

## **PRE-FIELD ACTIVITIES**

### **Historical Review**

EIS will conduct an historical review of the property to identify historic ownership, tenants, and types of activities and site usage prior to Call Mac Transportation Company. Sources included in the historical review will include historical aerial photographs, city directories, historical topographic maps, Environmental Data Resources, Inc. (EDR) database search, and Livermore-Pleasanton Fire Department (LPFD) and other relevant agency files.

EIS will prepare a report describing the sources reviewed, research methods, and findings. The historical review will be conducted by either a Registered Environmental Assessor (REA) or a Professional Geologist (PG).

### **Field Preparation**

EIS will prepare a site-specific health and safety plan (SSP) describing potential hazards at the site (including potential contaminants and their characteristics and health effects), and personnel responsible for site safety, personal protective equipment, emergency phone numbers, the location of the nearest hospital, etc.

EIS will outline the site with white paint and mark all excavation, boring, and sampling locations with white paint and contact Underground Services Alert (USA) 48 hours before beginning work onsite, as required by law, so that companies with buried utilities in the vicinity of the property may mark the locations of their underground facilities.

EIS will prepare a well closure permit and three monitoring well installation permits and submit them to Zone 7 Water Agency. Upon receipt of soil boring permits and work plan approvals, EIS will coordinate site activities with Zone 7 Water Agency and ACEH, as required.

### **Excavation of Building Pad**

EIS will supervise and direct site activities as Macoy Resources Corporation (MRC) of Paso Robles, California, removes the 5,000-square foot, approximately 15-inch deep building pad (Figure 3). EIS anticipates that all imported building pad material is located entirely above grade, and that native soil will be encountered at the approximate height of the surrounding grade. Excavated soils will be stockpiled on plastic and covered with plastic pending disposal. Approximately 300 tons (231.5 cubic yards) of soil from the building pad will be hauled under non-hazardous waste manifest to a permitted facility.

Once the imported material is removed from the building pad area, EIS will collect ten confirmation soil samples from the base of the excavation, which is anticipated to be approximately level with the surrounding grade (Figure 3). All soil samples will be placed into clean 2-inch diameter by 6-inch long stainless steel sleeves. The stainless steel sleeves will be sealed with Teflon sheets and plastic caps, labeled, logged onto a chain of custody document, and placed into a chilled ice chest for transport to American Scientific Laboratories, LLC, of Los Angeles, California. American Scientific Laboratories is certified by the California Department of Health Services (DHS) for the analysis of hazardous waste.

The soil samples collected from the base of the building pad excavation will be analyzed by the following method:

- ◆ Arsenic using EPA Method 6010B.

Additional excavation, soil samples and/or analyses may be required depending on field observations and analytical results, or at the direction of ACEH.

### **Excavation of Area DO3**

Prior to beginning excavation of Area DO3, the tree immediately southeast of the excavation will be removed to ensure the safety of the work area.

EIS will supervise and direct site activities as MRC extends the base of Excavation DO3 to a total depth of approximately 11 feet bgs (Figure 4). Excavated soils will be stockpiled on plastic and covered with plastic pending disposal. Approximately 90 tons (67 cubic yards) will be hauled under non-hazardous waste manifest to a permitted landfill.

EIS field personnel will collect soil samples to be screened with a photoionization detector (PID) from selected locations, depending on field conditions. Soil samples will be collected from the backhoe bucket and placed in a new zip-top bag. The bag will be sealed and allowed to sit in the sun for at least 5 minutes before tests the head space in the bag with the PID. The PID data may assist EIS in determining how to guide MRC's excavation activities. PID screening is considered a qualitative test. Therefore, the PID data may assist EIS in determining how to guide MRC's excavation activities, but it may not be used to draw specific conclusions about the soil conditions.

EIS will collect four confirmation soil samples from the bottom of the excavation. EIS will also collect two sidewall confirmation samples from the existing southeastern and southwestern sidewalls of the excavation.

The soil samples will be collected with the assistance of the backhoe bucket. In order to obtain a fresh surface for the sidewall samples, the backhoe will remove one bucketful of soil from each sample location prior to obtaining a soil sample. The soil removed from the sidewalls will be stored on the soil stockpile pending disposal.

All soil samples will be placed into clean 2-inch diameter by 6-inch long stainless steel sleeves. The stainless steel sleeves will be sealed with Teflon sheets and plastic caps, labeled, logged onto a chain of custody document, and placed into a chilled ice chest for transport to American Scientific Laboratories, LLC.

The soil samples collected from the base of the building pad excavation will be analyzed by the following methods:

- ◆ TPH-g, TPH-d, and TPH-o using EPA Method 8015B and
- ◆ BTEX and MTBE using EPA Method 8021B.

Additional excavation, soil samples and/or analyses may be required depending on field observations and analytical results, or at the direction of ACEH.

### **Characterization of Soil and Debris Stockpile from Excavation E4**

EIS will collect one four-point composite soil sample from the soil and debris stockpile from Excavation E4. For the composite sample, EIS will collect soil from four locations on the stockpile and place it into a new zip-top plastic bag. The plastic bag containing the soil will be agitated to ensure that the soil from the four locations is well-mixed, and the composite sample will be transferred from the plastic bag into a clean 2-inch diameter by 6-inch long stainless steel sleeve. The stainless steel sleeve will be sealed with Teflon sheets and plastic caps, labeled, logged onto a chain of custody document, and placed into a chilled ice chest for transport to American Scientific Laboratories, LLC.

The composite soil sample will be analyzed by the following methods:

- ◆ TPH-g, TPH-d, and TPH-o using EPA Method 8015B;
- ◆ Title 22 Metals using EPA Method 6010B; and
- ◆ VOCs using EPA Method 8260B.

### **Disposal of Soil and Debris from Excavation E4 and from the Loading Dock**

The soil and debris stockpile from Excavation E4 will be hauled to an appropriate disposal facility, to be determined based on the analytical data from the proposed composite sample.

Portions of the loading dock where the soil is intermixed with debris will be hauled to a licensed landfill as non-hazardous waste based on previous soil sample analytical results.

Any portions of the loading dock where soil is observed to be free of debris will be used to backfill open excavations at the site (Figure 2).

### **Decommissioning Water Supply Well T-4**

EIS will contract with a C-57 licensed drilling company to decommission the water supply well in Excavation T-4 according to Zone 7 Water Agency requirements. According to Zone 7 Water Agency, the well must be cleared of soil and debris to its original depth and filled from the bottom to the surface with cement slurry. The driller will use a mud-rotary drill rig to drill out the soil and debris in the well and determine the original depth of the well prior to pumping cement slurry into the well.

Soil cuttings will be stored onsite in 55 gallon drums. EIS will arrange for composite sampling, analysis, and disposal of drill cuttings once well closure activities are complete.

### **Installation of Three Monitoring Wells**

Monitoring Wells MW-1 through MW-3 will be installed in the locations shown in Figure 2. EIS will contract with a C-57 licensed drilling company to drill the wells using 8-inch diameter hollow-

stem auger equipment. During drilling, soil samples will be collected at 5-foot depth intervals using a split-spoon sampler fitted with clean stainless steel liners. Soil samples recovered from the boreholes will be used to prepare boring/well logs and for PID screening.

Soil samples to be screened with the PID will be placed in a new zip-top bag. The bag will be sealed and allowed to sit in the sun for at least 5 minutes before EIS tests the head space in the bag with the PID.

Soil samples selected for laboratory analysis will be preserved by sealing the ends of the stainless steel liners with Teflon sheets and plastic end caps. The samples will be labeled, logged into chain of custody documents, and placed into an iced cooler for transportation to the analytical laboratory.

The exploratory borings will be advanced through near-surface unsaturated materials, into the shallowest aquifer, extending to a total anticipated depth of 17 feet. The borings will be converted to monitoring wells by installing 2-inch diameter schedule 40 polyvinyl chloride (PVC) well casing and factory-slotted well screen with 0.010-inch slots. EIS anticipates placing well screen from 7 to 17 feet bgs; however, the actual screened interval will be based on conditions encountered in the field. A graded sand pack will be placed in the annular space adjacent to the well screen, extending at least 1 foot above the top of the screened interval, followed by a 2-foot interval of hydrated bentonite, and a neat cement seal extending to within 1 foot of the ground surface. A locking cap and traffic-rated vault box or steel surface monument will be installed to secure the wells. Following well construction, the wells will be located by a licensed land surveyor, and will be developed using surging and bailing techniques.

The soil samples collected during drilling will be transported to American Scientific Laboratories, LLC, to be analyzed for the following constituents:

- ◆ Title 22 Metals using EPA Method 6010B;
- ◆ TPH-g, TPH-d, and TPH-o using EPA Method 8015B; and
- ◆ BTEX and MTBE using EPA Method 8021B.

All drill cuttings, purge water, and equipment decontamination rinsate water will be stored onsite in sealed drums pending analysis and disposal. Upon completion of all other field activities, EIS will arrange for composite sampling, analysis, and disposal of drill cuttings, rinsate water, and purge water from the monitoring wells.

### **Groundwater Sampling**

After installation and development, EIS will sample monitoring wells MW-1 through MW-3. Prior to groundwater sampling, depths to groundwater and total monitoring well depths will be measured using the top of well casing (TOC) as a reference point. The monitoring wells will then be purged of a minimum of three casing volumes using a clean submersible pump. During purging, pH, electrical conductivity (EC), and temperature will be monitored to ensure that a representative sample is obtained. Following purging, groundwater samples will be collected and sealed within EPA-approved containers provided by the analytical laboratory. The groundwater samples will be labeled, logged into a chain of custody document, and placed into a chilled cooler for transportation to the analytical laboratory.

The groundwater samples will be analyzed for the following constituents:

- ◆ Title 22 Metals using EPA Method 6010B;
- ◆ TPH-g, TPH-d, and TPH-o using EPA Method 8015B; and
- ◆ BTEX and MTBE using EPA Method 8021B.

A second set of groundwater samples will be collected four weeks after the first, following the same procedures and using the same analyses.

## **REPORT**

A report of the activities described in this workplan will be prepared following receipt of all laboratory results. The report will include a description of all work performed, site and vicinity maps showing sampling locations, tabulation of all soil analytical data (with sampling depths clearly indicated), boring logs, laboratory analytical sheets, field sampling and laboratory QA/QC procedures, additional information requested by the regulatory agencies, and all other findings and recommendations.

At the request of Mr. Newland's representative or ACEH, monitoring well installation activities and groundwater sampling events may be reported separately from the other work proposed in this workplan.

## **SCHEDULE**

EIS estimates that conducting the historical review and preparing the associated report will take approximately three weeks. Once the historical review is complete, EIS will prepare a soil gas investigation workplan to submit to ACEH.

Upon receipt of the approved workplan and permits EIS will be prepared to initiate the field activities described in this workplan. We anticipate the field portion of this work plan to require six to eight weeks. Normal laboratory turn-around is seven working days. The technical report will be prepared and submitted within three weeks of receipt of the laboratory results.

Please call me at 408-871-2995 or Peter Littman at 408-871-1470 if you have any questions regarding the proposed work plan and schedule.

Sincerely,

**Environmental Investigation Services, Inc.**



Jennifer Morris  
Professional Geologist #8323



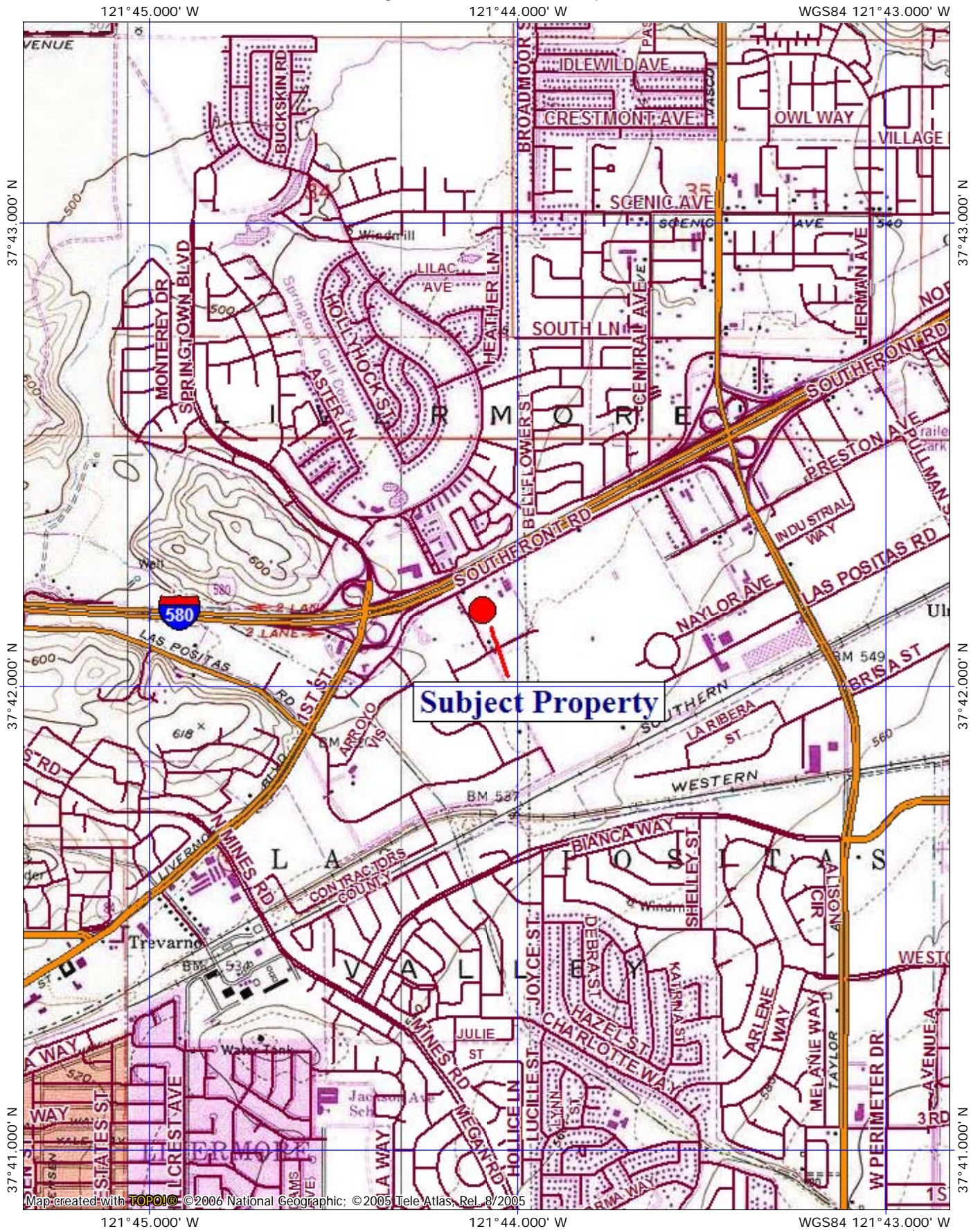
Attachments:

- Figure 1 – Site Location Map
- Figure 2 – Site Plan
- Figure 3 – Detail Map: Proposed Building Pad Excavation and Soil Sample Locations
- Figure 4 – Detail Map: Proposed Excavation Boundaries and Confirmation Sample Locations for Excavation DO3
- Attachment A – Site-Specific Health and Safety Plan

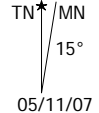
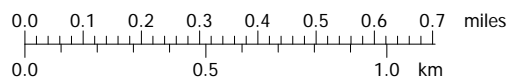


## **FIGURES**

Figure 1 : Site Location Map

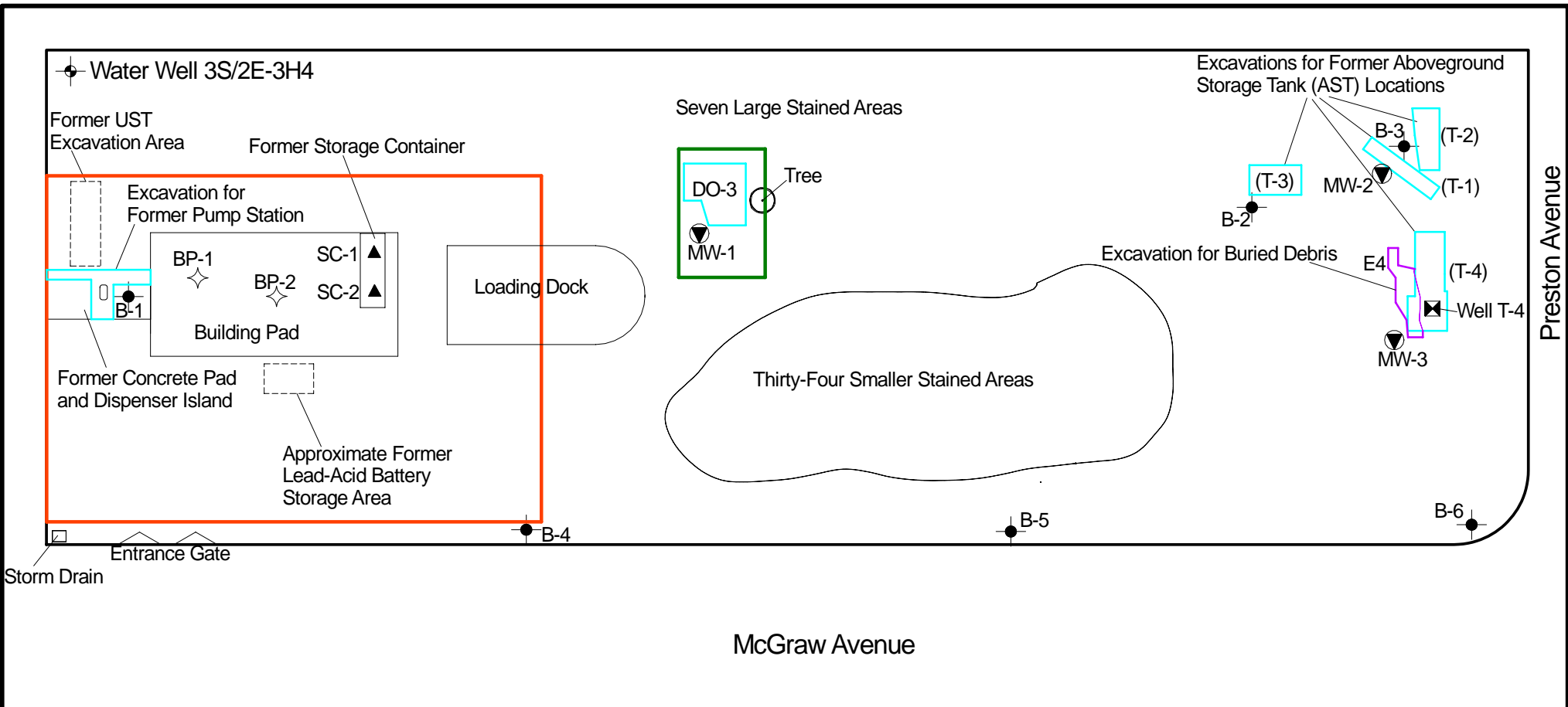


Map created with **TOPO!** ©2006 National Geographic; ©2005 Tele Atlas, Rel. 8/2005

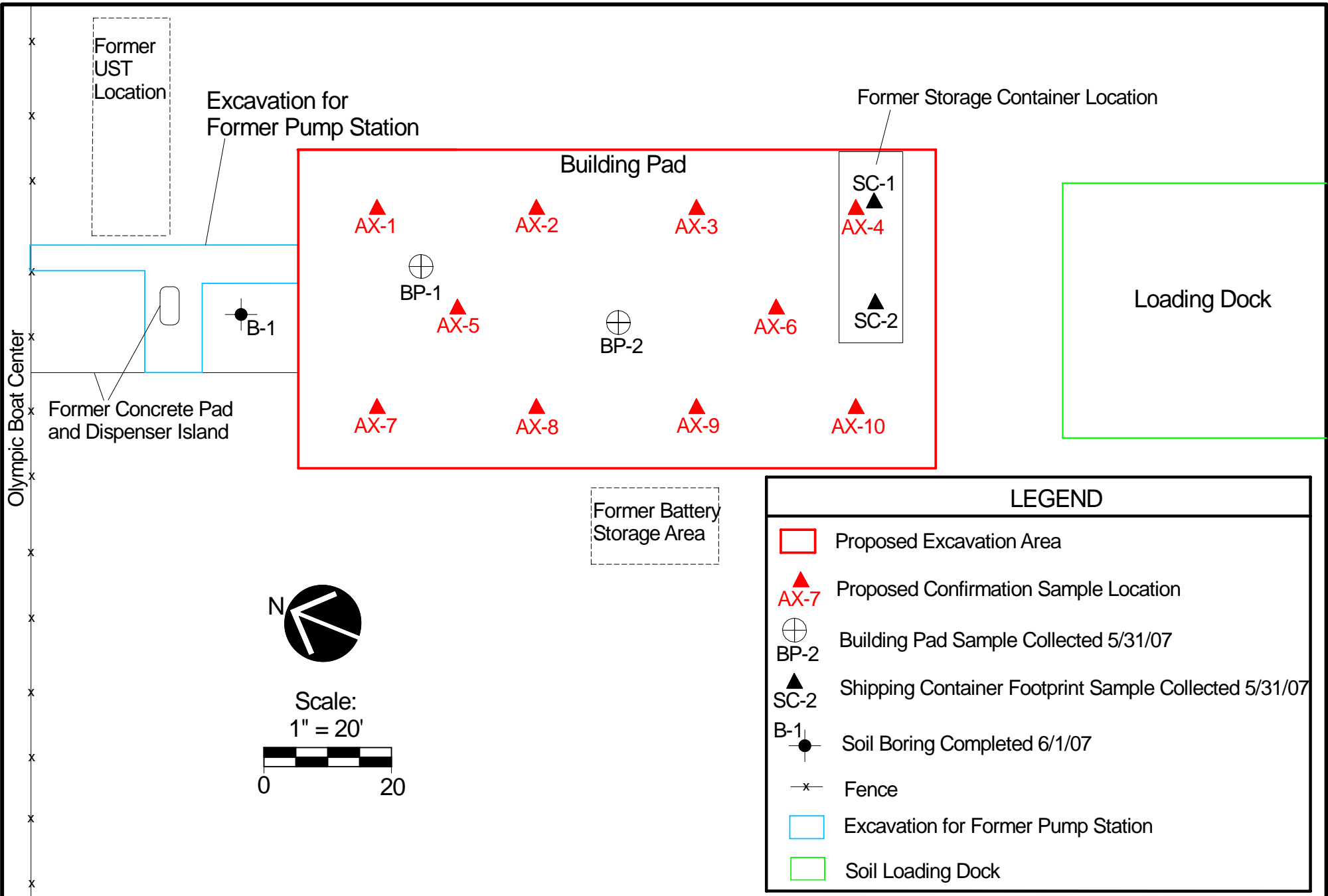


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LEGEND					
	Proposed Monitoring Well		Soil Boring		See Detail Map, Figure 3
	Well T-4		SC-2 Storage Container Sample		See Detail Map, Figure 4
	Water Well		BP-2 Building Pad Sample		Open Excavation
					Excavation E4 (Open Excavation)



Environmental Investigation Services, Inc.  
 170 Knowles Drive, Suite 212, Los Gatos, California 95032  
 Phone: (408) 871-1470 Fax: (408) 871-1520

Project Number 717-2

August 28, 2007

Figure 3

Detail Map: Proposed Building Pad Excavation and Soil Sample Locations  
 461 McGraw Avenue  
 Livermore, California

**LEGEND**

**DO3-12** ● Proposed Confirmation Sample Location

— Boundaries of Proposed Excavation

7' bgs Depth of Existing Excavation Below Ground Surface

- - - Excavation Boundary from First Mobilization (for Shallow Staining from Golden State Activities)

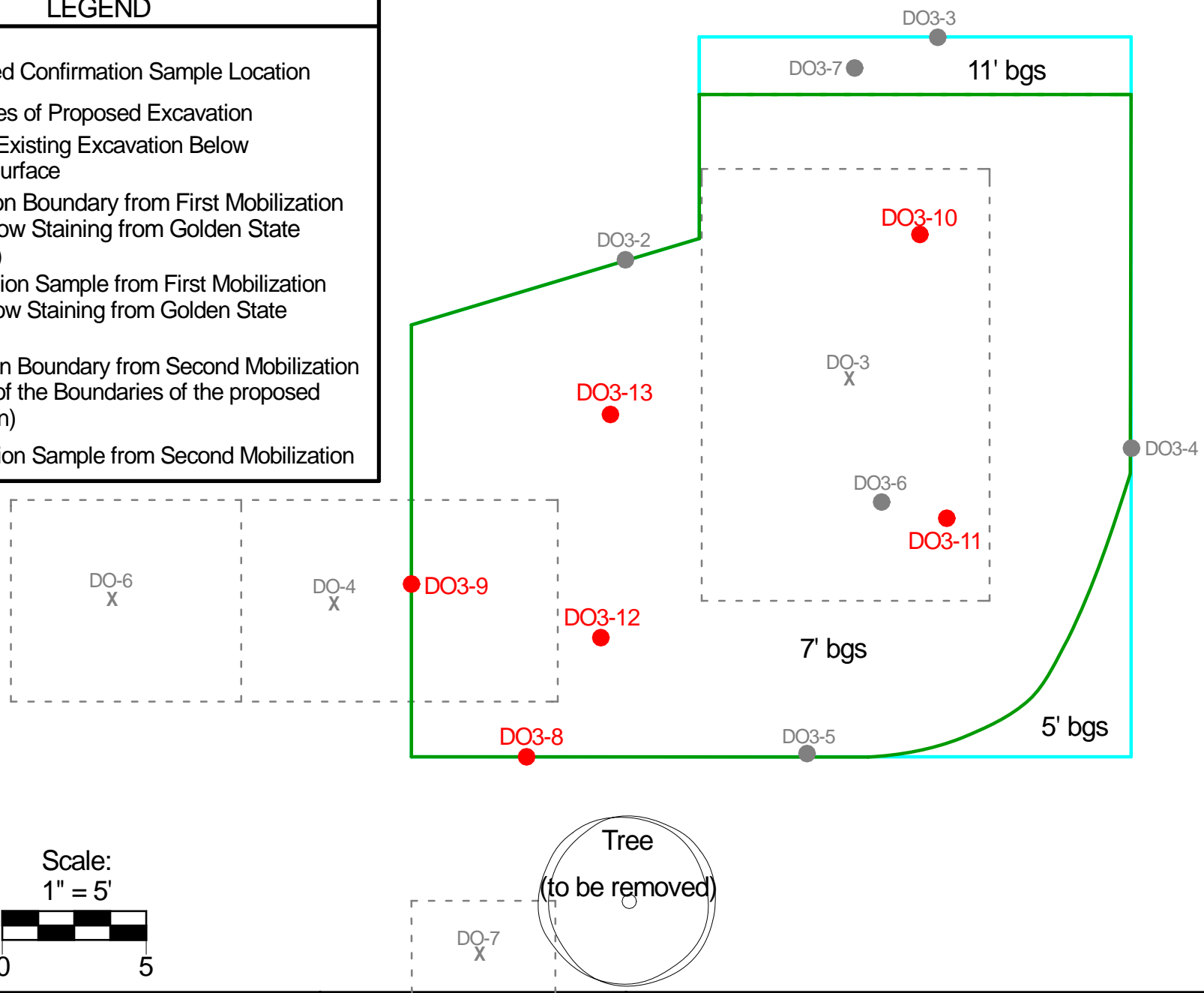
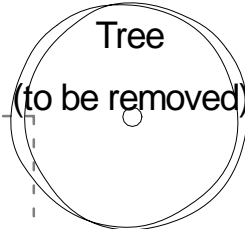
DO-4 X Confirmation Sample from First Mobilization (for Shallow Staining from Golden State Activities)

— Excavation Boundary from Second Mobilization (Outside of the Boundaries of the proposed excavation)

DO3-6 ● Confirmation Sample from Second Mobilization



Scale:  
1" = 5'



**ATTACHMENT A**  
Site-Specific Health and Safety Plan

## SITE HEALTH & SAFETY PLAN

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**SITE HEALTH & SAFETY PLAN**  
**ENVIRONMENTAL INVESTIGATION SERVICES, INC.**

**PROJECT NAME:** Call Mac Transportation Company  
**LOCATION:** 461 McGraw Avenue, Livermore, CA.  
**DATE:** 5/18/07  
**TASK:** Site Investigation and Remedial Action

**PROJECT MANAGER:** Peter Littman  
**PROJECT SAFETY OFFICER:** Jennifer Morris  
**SITE SAFETY OFFICER (SSO):** Jennifer Morris

**NEAREST HOSPITAL:** Valley Care Medical Center  
Phone: 911  
Address: 5555 Las Positas Blvd, Pleasanton, CA

**NEAREST FIRE DEPARTMENT:** Livermore-Pleasanton Fire Department  
3560 Nevada Street, Pleasanton, 94566  
Phone: 911 or (925) 454-2361

**HAZARDOUS MATERIALS SPILL/  
CLEAN-UP CONTRACTOR:** MACOY Resource Corp.  
Phone: (805) 227-1090 Cell (805) 391-3013  
Address: P.O. Box 3980  
Paso Robles, California 93447

**U. S. ALERT SERVICE NUMBER:** (800) 642-2444

**NEAREST PG&E OFFICE:** Livermore, CA  
24-hr Emergency Phone: (800) 743-5000  
Address: Livermore, California

**NEAREST TELEPHONE LOCATION:** Macoy Resources Cell and EIS Cell Phone

**LOCATION OF SITE "CLEAN AREA":** as per SSO: See Map.

**LOCATION OF PERSONNEL DECON: STATION:** as per SSO: See Map.



The following pages contain guidelines for on-site procedures to minimize risks to personnel at the job site, as well as information regarding basic first aid in the event of injury, among other points.

A pre-project Safety Meeting to familiarize all field personnel the potential hazards associated with the job shall be held at the start of each day's activities. Pre-project Safety Meeting held by:

X \_\_\_\_\_ Date: \_\_\_\_\_

X \_\_\_\_\_ Date: \_\_\_\_\_

X \_\_\_\_\_ Date: \_\_\_\_\_

X \_\_\_\_\_ Date: \_\_\_\_\_

We, the undersigned, have read the Site Safety Plan and understand the potential hazards on-site. We will follow the guidelines set forth in order to decrease the likelihood of personal or public injury.

X \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

X \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

X \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
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X \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_

SITE HEALTH & SAFETY PLAN  
ENVIRONMENTAL INVESTIGATION SERVICES, INC.

I. HEALTH AND SAFETY PROGRAM OVERVIEW

- A. In order to promote health and safety awareness, the position of Site Safety Officer (SSO) is rotated among employees for each project site.
- B. It is the responsibility of the designated SSO to implement the Site Safety Plan (SSP) and to hold a pre-project safety meeting.

II. FACILITY BACKGROUND

A. Site History

The site is located northeast of the intersection of McGraw Avenue and Preston Road in Livermore, Alameda County, California. The nearest surface water is Arroyo Seco, located approximately ½ mile south of the site and flow to the northwest. The site location is shown on Figure 1. The attached Figure depicts the site layout and features of concern. The site is currently vacant, but was formerly used by Call Mac Transportation as a truck storage and salvage yard. A site plan is shown in Figure 2.

According to Applied Remedial Technologies' (ART's) *Proposed Work Plan to Conduct Soil Removal and Confirmation Sampling of the Impacted Soils at the Former Diesel UST Dispenser Island, Below the Former Above Ground Storage Tanks, and at the Recent Diesel Spill Areas, 461 McGraw Avenue, Livermore, California, 94550*, issued to Alameda County Environmental Health Services (ACEH) April 2, 2007, an underground storage tank (UST) was removed from the site in 1995. A visual inspection of the UST after it had been removed revealed that it was generally in good condition, with no visible holes. No hydrocarbon odor or staining was reported in the former UST pit, and the three soil samples collected from the tank pit contained no detectable petroleum hydrocarbons. Both the field observations and the soil sample analytical results (soil samples S-1 through S-3) reported that no petroleum hydrocarbons were detected. In addition, one water sample was collected from the excavation from approximately 13 to 14 feet below ground surface (bgs). There were no detectable concentrations of any of the constituents analyzed.

One soil sample was collected below the dispenser island (S-4), and was found to contain 17,000 milligrams per kilograms (mg/kg) total petroleum hydrocarbons as diesel (TPH-d). This sample was collected from an area of obvious over-spillage. No benzene, toluene, ethylbenzene or xylenes (collectively BTEX) was detected.

According to information gathered during the development of this workplan, there are three ASTs (T-1 through T-3) located at the site. AST (T-1) appears to have been moved from another location (T-4) on the site. ART submitted *Work Plan to Remove the Three Remaining Storage Tanks, 461 McGraw Avenue, Livermore, California 94550* to the Livermore-Pleasanton Fire Department (LPFD) on April 2, 2007 outlining procedures for decommissioning and disposing of the ASTs and their contents, and for sampling the soil beneath the ASTs. According to the workplan ART submitted to ACEH, the Department of Toxic Substances Control (DTSC) has conducted soil sampling activities below two of the

existing ASTs. The soil analytical data show that the ASTs have impacted the soil below them, and excavation will be necessary in the area.

There are also a total of 34 small areas where petroleum hydrocarbon staining has been noted. There are also 7 larger areas of petroleum hydrocarbon staining that were the results of unauthorized releases during Golden State Metal's crushing of vehicles at the site.

On July 26, 2007, EIS issued *Soil Removal and Site Investigation Report, 461 McGraw Avenue, Livermore, California 94550*, which described excavation activities, sampling activities, and well repair activities at the site.

ACEH issued a letter in response to this report on August 3, 2007. In their letter, ACEH states that no additional investigation or soil removal for several locations, including the vicinity of the former pump island and underground storage tank (UST), the former lead-acid battery storage area, the surface stains attributed to Golden State Metals, Inc. (except for Area DO3, see Figure 2), three of the former aboveground storage tank areas (AST Areas T-1, T-2, and T-3, see Figure 2), and the water supply well in the northeast corner of the site.

The August 3, 2007, letter also included requests for additional work. ACEH requested remediation of the arsenic-impacted material of the building pad, explanation of the future use and/or disposal of the loading dock, additional excavation in area DO3, proper abandonment of the well in excavation T-4, a historical review for the site, the installation and sampling of three monitoring wells, and a soil gas survey. The proposed work for this site addresses all of ACEH's comments except the request for a soil gas survey, which will be planned at a later date.

B. Chemical Constituents of Concern. The following chemicals are likely to be present on site: benzene, toluene, ethylbenzene, and xylenes (BTEX)

#### C. Scope of Work

The Site Remediation and Investigation Activities will consist of the following tasks:

- ◆ Conduct an historical review of the property and prepare a report describing research sources and findings.
- ◆ Excavate and dispose of approximately 300 tons of arsenic-impacted soil from the building pad (Figure 3). Collect ten confirmation soil samples from the base of the excavation to be analyzed for arsenic using United States Environmental Protection Agency (EPA) Method 6010B.
- ◆ Excavate and dispose of approximately 90 tons of soil from Excavation DO3. Collect four confirmation soil samples from the base of the excavation and two confirmation soil samples from the sidewalls of the excavation. All samples will be analyzed for total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), and as oil (TPH-o) using EPA Method 8015B, and for methyl tert-butyl ether (MTBE), and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021B.

- ◆ Collect one four-point composite soil sample for waste profiling of the stockpiled soil and debris removed from Excavation E4. The sample will be analyzed for Title 22 Metals using EPA Method 6010B, TPH-o and TPH-d using EPA Method 8015M, and volatile organic compounds (VOCs) using EPA Method 8260B.
- ◆ Dispose of the soil and debris stockpile from Excavation E4, and dispose of portions of the loading dock where debris is intermixed with the soil. Any loading dock soil observed to be free of debris will be used to backfill open excavations onsite.
- ◆ Install and develop three monitoring wells: one near Excavation T-4, one near boring B-3, and one near Excavation DO3. Have the wells located by a professional land surveyor. Conduct two groundwater sampling events with a four-week interval between the events. Groundwater samples will be analyzed for TPH-g, TPH-d, and TPH-o using Method 8015B; for MTBE and BTEX using Method 8021B; and for Title 22 Metals using Method 6010B.
- ◆ Determine the total depth of the well in Excavation T-4, and decommission it according to Zone 7 Water District.
- ◆ Prepare a report describing all site activities, field methods, field observations, laboratory analyses, analytical results, conclusions, and recommendations.

### III. SITE CHARACTERIZATION / JOB HAZARD ANALYSIS

#### A. Physical Hazards

1. Operation of Heavy Equipment
  - a. Backhoe or Excavator
  - b. Geoprobe Truck
  
2. Electrical Shock
  - a. Overhead Wires 10 feet clearance
  - b. Faulty electric wiring on equipment
  - c. Faulty electric service to equipment
  
3. High Traffic Areas
  - a. Traffic barricades for work areas and traffic control if necessary
  
4. Drilling
  - a. Encountering underground utilities
  
5. Hearing Loss
  - a. Engine-driven equipment
  - b. Impact tools
  
6. Hazardous Chemical Exposure:
  - a. Soils and/or soil gas vapors may contain an assortment of residual BTEX. Chemicals are moderately toxic and highly flammable, causing explosive concentrations in air over a range of 0.8% to 6% by volume.
  
7. Chemical List: Residual gasoline is present onsite. Consult NIOSH Pocket Guide to Chemical Hazards for other information.

- a. Benzene
  - (1) Routes of entry
    - (a) Inhalation
    - (b) Ingestion
    - (c) Dermal contact
    - (d) Absorption
  - (2) Acute Symptoms
    - (a) Fatigue
    - (b) Eye, nose and skin irritation
    - (c) Giddiness
    - (d) Headache
    - (e) Nausea
    - (f) Staggered walk
    - (g) Anorexia
    - (h) Dermatitis
    - (i) Bone marrow depression
    - (j) Abdominal pain
- b. Toluene
  - (1) Routes of entry
    - (a) Inhalation
    - (b) Ingestion
    - (c) Dermal contact
    - (d) Absorption
  - (2) Acute symptoms
    - (a) Fatigue
    - (b) Weakness
    - (c) Confusion
    - (d) Euphoria
    - (e) Dizziness
    - (f) Headache
    - (g) Dilated pupils
    - (h) Muscle fatigue
    - (i) Lacrimation
    - (j) Insomnia
    - (k) Paresthesia
    - (l) Dermatitis
    - (m) Photophobia
- c. Ethylbenzene
  - (1) Routes of entry
    - (a) Inhalation
    - (b) Ingestion
    - (c) Dermal contact
  - (2) Acute symptoms
    - (a) Eye and skin irritations
    - (b) Headache
    - (c) Dermatitis

- (d) Narcosis
- (e) Coma
- d. Xylenes (ortho/meta/para isomers)
  - (1) Routes of entry
    - (a) Inhalation
    - (b) Ingestion
    - (c) Dermal contact
    - (d) Absorption
  - (2) Acute Symptoms
    - (a) Eyes, nose, throat and skin irritation
    - (b) Drowsiness
    - (c) Dizziness
    - (d) Excitement
    - (e) Incoherence
    - (f) Staggered walk
    - (g) Nausea
    - (h) Vomiting
    - (i) Abdominal pain
    - (j) Dermatitis

#### IV. TRAINING

- A. Potential Hazards - All personnel working at the site are made aware of all potential on-site hazards prior to the beginning of field work.
- B. Safe Work Practices - All personnel at the site are advised of safe work practices and hazard avoidance.
- C. SSP - All personnel, including subcontractors of EIS and all visitors to the site work areas, are to read the SSP and sign an acknowledgment indicating that they have reviewed and understand its contents.
- D. OSHA - All EIS Macoy resource Corporation and the Geoprobe Drilling Company field personnel have completed a minimum of 40-hour OSHA training and are updated annually with an 8-hour refresher course.

#### V. PERSONAL PROTECTIVE EQUIPMENT

- A. Level "D" protection for field crew installing soil borings and soil sampling:
  - 1. Chemically resistant steel-toed boots
  - 2. Hard hat
  - 3. Safety glasses - Eye protection must be worn whenever the potential for flying debris and or chemical splash is present.
  - 4. Hearing protection
  - 5. Leather gloves
  - 6. Denim or equivalent long pants
  - 7. Button up shirt

#### VI. HEALTH SURVEILLANCE

- A. Health surveillance will be on an individual and on a "buddy system" basis.
- B. All personnel are advised to pay particular attention for the symptoms of chemical exposure outlined in Appendix A.

## VII. EXPOSURE MONITORING PLAN

At the direction of the site safety officer exposure monitoring shall consist of:

- A. Direct observation for excessive fumes, dust or vapor clouds, or excessively noxious odors; or
- B. Direct reading instruments:  
(Equipment use depends on site-specific conditions).  
photo-ionization detector (PID), or a field gas chromatograph

## VIII. SITE CONTROL

- A. Work Zones - Areas will be designated after utility location survey and site reconnaissance with Macoy Resources Corp personnel and placed on site map and will be indicated in pre-field meeting.
  - 1. Exclusion Zone
    - a. Where work is performed, with all proper safety equipment, and employing safe work practices.
    - b. Public is excluded.
    - c. Area is barricaded with barricades, cones and/or caution tape.
    - d. Cones placed to guide public away from work area.
  - 2. Contamination Reduction Zone
    - a. Located outside the exclusion zone.
    - b. Place where personnel and/or equipment are decontaminated in the event of contact with hazardous chemicals, from either the soil, water and/or air (vapors).
  - 3. Support Zone
    - a. Clean zone or Support zone is located outside Contamination Reduction Zone.
    - b. Contains all job related support equipment and/or services.
- B. Location of Nearest Communication Equipment
  - 1. Cell phones on all responsible workers.
  - 2. All persons in the various zones will have remote communication equipment if necessary.
- C. Location of Nearest Medical Assistance
  - 1. On-site map shows nearest hospital. See Page 1 for address and telephone number.
- D. On-site Communication
  - 1. All personnel on-site will be made aware of common hand signals.
- E. Engineering Controls
  - 1. Site Map
    - a. Indicates work locations.

## IX. DECONTAMINATION

### A. Material Handling

1. All sampling equipment will be clean prior to use
2. Contaminated equipment will be taken off-site only after decontamination.
3. Disposal of wash and rinse water will be in compliance with all applicable regulations.

### B. Personal Hygiene

1. No smoking, eating, or drinking will take place in the exclusion zone or in the contamination reduction zone.
2. A designated break area may be established off-site. However, if smoking or open flames are permitted, any such facility must be established a minimum of at least 100 feet upwind of any of any vapor source and shall be tested for flammable gases and vapor at the start of work and prior to scheduled break periods each day.
3. Personnel must wash all exposed skin areas with soap and water in the decontamination area before departing the site or going on break.

## X. STANDARD OPERATING PROCEDURES

- A. Pre-project safety meeting prior to working.
- B. Sampling equipment calibrated before use.
- C. Respirator fit test (if required).
- D. Site work performed.
- E. Decontamination protocol followed.

## XI. CONTINGENCY PLAN / EMERGENCY PROCEDURES

### A. Personal Exposure (First Aid)

1. In the event that exposure symptoms are manifested, the victim will be taken up-wind and off-site. Seek qualified medical attention immediately.
2. Consult NIOSH Pocket Guide to Chemical Hazards prior to rendering first aid. Wash skin with soap and water immediately.
3. Inhalation - Move to fresh air and administer immediate artificial respiration if required.
4. Ingestion - Do not induce vomiting. If conscious, give water or milk to drink. Seek qualified medical attention immediately.
5. Eyes - Flush with water for at least 20 minutes while holding eyes open. Seek qualified medical attention immediately.

### B. Personal Injury- (Supervisors and field employees are trained in First Aid and CPR).

1. Provide basic first aid procedures as required; note time and circumstances of injuries. Follow these emergency action procedures:
  - a. Survey the scene.
    - (1) Is it safe to assist victim(s).
  - b. Conduct a Primary Survey
    - (1) Check for unresponsiveness and Airway, Breathing, and Circulation.



- c. Phone 911 for ambulance if necessary.
- d. Conduct a Secondary Survey.
  - (1) Interview victim
  - (2) Check vital signs
  - (2) Head to toe exam
- e. Transport to nearest medical facility as appropriate. Notify SSO. See directions and map in Appendix B for the nearest hospital emergency room.

C. Fire and Explosion Potential

- 1. Evacuate the area immediately and conduct a head count of all personnel. Notify fire department. Do not attempt to fight the fire. A fire extinguisher will be present on-site for immediate response by on OSHA certified person.

XII. LIST OF APPROPRIATE REFERENCE LITERATURE

- A. Title 29 CFR 1910 - OSHA General Industry Standard
- B. Title 29 CFR 1926 - OSHA Construction Standard
- C. Title 49 CFR 171-173 - DOT Regulations

APPENDIX A.

A. Potential Hazards

- 1. Exposure to Hazardous Chemicals
  - a. Hazardous / Toxic Materials
    - (1) Possible that the presence of BTEX in the shallow soil and groundwater exists.
  - b. Hazard Assessment
    - (1) Moderately toxic chemicals through inhalation, ingestion, absorption and skin contact, but possess good warning properties.
    - (2) Highly flammable and explosive when vapor concentrations range from 0.8 to 6% by volume.
- 2. Chemical Listing
  - a. **Benzene**
    - (1) Permissible exposure limit (PEL) = 10 ppm with a ceiling of 50 ppm for 10 minutes. (NIOSH)
    - (2) Action Level = 0.05 ppm
    - (3) Immediately Dangerous to Life or Health (IDLH) at 3,000 parts per million
      - (a) Carcinogenic
    - (4) Physical Properties
      - (a) Vapor pressure = 75 mm mercury
      - (b) Lower explosion limit (LEL) = 1.3%
      - (c) Upper explosion limit (UEL) = 7.9%
      - (d) Class 1B flammable liquid
    - (5) Target Organs
      - (a) Central Nervous System (CNA)

- (b) Skin
- (c) Blood
- (d) Eyes
- (e) Respiratory system
- (f) Bone marrow

**b. Toluene**

- (1) Permissible exposure limit (PEL) = 200 ppm with a maximum exposure of 500 ppm for 10 minute peak.
- (2) Action Level = 50 ppm
- (3) Immediately Dangerous to Life or Health (IDLH) at 2,000 parts per million
- (4) Physical Properties
  - (a) Vapor pressure = 22 mm mercury
  - (b) Lower explosion limit (LEL) = 1.2%
  - (c) Upper explosion limit (UEL) = 7.1%
  - (d) Class 1B flammable liquid
- (5) Target Organs
  - (a) Central Nervous System (CNA)
  - (b) Skin
  - (c) Liver
  - (d) Kidneys

**c. Ethylbenzene**

- (1) Permissible exposure limit (PEL) = 100 ppm
- (2) Action Level = 50 ppm
- (3) Immediately Dangerous to Life or Health (IDLH) at 2,000 parts per million
- (4) Physical Properties
  - (a) Vapor pressure = 10 mm mercury
  - (b) Lower explosion limit (LEL) = 1.0%
  - (c) Upper explosion limit (UEL) = 6.7%
  - (d) Class 1B flammable liquid
- (5) Target Organs
  - (a) Central Nervous System (CNA)
  - (b) Skin
  - (c) Upper respiratory system
  - (d) Eyes

**d. Xylenes (ortho/meta/para isomers)**

- (1) Permissible exposure limit (PEL) = 100 ppm with maximum exposure of 200 ppm for 10 minutes.
- (2) Action Level = 50 ppm
- (3) Immediately Dangerous to Life or Health (IDLH) at 1,000 parts per million
- (4) Physical Properties
  - (a) Vapor pressure = 7/9/9 mm mercury
  - (b) Lower explosion limit (LEL) = 1/1.0/1.1%
  - (c) Upper explosion limit (UEL) = 7/7/7%
  - (d) Class 1B flammable liquid - o xylene
  - (e) Class 1C flammable liquid - m,p xylenes
- (5) Target Organs

- (a) Central nervous system
- (b) Eyes
- (c) Liver
- (d) Kidneys
- (e) Skin
- (f) Blood
- (g) Gastro-intestinal tract

**First Aid:** 1. Get medical assistance for all cases of overexposure. Eyes: flush thoroughly with water. Skin: wash with soap and water. Inhalation: remove to fresh air. Ingestion: if conscious, induce vomiting.

## Directions to PLEASANTON, CA



### Summary and Notes

**START** **A** 461 Mcgraw Ave, LIVERMORE, CA

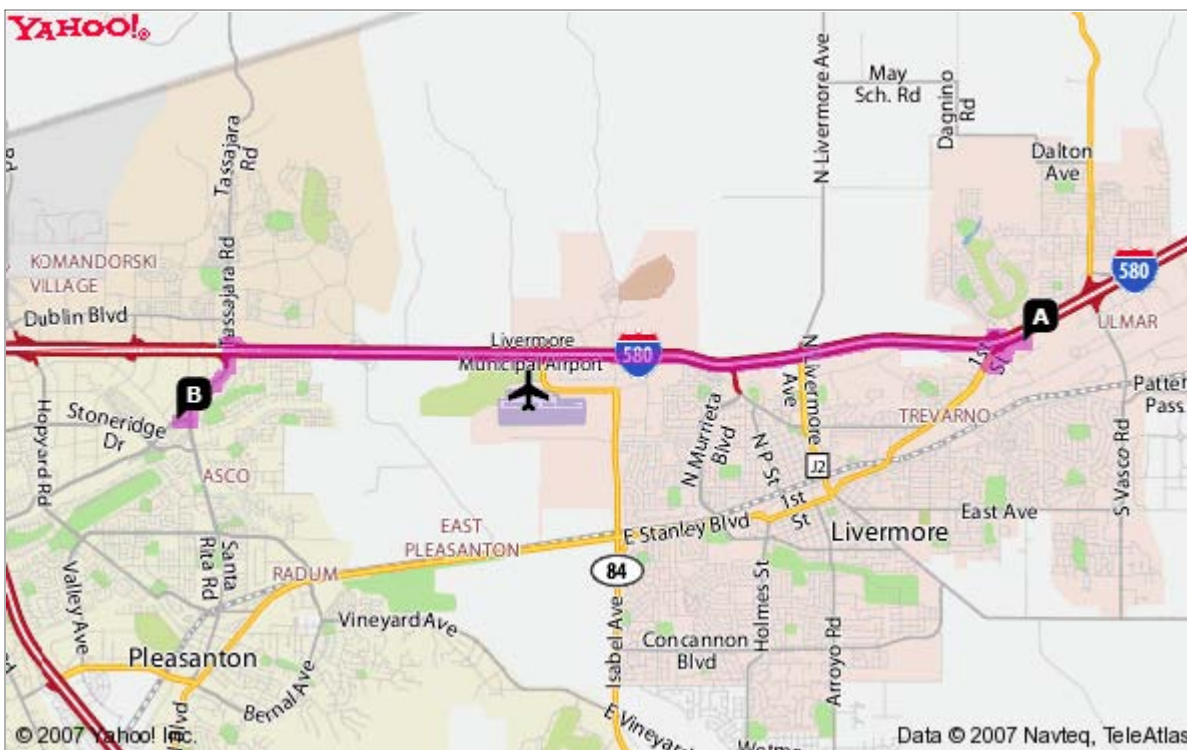
**FINISH** **B** Valleycare Health System (925)  
847-3000 ★★★★★  
5555 W Las Positas Blvd,  
PLEASANTON, CA

Total Distance: 9.1 miles, Total Time: 12 mins (approx.)

Add your notes here...

- | Distance    |   |
|-------------|---|
|             | <b>A</b> 461 MCGRAW AVE, LIVERMORE, CA                            |
|             | 1. Start at 461 MCGRAW AVE, LIVERMORE going toward SOUTHFRONT RD  |
| go < 0.1 mi |   |
|             | 2. Turn <b>L</b> on SOUTHFRONT RD                                 |
| go 0.4 mi   |   |
|             | 3. Turn <b>R</b> on 1ST ST  |
| go 0.3 mi   |   |
|             | 4. Continue on SPRINGTOWN BLVD                                    |
| go < 0.1 mi |   |
|             | 5. Turn <b>L</b> to take ramp onto I-580 W                        |
| go 7.0 mi   |   |
|             | 6. Take exit #47/TASSAJARA RD toward SANTA RITA RD                |
| go 0.3 mi   |   |
|             | 7. Turn <b>L</b> on SANTA RITA RD                                 |
| go 0.9 mi   |   |
|             | 8. Turn <b>R</b> on W LAS POSITAS BLVD                            |
| go 0.1 mi   |   |
|             | 9. Arrive at 5555 W LAS POSITAS BLVD, PLEASANTON, on the <b>R</b> |
|             | <b>B</b> 5555 W LAS POSITAS BLVD, PLEASANTON, CA                  |

Distance: 9.1miles, Time: 12 mins



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

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**Print**