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Alameda County  
Environmental Health

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## WORKPLAN

### ADDITIONAL SITE CHARACTERIZATION

*Mandela Trucking  
1225 Mandela Parkway  
Oakland, California 94607*

*ACEH Fuel Leak No. RO0000041 and  
GEOTRACKER Global ID T600102246*

PREPARED FOR:

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ALLWEST PROJECT No. 28074.23  
May 27, 2008

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President

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### ADDITIONAL SITE CHARACTERIZATION

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#### I. INTRODUCTION

This workplan describes tasks to further characterize site conditions at the Mandela Trucking facility, referenced above (Figure 1). This work is being performed in response to a request by Alameda County Environmental Health (ACEH) in their letters of February 6, 2008 and March 7, 2008 for additional technical information regarding the impact of a release of petroleum hydrocarbons at the subject site. This work will be completed after approval and with oversight of the ACEH.

The purpose of the proposed work is to further assess the lateral and vertical extent of petroleum hydrocarbon constituents in soil and groundwater at the site. The overall goal is to better define the extent of chemicals in the subsurface and mitigate, as required, the impact of the chemicals on human health and the environment.

This work plan briefly summarizes the site setting and background including previous investigations conducted at the property. A more detailed description of site conditions is presented in the Golden Gate Tank Removal, Inc. (GGTR) *Work Plan for Additional Site Characterization, Commercial Property, 1225 Mandela Parkway, Oakland, California. July 17, 2007.*

#### II. PROJECT BACKGROUND

##### A. Site Location and Description

The Mandela Trucking facility is located in a mixed residential and commercial area of Oakland California on the southwest corner of the intersection of Mandela Parkway and 13<sup>th</sup> Street. The subject property is bounded on the north by 13<sup>th</sup> Street then a park, to the east by Mandela Parkway then an industrial facility, to the south by residential development and to the west by a church and parking lot.

The subject property was developed in 1902 by three residential structures. Significant development occurred in the area after the 1906 San Francisco Earthquake. In 1957 a gasoline service station was sited at the property; tenants were reportedly included



ARCO and Union 76. A tucking facility, Mackey Trucking operated at the site from 1963 to 1983. Glasper-Mandela Trucking operated at the site from 1983 to 2003 when VA Transportation occupied the facility as an office and parking lot. According to photographs taken by GGTR in 2007 the property was being used to park tractor trailer trucks cabs. A vacant office building is located in the central portion of the property with a chained linked fence surrounding the property. \

## **B. Site Geology and Hydrogeology**

The subject property is approximately 20 feet above mean sea level on a gently sloping plain that dips westward to San Francisco Bay. Based on previous investigations performed by GGTR the site is located on unconsolidated, very fine grained, well sorted eolian (wind blown) sand (dune deposit) known as the Merritt Sand. The sand was encountered from below surface pavements to the maximum depth explored of 16 feet. Regional information indicate the Merritt Sand is up to 60 feet thick at locations in western Oakland and Alameda.

Groundwater has been encountered at depths of approximately 6 feet in geoprobe borings advanced at the subject property. It is reasonable to presume shallow groundwater depths vary seasonably with the highest levels recorded in the spring and the lowest in the late fall. A groundwater flow directions to the northwest has been calculated by GGTR using information obtained from temporary piezometers.

Deeper groundwater-bearing deposits are know to exist to depths of 500 feet in the area and are in turn underlain by bedrock of the Franciscan Assemblage. The Franciscan is comprised of a wide range of rocks consisting of sedimentary graywacke, sandstone, shale, mesomorphic greenstones and serpentine and volcanic rocks that have undergone a long and complex history of sedimentation, subduction, uplift, faulting and erosion. The Franciscan generally does not produce large amounts of groundwater and is considered "basement".

Groundwater in the area is considered a potential source of drinking water with some wells producing 1 to 2 million gallons per day. Historically, the Merritt sand was utilized as a shallow water source but impacts form septic systems and industrial releases has limited site use. The deeper unconsolidated sediments are considered potential water bearing sources. The Franciscan is generally not considered water bearing due to low yields.

## **C. Previous Site Investigations**

In July 1996 three 4,000 gallons underground storage tanks (USTs) were removed from the property. Two USTs stored diesel and one contained gasoline. Soil samples collected from either ends of the tanks were analyzed for total petroleum hydrocarbons calibrated as gasoline (TPH-G), benzene, toluene, ethyl benzene and xylene (BTEX) and Methy tert butyl ester (MTBE). These chemicals were either not detected or detected at "insignificant" concentrations. Total petroleum hydrocarbons as diesel (TPH-D) was detected at concentrations of up to 1,300 micrograms per kilogram (mg/Kg) equivalent to

part per million (ppm). No groundwater samples were reported collected. The excavation was not backfilled at the time of tank removal.

In January 1997 the ACEH requested various work items be performed, including additional soil sampling, soil excavation and disposal and the removal of an 425- gallon waste oil UST.

In August 1997 the ACEH issued a “Directive and Order” requiring the work be performed.

In June 1998 GGTR collected soil samples from exaction sidewall, floor and soil stockpiles and analyzed the samples for TPH-G, TPH-D, BTEX and MTBE. This suite of chemicals will be referred to as the Chemicals of Concern (COCs). Only trace levels of TPH-G and xylene were detected. At this time the waste oil UST was removed under the supervision of the Oakland Fire Department. One composite soil sample of material excavated from a soil stockpile sample and one clearance sample collected from the bottom of the tank pit were collected and analyzed. Elevated levels of TPH (5,800 mg/kg) were detected in the composite stockpile sample with 70 mg/kg detected in the sample collected from the bottom of the pit. The excavated stockpile soil was removed from the site and properly disposed. The waste oil excavation was then backfilled with “clean” imported fill.

In April 1999 GGTR over excavated and removed diesel impacted soil from the UST excavation. Discrete soil samples were collected from sidewalls. No COCs were detected. One “grab” groundwater was collected from the excavation; 70 microgram per liter (ug/L) equivalent to parts per billion of TPH-G was detected. Three fuel dispensers were removed at this time. Two soil samples were collected. Elevated levels of diesel (960 mg/kg and 12,000 mg/kg were detected.

In April 2000 GGTR collected a composite sample from a soil stockpile to ascertain if the material was suitable for reuse as backfill material. TPH-G, TPH-D, BTEX and MTBE were not detected. Lead was detected at a concentration of 140 mg/kg. The ACEH and the Oakland Fire Department subsequently approved the reuse of the stockpile material for backfilled and the UST excavation was backfilled with the on-site soil stockpile and “clean” imported fill.

In May 2006 GGTR removed approximately 85 feet of product lines. Soil samples were collected at approximate 20 foot intervals. GGTR did not find any evidence of a release and subsequently backfilled the excavations.

In June 2006 GGTR advanced four soil borings (SB-1 to SB-4) and three hydro punch (HB-1 to HB-3) in areas of potential concern (Figure 2). Elevated levels of TPH-D or TPH-MO were detected in groundwater samples collected from SB-1, located near the northern end of the former dispenser island. Elevated levels of an atypical TPH-D and TPH-MO were detected in soil and groundwater samples collected from SB-2 located near the southern end of the fuel dispenser island. Elevated levels of TPH-MO were detected in soil and groundwater samples collected from SB-4 located by the former waste oil UST. No significant levels of COCs were detected in soil or groundwater



sample collected from SB-3. No significant levels of the COC were detected in groundwater samples collected from any the three hydropunch borings.

No additional field work has been performed since June 2006.

### III. PURPOSE AND SCOPE OF WORK

The purpose of this investigation is to further evaluate the extent of COCs in soil and groundwater (the “media”). The scope of work as proposed, consists of the following tasks:

- 1) Prepare a written workplan for conducting a subsurface investigation at the site. Submit the plans to the ACEH for review and concurrence.
- 2) Obtain a drilling permit from the County of Alameda Public Works Agency (APWA)
- 3) Engage the service of Underground Service Alert (USA) and a private underground utility locator to locate and clear underground utilities within the proposed investigation area so that the potential of accidental damage to underground utilities will be reduced during proposed subsurface investigation. Notify the ACEH, APWA and the tenants 72 hours prior to the start of field work
- 4) Retain the service of a C-57 licensed drilling contractor for the advancement of ten geoprobe borings (SB-5 through SB-14) in the three areas of suspected release or spill sites, Nine geoprobe borings will be advanced to approximate depths of 10 feet with one boring in the vicinity of SB-2 advanced to a depth of 25 feet.
- 5) Collect soil samples at continuous intervals from each of the ten proposed geoprobe borings (SB-5 through SB-14). Collect two soil samples from each boring for possible chemical analysis. Soil samples from borings SB-5 through SB-8 will be collected from depths of 5 and 10 feet and analyzed for, TPH-D and TPH-MO per EPA method 8015 and TPH-G and BTEX per EPA method 8021. Soil samples from SB-9 and SB-10 will be tentatively sampled from depths of 3 and 10 feet and analyzed for TPH-D and TPH-MO per EPA method 8015 and TPH-G and BTEX per EPA method 8021. Soil samples from SB-11 through SB-14 will be collected from tentative depths of 5 and 10 feet and analyze for TPH-D and TPH-MO per EPA Method 8015 and Volatile Organics Compounds ( Full Scan) per EPA method 8260.  
  
Collect one “grab” groundwater from the deep boring and analyze for TPH-D and TPH-MO per EPA Method 8015 and Volatile Organics Compounds ( Full Scan) per EPA method 8260.
- 6) Maintain samples of all media under chain-of-custody and transport to a Department of Health Services (DHS) certified analytical laboratory for chemical analyses. Analyze selected soil and groundwater samples for the presence of TPH -D, TPH-MO per EPA Method 8010, TPH-G and BTEX by EPA method 8015 and Volatile Organics Compounds (Full Scan) per EPA method 8260.

- 7) At the completion of drilling backfill the geoprobe boring with a “neat” cement
- 8) Prepare a written report describing the field activities, summarizing the laboratory data, presenting investigation findings, and providing conclusions and recommendations. Upload the report to the ACES and GeoTracker databases.

#### IV. INVESTIGATIVE ACTIVITIES

##### A. Geoprobe Advancement

Ten soil borings (SB-5 through SB-14) will be advanced by the geoprobe methods to further delineate the extent of COCs in the subsurface. The proposed borings SB-5 through SB-8 will be located in the vicinity of the souther fuel dispenser, SB-9 and SB-10 will be located in the vicinity of the northern fuel dispenser and SB-11 through SB-14 in the vicinity of the former waste oil tank.

Prior to the start of drilling, permits will be obtained from APWA. Boring locations will be cleared of utilities prior to the start of drilling. Environmental Control Associates (ECA), a C-57 licensed drilling contractor will provide drilling services. Michael Siembieda, a California Professional Geologist (PG-4007) will oversee field work and drilling activities. The boring logs will contain pertinent information on drilling and soil conditions. Soil will be logged in accordance with the Unified Soil Classification System (USCS). Boring logs will be included in the final written report.

Soil Sampling Procedure via Geoprobe: Soil sampling will be accomplished using a nominal 4-foot long, 3-inch diameter galvanized steel drive probe and extension rods. The drive probe will be equipped with nominal 1-1/2 inch diameter clear plastic poly tubes that line the interior of the probe. The probe and insert tubes are together pneumatically driven using a percussion hammer in 4-foot intervals. After each drive intervals the drive probe and rods are retrieved to the surfaced. The poly tube containing subsurface soil is then removed. The drive probe is then cleaned, equipped with a new poly tube and reinserted into the boring with extension rods as required. The apparatus is then driven following the above procedure until the desired depth is obtained. The poly tubes and soil are inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples are screened for organic vapors using an organic vapor meter (OVM) photo ionizer detector (PID) or other appropriate device. OVM/PID readings, soil staining and other relevant observations are recorded. Selected soil sample intervals will be cut from the 4-foot intervals for analytical testing. The ends of samples for possible analytical testing are sealed using Teflon lined plastic end caps. The samples are labeled, and stored in an iced cooler.

Groundwater Sampling Procedure: Groundwater samples will be collected after the completion of soil sampling and when the borings have reached their designed depth. The steel probe and rods are then removed from the boring and new, nominal 1-1/2 inch diameter PVC solid and perforated temporary casing is lowered into the borehole. Depth



to water is then measured using an electronic groundwater probe. Groundwater samples will be collected using a stainless steel bailer or a Teflon disposable bailer. Upon retrieval of the bailer, the retained water will be transferred to appropriate sample bottles furnished by the analytical laboratory. All sample bottles for volatile organic analysis will have a Teflon lined septum/cap and be filled such that no headspace is present. Sample bottles will be labeled and immediately placed on ice to preserve the chemical characteristics of its content.

Borehole Backfilling: At the completion of drilling and sampling, the borings will be backfilled with a “neat” cement grout that is tremied into the borehole. The level of grout will be checked to ascertain if any settling has occurred and will be “topped off” if required.

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## **V. QUALITY ASSURANCE / QUALITY CONTROL PROGRAM**

### **A. Sample Preservation, Storage and Handling**

To prevent the loss of constituents of interest, all soil and groundwater samples will be preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. Soil vapor samples will be stored away from direct sunlight and transported in a way that limits significant changes in temperature and pressure.

### **B. Chain-Of-Custody Program**

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

## **VI. ANALYTICAL METHODS**

All samples selected for analysis will be analyzed by a State of California certified independent analytical laboratory. McCampbell Analytical, Pittsburg, California will perform all soil and groundwater analysis. However, other qualified laboratories may be utilized dependent on work load and time frame considerations.

The soil and ground water samples collected during this investigation will be analyzed for the following:



- Total Petroleum Hydrocarbons as Diesel and Motor Oil by EPA Method 8015;
- Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA Method 8021;
- Volatile Organic Compounds including petroleum hydrocarbon constituents by EPA Method 8260.

## **VII. REPORT PREPARATION**

A written report will be prepared for this investigation after the completion all field work and receipt of analytical results. Included in the report will be soil boring logs, chain-of-custody documents and copies of the analytical laboratory reports. The report will be prepared/reviewed by a California Professional Geologist.

The report and associated documents (chemical reports, survey data, boring logs, etc.) will be uploaded to the ACEH and GeoTracker databases.

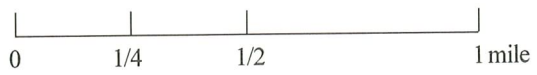
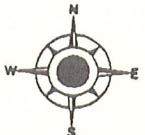
## **VIII. PROJECT STAFF AND SCHEDULE**

Mr. Michael L. Siembieda, a California Professional Geologist (PG-4007), will provide technical oversight for this project and act as the project manager and regulatory liaison. Additionally, AllWest's staff of engineers, geologists, and technicians will be employed to perform the various tasks of the project. AllWest will inform the County at least 72 hour prior to the start of field activities. AllWest will inform the GPP of any significant developments during the course of the investigations.

## **IX. LIMITATIONS**

AllWest has prepared this remedial investigation and corrective action plan for the exclusive use of Mr. Clarence Glasper (Client) for this particular project and in accordance with generally accepted practices at the time of the work and with our written proposal. No other warranties, either expressed or implied is made as to the professional advice offered. This plan is not a specification for the proposed work and should not be used to bid out any of the proposed work found within. Reliance on this plan by any party other than the Client is at the user's sole risk.





APPROXIMATE SCALE



**AllWest**

PROJECT NO.  
28074.23

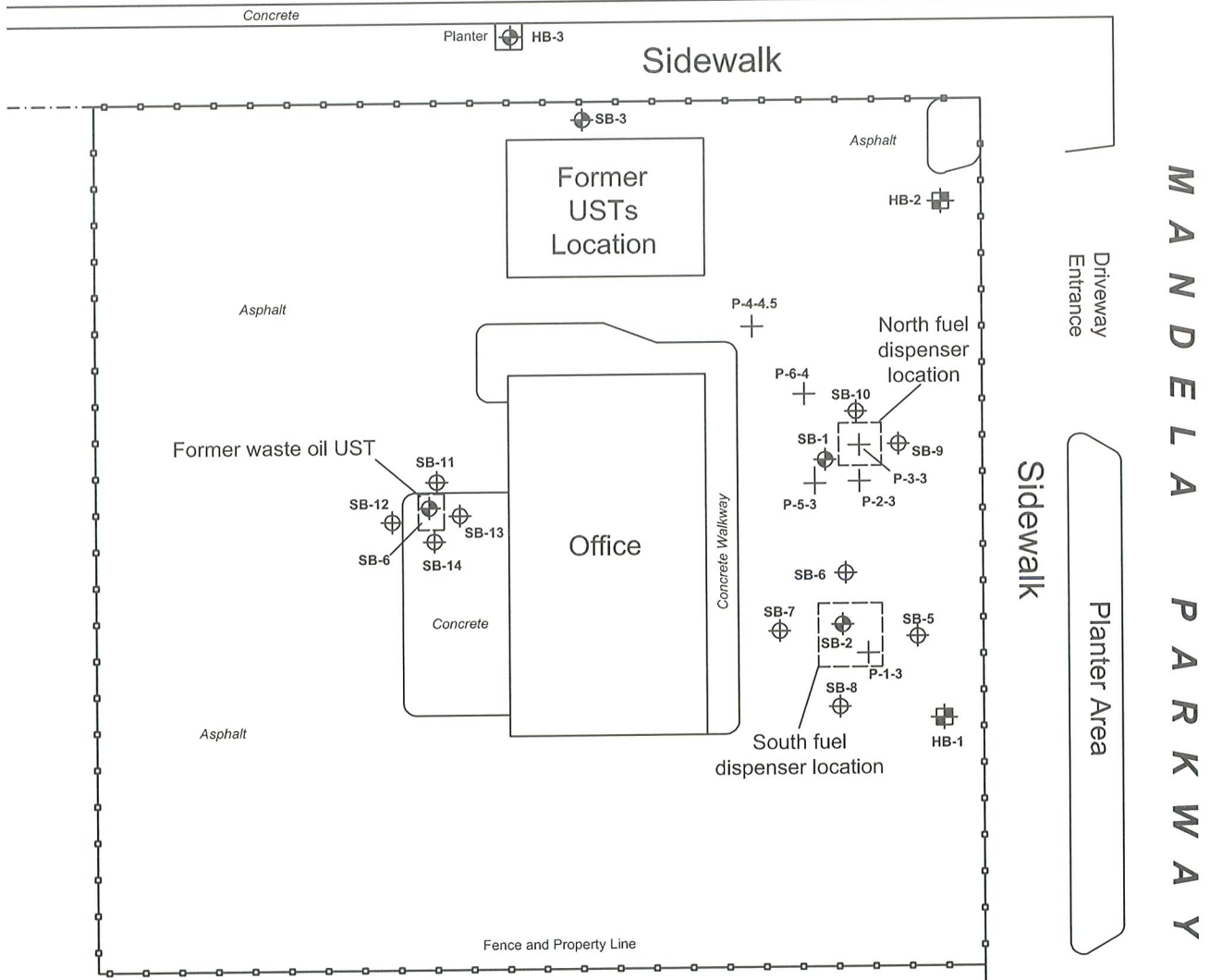
SITE LOCATION MAP	
FIGURE 1	
MANDELA TRUCKING WORK PLAN	
OAKLAND, CALIFORNIA	
SOURCE: DELORME TOPO 6.0	
DRAWN BY: CAROL RAMELB	DATE: 05/27/08



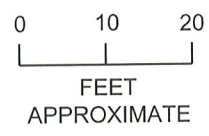
Presumed Groundwater  
Flow Direction




1 3 T H S T R E E T



- ⊕ PIPING SOIL SAMPLE LOCATION
- ⊗ SOIL BORING LOCATION
- ⊕ HYDRO PUNCH LOCATION
- ⊗ PROPOSED SOIL BORING LOCATION
- APPROXIMATE PROPOSED LIMITS OF EXCAVATION



NOTE:  
All locations are approximate  
Site information obtained from GGTR Workplan 07/17/07

	SITE PLAN & BORING LOCATIONS
	FIGURE 2
PROJECT NO. 28074.23	MANDELA TRUCKING WORK PLAN
	OAKLAND, CALIFORNIA
	Drawn by: CAROL RAMELB
	Date: 05/21/08