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**GROUNDWATER MONITORING WELL  
INSTALLATION REPORT**

*Former Mandela Trucking  
1225 Mandela Parkway  
Oakland, California 94607*

*Fuel Leak Case No. RO0000041  
And  
Global ID # T0600102246*

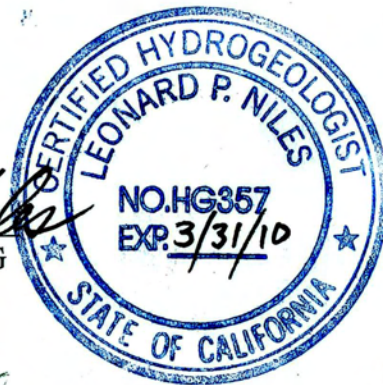
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ALLWEST PROJECT No. 29020.23.1  
August 4, 2009

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## TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY .....	Page 1
II.	PROJECT BACKGROUND .....	Page 2
	A. Site Location and Description.....	Page 2
	B. Site Geology and Hydrogeology.....	Page 3
	C. Previous Site Investigations.....	Page 3
III.	PURPOSE AND SCOPE OF WORK.....	Page 6
IV.	INVESTIGATIVE ACTIVITIES .....	Page 7
	A. Work Plan and Health and Safety Plan.....	Page 7
	B. Well Construction Permit .....	Page 7
	C. Underground Utility Inspection .....	Page 7
	D. Hollow Stem Auger Boring Advancement .....	Page 8
	E. Hollow Stem Auger Soil Sampling.....	Page 8
	F. Groundwater Monitoring Well Installation .....	Page 9
	G. Groundwater Monitoring Well Development and Sampling.....	Page 9
	H. Sample Preservation, Storage and Handling QA / QC .....	Page 11
	I. Monitoring Well Head Survey and Groundwater Gradient.....	Page 11
V.	ASSESSMENT FINDINGS .....	Page 12
	A. Subsurface Conditions .....	Page 12
	B. Laboratory Analysis and Sampling Data .....	Page 12
	C. Laboratory QA / QC .....	Page 14
VI.	DISCUSSION .....	Page 14
VII.	CONCLUSIONS AND RECOMMENDATIONS .....	Page 15
VIII.	REPORT LIMITATIONS .....	Page 17
IX.	REFERENCES .....	Page 18

### TABLES

Table 1:	Summary of Well Construction Details and Groundwater Elevation Data
Table 2:	Summary of Soil Sample Analytical Data, June 2009
Table 3:	Summary of Groundwater Sample Analytical Data, June 2009

### FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Plan with Boring and Well Locations
Figure 3:	Groundwater Elevation Contours, June 24, 2009
Figure 4:	Groundwater TPH-D Isoconcentration Map, June 25, 2009
Figure 5:	Groundwater TPH-D Isoconcentration Map, June 25, 2009

## APPENDICES

- Appendix A: Summary of Historical Soil and Groundwater Analytical Data
  - Table A-1: Summary of Historical UST Removal Soil Analytical Data, 1996-1997
  - Table A-2: Summary of Historical Product Line Removal / Subsurface Investigation Soil Analytical Data, 2006
  - Table A-3: Summary of Historical Groundwater Analytical Data, 2006
  - Table A-4: Summary of Historical Soil Analytical Data, 2008
  - Table A-5: Summary of Historical Groundwater Analytical Data, 2006
- Appendix B: Drilling Permits
- Appendix C: Boring Logs, Well Completion Diagrams, and Unified Soil Classification System
- Appendix D: Groundwater Purge and Sampling Field Logs
- Appendix E: Chain of Custody Documents and Laboratory Analytical Reports
- Appendix F: Wellhead Survey Report
- Appendix G: Authorization for Reliance and General Conditions



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**I. EXECUTIVE SUMMARY**

AllWest conducted a subsurface assessment in June 2009 at the property referenced above (“the subject site”, Figure 1), consisting of three groundwater monitoring well installations and the collection of soil and groundwater data. The subsurface assessment was performed to further evaluate the extent of petroleum hydrocarbons in soil and groundwater at subject site.

*This executive summary is provided solely for the purpose of overview. Any party who relies on this report must read the full report. The executive summary may omit details, any one of which could be crucial to the proper understanding and risk assessment of the subject matter.*

Groundwater monitoring wells MW-1, MW-2 and MW-3 were installed to a depth of 18 feet below ground surface (bgs) on June 22, 2009 (Table 1). Well MW-1 was located adjacent to the former fuel dispensers; wells MW-2 and MW-3 were located in the hydraulically downgradient to cross-gradient direction in the north and west areas of the subject site (Figure 2). Groundwater flow direction was to the northwest (Figure 3).

The new wells were developed by surging and bailing on June 24, 2009. Groundwater samples were collected from the three wells on June 25, 2009.

Soil and groundwater samples were analyzed for total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPH-g, TPH-d and TPH-mo); benzene, toluene, ethyl benzene and xylenes (BTEX); and methyl tert-butyl ether (MTBE).

TPH-g, TPH-d and TPH-mo were detected at respective concentrations of 16 milligrams per kilogram (mg/Kg), 6,700 mg/Kg, and 2,100 mg/Kg in one soil sample collected from a depth of 12.0 feet below ground surface (bgs) in the borehole of well MW-1 adjacent to the former fuel dispensers. The detected TPH-d concentration exceeded corresponding California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Level (ESL). TPH-g, TPH-d and TPH-mo were not detected in any other soil samples analyzed during this investigation. BTEX and MTBE were not detected in any soil samples analyzed during this investigation (Table 2).

TPH-g and TPH-d were detected in one shallow groundwater sample from well MW-1, at concentrations of 61 micrograms per liter ( $\mu\text{g/L}$ ) and 390  $\mu\text{g/L}$  (Table 3, Figures 4 and 5). The detected TPH-d concentration marginally exceeded the corresponding RWQCB ESL. TPH-g and TPH-d were not detected in any other groundwater samples collected during this investigation. TPH-mo, BTEX and MTBE were not detected in any groundwater samples collected during this investigation.

AllWest concludes that the downgradient and cross-gradient extent of the dissolved petroleum hydrocarbon plume in groundwater has been defined. The plume does not extend beyond the subject site boundaries. AllWest recommends case closure for the property as a low risk groundwater site.

## **II. PROJECT BACKGROUND**

### **A. Site Location and Description**

The Mandela Trucking facility is located at 1225 Mandela Parkway in a mixed residential, commercial and industrial area of Oakland, California on the southwest corner of the intersection of Mandela Parkway and 13th Street. The subject property (“site”) is bounded on the north by 13th Street, with a park across the street to the north; to the east by Mandela Parkway with an industrial facility across the street to the east; to the south by residential development; and to the west by a church and parking lot. The site location and vicinity are shown on Figure 1.

The site is an approximately 12,100 square feet lot developed with a 1,100 square foot office building. The entire site is surrounded by a chain link and barbed wire fence with locked gates. The building is centrally located with the remaining area formerly used for truck parking. The ground surface is paved with asphalt except for small areas of concrete on the east and west sides of the building. A 25 by 25 foot overhead canopy formerly covered the existing concrete dispenser island on the east side of the building [Golden Gate Tank Removal, *Work Plan for Additional Site Characterization*, July 17, 2007 (GGTR, 2007)].

The overhead canopy has since been removed, and the property is now used as a vehicle storage and maintenance yard by VA Transportation. The site and existing structures are shown on Figure 2.

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

The site is located approximately 1.3 miles southeast of San Francisco Bay and the Oakland Outer Harbor at an elevation of approximately 20 feet above mean sea level (ft MSL). The site occupies a broad alluvial plain formed by streams flowing from the Oakland Hills on the east to the San Francisco Bay on the west. Topographic relief at the site is nearly level with a slight gradient to the west-northwest toward Oakland Outer Harbor and San Francisco Bay.

The site is located within the East Bay Plain groundwater basin and Oakland Sub-Area basin. Shallow groundwater at the site vicinity is proposed for designation as Zone A and potentially has beneficial usage as a drinking water source, according to the Regional Water Quality Control Board, San Francisco Bay Region, *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, June 1999 (RWQCB, 1999).

Based on previous subsurface investigations, the asphalt in the parking lot is underlain by native soil consisting of grayish brown, silty to clayey sand of the Merritt Sand Formation. The Merritt Sand is generally a well sorted, medium to fine grained, former dune deposit to 20 feet below ground surface (bgs), the maximum depth explored. First encountered groundwater was at 12 to 16 feet bgs while static groundwater was measured to be at 10 to 14 feet bgs (AllWest, *Subsurface Investigation Report*, January 2009).

In June 2006, GGTR measured groundwater flow direction from three temporary piezometers at the subject site to be northwesterly at a gradient of 0.002 feet per foot (GGTR, 2007). Groundwater monitoring performed in April 2008 at a nearby site at 1409 to 1417 12<sup>th</sup> Street in Oakland indicated a highly irregular groundwater flow direction that varied from south-southwesterly to north-northeasterly (Impact Environmental Services, *Groundwater Well Installation and Initial Groundwater Monitoring Report, 1409-1417 12<sup>th</sup> Street, Oakland, California*, October 9, 2008).

## **C. Previous Site Investigations**

A detailed history of the subject site is presented in the Golden Gate Tank Removal *Work Plan for Additional Site Characterization* dated July 17, 2007 (GGTR, 2007). Less detailed summaries are presented in the AllWest *Subsurface Investigation Report*, dated September 12, 2008 (AllWest, 2008), *Subsurface Investigation Report*, dated January 12, 2009 (AllWest, January 2009), and *Monitoring Well Installation Workplan*, dated April 15, 2009 (AllWest, April 2009).

A brief summary of site usage and investigative and remedial activities at the subject site is presented below. Previous underground storage tank (UST) and investigative boring and sample locations are shown on Figure 2. A summary of historical soil and groundwater analytical data from 1996 through 2008 is included in Appendix A, Tables A-1 through A-5.

In 1957 a gasoline service station was sited at the subject site. A trucking 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 (VA) occupied the facility as an office and parking lot. The site is currently used by VA as a storage and maintenance yard.

In July 1996, three 4,000 gallon capacity USTs were removed from the property (Figure 2). Two USTs stored diesel and one contained gasoline. Elevated concentrations of total petroleum hydrocarbons as diesel (TPH-d) were detected in confirmatory soil samples. The excavation was not backfilled at the time of tank removal. In June 1998 GGTR collected additional soil samples from the excavation sidewall, floor and soil stockpiles.

The 425-gallon waste oil UST was removed in June 1998, and soil samples collected from the bottom of the tank pit and soil stockpile. Low concentrations of TPH were detected in the confirmatory pit sample. The excavated stockpile soil was removed from the site and properly disposed, and the waste oil UST excavation was then backfilled with “clean” imported fill.

In April 1999 GGTR over excavated and removed TPH-d impacted soil from the UST excavation. Low concentrations of TPH-g were detected in a “grab” groundwater sample collected from the excavation. Three fuel dispensers were removed at this time, with elevated concentrations of TPH-d detected in confirmatory soil samples. A summary of historical soil analytical data from the GGTR UST removal activities in 1996 to 1999 is presented in Appendix A, Table A-1.

In April 2000 GGTR collected a composite sample from a soil stockpile to ascertain if the material was suitable for reuse as backfill material. After analysis and approval by the ACEH and the Oakland Fire Department, 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 (Figure 2). Low concentrations of TPH-g, TPH-d and total petroleum hydrocarbons as motor oil (TPH-mo) were detected in confirmatory soil samples. GGTR did not find any evidence of a release and subsequently backfilled the excavations. A summary of historical soil analytical data from the GGTR product line removal activities in 2006 is presented in Appendix A, Table A-2.

In June 2006 GGTR advanced four soil borings (SB-1 to SB-4) and three Hydro Punch™ sample probes (HB-1 to HB-3) in areas of potential concern (Figure 2). Elevated levels of TPH-g, TPH-d and TPH-mo were detected in soil and groundwater samples collected from borings SB-1, SB-2 and SB-4, located near the northern and southern ends of the former dispenser island, and by the former waste oil UST (GGTR, 2007). A summary of historical soil and groundwater analytical data from the GGTR subsurface investigations in 2006 is presented in Appendix A, Tables A-2 and A-3.

AllWest conducted a subsurface investigation on July 14, 2008 at the subject site including the advancement and sampling of ten Geoprobe™ boreholes, SB-5 through SB-14 (Figure 2). Borings were sited to further delineate the spatial extent of petroleum hydrocarbons in the vicinity of the dispenser islands and former waste oil tank. Soil samples were collected from each boring. One “grab” groundwater sample was collected from SB-7. Only one soil sample, collected from SB-7, contained significant concentrations of TPH-g, TPH-d and TPH-mo (Table A-4).

Trace levels of tetrachloroethene (PCE) were detected in a soil sample collected from SB-11 located adjacent to the former waste oil tank. Two soil samples, from SB-9 contained low concentrations of lead (Table A-4). The groundwater sample collected from SB-7 had a visible petroleum sheen and noticeable odor, and contained elevated concentrations of TPH-g, TPH-d and TPH-mo (Table A-5).

AllWest concluded that the source of the detected hydrocarbons in site groundwater was likely from spills or leaks from a fuel dispenser or ancillary piping located at the southern end of the fuel island by boring SB-2, and that a groundwater plume was detected in the vicinity of SB-7. The vertical and horizontal extent of the plume was not fully defined. This finding amplified data reported by GGTR in 2006 (AllWest, 2008).

AllWest conducted an additional subsurface investigation on November 21, 2008 at the subject site including the advancing and sampling of six Geoprobe™ boreholes, SB-15 through SB-20. Borings were sited along the western, northern and southern sides of the subject site building to further delineate the spatial extent of the COCs hydraulically downgradient and crossgradient of the former fuel dispensers and USTs (Figure 2). One “grab” groundwater sample was collected for analytical testing from each boring.

Petroleum hydrocarbons were detected in laboratory analysis of all six groundwater samples collected. The highest concentrations were detected in the groundwater sample collected from SB-19, located downgradient from the fuel dispensers and adjacent to the former USTs, with elevated concentrations of TPH-g, TPH-d and TPH-mo. Additionally, low concentrations of volatile organic compounds (VOCs) were detected in the groundwater samples collected from SB-19 and SB-20 (Table A-5).



A summary of historical soil and groundwater analytical data from the AllWest subsurface investigations in 2008 is presented in Appendix A, Tables A-4 and A-5. AllWest concluded that the 2008 subsurface investigations had further delineated the downgradient and crossgradient extent of the petroleum hydrocarbon plume in groundwater. The source of the detected hydrocarbons in site groundwater was likely from spills or leaks from a fuel dispenser or ancillary piping located at the southern end of the fuel island by boring SB-2. This finding amplified data reported by GGTR in 2007 (AllWest, 2009).

### **III. PURPOSE AND SCOPE OF WORK**

The purpose of this investigation was the collection of soil and groundwater data to provide additional characterization of site hydrogeology, vertical and lateral extent of petroleum hydrocarbons in soil and groundwater, and potential human health impacts from the release at the subject site by installing and sampling permanent groundwater monitoring wells. The scope of work consisted of the following tasks:

- 1) Prepare a written work plan and site specific health and safety plan for conducting a subsurface investigation at the site. Submit the work plan to the ACEH for review and concurrence.
- 2) Obtain a drilling permit from the Alameda County Public Works Agency (ACPWA)
- 3) Engage the services of Underground Service Alert (USA) and a private underground utility locator to locate and clear underground utilities within the proposed investigation area to reduce the potential of accidental damage to underground utilities. Notify the RWQCB, ACPWA and the tenants 72 hours prior to the start of field work.
- 4) Retain the services of a C-57 licensed drilling contractor for the advancement of three nominal 8-inch diameter soil borings to approximate depths of 18 feet bgs, using a truck-mounted hollow stem auger (HSA) drill rig. Boring locations are shown in Figure 2. Collect continuously cored soil samples during drilling for lithology identification and chemical analysis.
- 5) After reaching the proposed depth, complete the borings as two-inch diameter PVC groundwater monitoring wells (MW-1 through MW-3). Develop the new wells using surge block and bailer methods to remove fines and improve hydraulic conductivity with the surrounding formation.
- 6) Measure groundwater levels, purge a minimum of three casing volumes and collected groundwater samples from the three new wells MW-1 through MW-3.

- 7) Maintain samples under chain-of-custody and transported the samples to a Department of Health Services (DHS) certified analytical laboratory for chemical analyses. Analyze groundwater and soil samples for TPH-g (EPA 8015Bm), TPH-d and TPH-mo (EPA 8015B) with silica gel cleanup, and BTEX/MTBE (EPA 8021).
- 8) Survey the new well head elevations and locations by NAD 1983 and NAVD 1988 datum using a California Licensed Land Surveyor in accordance with State Water Resources Control Board (SWRCB) GeoTracker protocol.
- 9) 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 SWRCB GeoTracker databases. Prepare California Department of Water Resources (DWR) Well Completion Reports with driller's signature and submit to ACPWA.

#### **IV. INVESTIGATIVE ACTIVITIES**

##### **A. Work Plan and Health and Safety Plan**

AllWest prepared and submitted a *Monitoring Well Installation Workplan* to the ACEH on April 15, 2009 proposing the installation of three groundwater monitoring wells at the subject site, in response to the ACEH letter dated March 6, 2009. The ACEH approved the *Workplan* in their letter of May 15, 2009, with the modification that soil samples be collected continuously in all three well borings; and that samples from the capillary fringe zone and zones containing staining, odor, or elevated photo-ionization detector readings be submitted for chemical analysis.

AllWest also prepared a site specific health and safety plan prior to mobilizing to the site. A tailgate safety meeting was held prior to commencing work. All site personnel were required to review the health and safety plan.

##### **B. Well Construction Permit**

Prior to the start of subsurface activities a well construction permit (numbers W2009-0178 to W2009-0180) was obtained from ACWPA for the groundwater monitoring well installations. The permit is included in Appendix A. The ACPWA was notified at least 72 hours prior to drilling and well construction activities. A copy of the well construction permit is included in Appendix B.

##### **C. Underground Utility Inspection**

To avoid damage to underground utility installations during the course of the subsurface investigation, AllWest contacted Underground Service Alert (USA), an organization for public utility information, at least 72 hours prior to the

pending subsurface investigation. USA then notified public and private entities that maintained underground utilities within the site vicinity to locate and mark their installations for field identification. An underground utility locator (Subtronic, Inc.) was also employed by AllWest on June 19, 2009 to conduct a magnetometer sweep investigation to locate marked and unmarked underground utilities in the vicinity of the proposed boring locations.

#### **D. Hollow Stem Auger Boring Advancement**

Three groundwater monitoring wells, (MW-1 through MW-3) were installed at the property on June 22, 2009 as shown on Figure 2. All wells were installed at exterior locations in paved parking areas or driveways.

Groundwater monitoring well MW-1 was located immediately southwest of the former fuel pump island within the petroleum hydrocarbon plume source area adjacent to previous boring SB-7. MW-2 was located in the driveway along the northwest subject property boundary near 13<sup>th</sup> Street, approximately 70 feet northwest of the former fuel pump island to monitor anticipated downgradient conditions. MW-3 was located near the west subject property boundary, approximately 85 feet west of the former fuel pump island to assess groundwater conditions cross to downgradient of the hydrocarbon plume source area.

Monitoring wells MW-1, MW-2 and MW-3 were drilled and installed on June 22, 2009 using a truck mounted hollow stem auger (HSA) drill rig. The boreholes for the wells were initially hand augered to 5 feet bgs to clear for underground utilities. The borings were then advanced using HSA to a terminal depth of 18 feet bgs. The HSA drill rigs was equipped with nominal 3.75-inch inside diameter (ID) and 8-inch outside diameter (OD), hollow stem augers and operated by Clear Heart Drilling, Inc. of Santa Rosa, California, a C-57 licensed drilling contractor.

Field activities were conducted under the direction of a California licensed Professional Geologist. During the borehole advancement operations, an environmental professional from AllWest was present to collect representative soil samples, to conduct field vapor screening and to maintain a continuous log of drilling activities. Soil vapor headspace and ambient concentrations was monitored using a photo-ionization detector (PID). Boring logs were kept to note pertinent information on drilling and soil conditions. Soil was be logged in accordance with the Unified Soil Classification System (USCS). Boring logs are included in Appendix C.

#### **E. Hollow Stem Auger Soil Sampling**

Soil samples were collected continuously from 5 feet bgs to the terminal depth of 18 feet bgs with a two-inch diameter California Modified split-spoon sampler equipped with 2 x 6 inch stainless steel liners. Soil samples were collected for

lithologic characterization and potential chemical analysis. Four soil samples collected from boring MW-1, located nearest to the fuel dispenser release source area, at depth intervals of approximately 7.5 to 8 feet bgs, 9.5 to 10 feet bgs, 11.5 to 12 feet bgs, and 14 to 14.5 feet bgs, were selected for chemical analysis based upon soil vapor headspace concentrations monitored using a PID.

One soil sample was collected for chemical analysis from each of the downgradient borings MW-2 and MW-3 at the capillary fringe zone above first encountered groundwater at depth intervals of approximately 9 to 10 feet bgs. Sample tubes selected for chemical analysis were capped with Teflon lined plastic caps. Sample containers were labeled, placed in a refrigerated environment and transported under chain-of-custody control to the analytical laboratory.

#### **F. Groundwater Monitoring Well Installation**

After the borings MW-1 through MW-3 were advanced to their total depth of 18 feet bgs, well casings were installed through the center of the hollow stem augers. Well casing was composed of new 2-inch inside diameter (ID) schedule-40 PVC pipe. The casing screen sections consisted of factory perforated 0.01-inch slots and extended for a 10 foot interval above the bottom of the boring to intersect the designated saturated zone. Non-perforated (blank) pipe was used to complete the well casing from the top of the screen section to the ground surface. Well casing depths and screen intervals are summarized in Table 1.

After the well casings were set, the augers were removed in sections while the sand filter pack was placed. The filter pack around the well screened intervals consisted of a pre-washed #2/12 Monterey sand placed in the annular space from the well bottoms up to one foot above the screened intervals. An approximate two-foot thick hydrated bentonite pellet or chip seal was then placed in the annular spaces above the filter packs to prevent surface water infiltration. The remaining annular spaces in the boreholes were then backfilled with neat Portland cement grout up to approximately one foot below the ground surface.

A representative of ACPWA inspected the grout sealing of the wells. The well casings were protected by flush-mounted traffic-rated vault boxes set in concrete annular surface seals. A water-tight locking end-cap was placed on top of each well casing to prevent surface water intrusion and unauthorized access. Well construction details are included Appendix C.

#### **G. Groundwater Monitoring Well Development and Sampling**

The three groundwater monitoring wells MW-1 through MW-3 were developed by AllWest on June 24, 2009 to remove fine sediments from the well and borehole annulus and to enhance hydraulic conductivity with the surrounding formation. Development was performed at least 48 hours after completion to allow the grout seals to adequately cure. Prior to well development, an electric

water depth sounder was lowered into each well casing to measure the depth to the water to the nearest 0.01 feet below top of casing (TOC). Depth to groundwater ranged from 8.61 to 9.75 feet below TOC. The wells were then developed by surging and bailing. Groundwater clarity was monitored during well development. Dewatering occurred during development after approximately 4 to 6 well casing volumes were removed from each well. Groundwater development field logs are included in Appendix D.

Monitoring wells MW-1 through MW-3 were allowed to stabilize a minimum of 24 hours after development prior to purging and sampling. Prior to well purging on June 25, 2009, an electric water depth sounder was lowered into each well casing to measure the depth to the water to the nearest 0.01 feet below TOC. Depth to groundwater ranged from 8.71 to 9.81 feet below TOC; however, water levels were still rising and did not appear to have completely stabilized from dewatering during development the previous day, although they had recovered to more than 99% of the pre-development levels.

A new, disposable Teflon bailer was lowered into each well casing and partially submerged. Upon bailer retrieval, the surface water was retained and examined for any floating product or product sheen. After all initial measurements were completed and recorded, a minimum of 3 well volumes of groundwater were purged from each well with new, disposable Teflon bailers. Groundwater characteristics, temperature, pH and conductivity were monitored at each well volume interval. Purging was continued until groundwater parameters stabilized to within 10%.

Dewatering did not occur during purging. Following purging, groundwater samples were collected from each well with new, disposable Teflon bailers. Upon bailer retrieval, the water was transferred to appropriate sample bottles furnished by the analytical laboratory. Three 40 milliliter (ml) volatile organic analysis (VOA) glass vials and one 1-liter amber glass bottle were filled from each well for TPH-g, BTEX, MTBE, TPH-d and TPH-mo analysis. All sample bottles for volatile organic analysis had Teflon™ lined septum/caps and were filled such that no headspace was present. The sample bottles were then labeled and placed on ice inside a cooler awaiting transport under chain-of-custody control to the analytical laboratory. Groundwater purge and sampling field logs are included in Appendix D.

To help prevent cross contamination, all groundwater sampling equipment that came in contact with the groundwater was decontaminated prior to sampling. To minimize the possibility of cross contamination, a new disposable bailer was used to collect each groundwater sample. All investigative derived wastes, soil (drill cuttings) and water (decontamination, development and purge water) were temporarily stored at the property in 55-gallon drums, awaiting test results to determine the proper disposal method.

## **H. Sample Preservation, Storage and Handling QA / QC**

To prevent the loss of constituents of interest, all soil and groundwater samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. All groundwater samples were preserved by using laboratory prepared and supplied sampling vials which contained hydrochloric acid as a preservative. The standard chain-of-custody protocols were followed through all stages of sample handling.

All samples collected for this project were transported to the analytical laboratory 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 also includes the name of person receiving the samples, and date and time samples were received. Copies of chain of custody documentation are included in Appendix E.

## **I. Monitoring Well Head Survey and Groundwater Gradient**

AllWest contracted with a licensed California land surveyor, CSS Environmental Services, Inc., to establish vertical and horizontal control of the three monitoring wellheads (MW-1, MW-2 and MW-3) using NAD 1983 and NAVD 1988 datum in accordance with SWRCB GeoTracker protocol. A notch was set in the top of each PVC casing during the installation process and subsequently used as the TOC elevation reference point to measure water depths. This notch, as well as the vault box top, were surveyed to an accuracy of 0.01 feet and referenced to mean sea level (MSL). Wellhead elevation data is summarized in Table 1. The wellhead elevation survey report is included in Appendix F; location data is pending. Wellhead elevation and location data will be uploaded to the GeoTracker database when available.

The wellhead elevation data along with depth to water measurements were used to calculate local groundwater flow direction and gradient. The pre-development water level data from June 24, 2009 were used for gradient calculations, since water levels on the June 25, 2009 sampling date had not completely stabilized from development on the previous day. The direction of groundwater flow was to the northwest at a gradient of 0.0013 feet per foot. Water level measurements were also conducted during the well elevation survey on July 10, 2009, and indicated a groundwater flow direction to the west at a gradient of 0.001 feet per foot. Groundwater elevation data is summarized in Table 1. A groundwater elevation contour map for June 24, 2009 is included as Figure 3.

## V. ASSESSMENT FINDINGS

### A. Subsurface Conditions

#### Soil

The entire surface of the property is overlain with pavement consisting of asphalt, concrete and an unoccupied building. A 6-inch thick concrete slab was encountered at ground surface in boring MW-1, underlain by clayey gravel baserock fill to 1.5 feet bgs. A 3-inch thick layer of asphalt pavement was encountered at ground surface in borings MW-2 and MW-3, underlain by clayey gravel baserock fill to 1 to 1.5 feet bgs. Below the pavement and fill material, native soil was encountered consisting of yellowish brown to olive brown well-sorted fine-grained sand, silty sand, and clayey sand of the Merritt Sand Formation. The Merritt Sand is generally a well sorted, medium to fine grained, former dune deposit. A thin layer of sandy clay was encountered in boring MW-1 at approximately 7.5 to 8.5 feet bgs. Moisture content increased with depth. Olive gray staining and faint hydrocarbon odor were noted in soil samples collected from a depth of approximately 10 to 13 feet in boring MW-1 only. Photo-ionization detector (PID) readings of hydrocarbon vapor concentrations in soil sample headspace were very low (less than 2 ppm). Boring logs are included in Appendix C.

#### Groundwater

Groundwater was first encountered during boring advancement at approximately 9.5 to 10 feet bgs. Depth to groundwater stabilized at an approximate depth of 9 to 10 feet bgs, which is consistent with the July 2008 investigation. Purged groundwater was turbid, containing suspended very fine sand, silt and clay. Odor was noted only in purged groundwater from well MW-1. Product sheen was not noted in purged groundwater. Immiscible product sheen was noted in laboratory analytical reports for the sample collected from well MW-1, which contained the only petroleum hydrocarbon concentrations detected during this investigation. Turbidity of greater than 1% solids was noted in laboratory analytical reports for all three groundwater samples collected. High suspended solids content may have a detrimental but unquantifiable effect on the accuracy of laboratory analytical results for dissolved constituents. Boring logs showing first encountered groundwater are included in Appendix C, groundwater elevation data is included in Table 1.

### B. Laboratory Analysis and Sampling Data

All soil and groundwater samples selected for analysis were analyzed by a State of California certified independent analytical laboratory, McCampbell Analytical, Inc., of Pittsburg, California.

All samples were analyzed on a five day turn-around basis for TPH-g per EPA Method 8015Bm, BTEX and MTBE per EPA Method 8021B, and TPH-d and TPH-mo per EPA Method 8015B with silica gel clean-up. Analytical methods were chosen based on historic site usage and results of previous investigations. Copies of the laboratory data sheets are attached as Appendix E.

The silica gel cleanup procedure is used to remove biogenic interferences that can cause high biases or false positives in the TPH-extractables or Oil & Grease analyses. This cleanup procedure removes polar compound interferences, notably vegetable and animal products (oils, sugars, and fatty acids) from the extract without affecting the petroleum hydrocarbons, since most petroleum products are non-polar.

### Soil

Laboratory soil sample data are summarized in Table 2; laboratory data reports are included in Appendix E. Four soil samples collected from boring MW-1, at depth intervals of approximately 7.5 to 8 feet bgs, 9.5 to 10 feet bgs, 11.5 to 12 feet bgs, and 14 to 14.5 feet bgs, were selected for chemical analysis based upon staining, odor, soil vapor headspace concentrations monitored using a PID, and location within the capillary fringe zone. MW-1 was located nearest to the fuel dispenser release source area. One soil sample was collected for chemical analysis from each of the downgradient borings MW-2 and MW-3 at the capillary fringe zone above first encountered groundwater at depth intervals of approximately 9 to 10 feet bgs.

TPH-g, TPH-d and TPH-mo were detected at respective concentrations of 16 mg/Kg, 6,700 mg/Kg, and 2,100 mg/Kg in one soil sample collected from a depth of 12.0 feet below ground surface (bgs) in boring MW-1. TPH-g, TPH-d and TPH-mo were not detected in any other soil samples analyzed during this investigation. BTEX and MTBE were not detected in any soil samples analyzed during this investigation.

### Groundwater

Laboratory groundwater sample data are summarized in Table 3, TPH-d and TPH-mo concentrations in groundwater are shown in Figures 4 and 5, and laboratory data reports are included in Appendix E. TPH-g and TPH-d were detected in one shallow groundwater sample from well MW-1, at concentrations of 61 µg/L and 390 µg/L. TPH-g and TPH-d were not detected in any other groundwater samples collected during this investigation. TPH-mo, BTEX and MTBE were not detected in any groundwater samples collected during this investigation.



### C. Laboratory QA/QC

A review of laboratory internal quality assurance/quality control (QA/QC) report indicates the method blank and sample spike data for all analyses were within the laboratory recovery limits. The samples were also analyzed within the acceptable EPA holding times. The data from the McCampbell Analytical laboratory are considered to be of good quality. Laboratory analytical reports and chain-of-custody records are included in Appendix E.

## VI. DISCUSSION

### Site Hydrogeology

The lithology encountered during the current investigation is consistent with that encountered during the previous subsurface investigation, and consisted of well-sorted fine-grained sand, silty sand, and clayey sand of the Merritt Sand Formation. Unconfined shallow groundwater was encountered within clayey gravel layers at approximately 9.5 to 10 feet bgs, and rose to a static level of approximately 9 to 10 feet bgs. Well yield was fairly low and water level recovery slow following purging. The direction of groundwater flow was to the northwest at a gradient of 0.0013 feet per foot (Figure 3).

### Soil Screening Levels

AllWest compared soil sample analytical data generated during this assessment to Environmental Screening Levels (ESLs) compiled by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, November 2007, revised May 2008), and listed in *Tables A and C – ESLs for Shallow [and Deep] Soils where Groundwater is a Current or Potential Source of Drinking Water*. We chose these Tables because the RWQCB considers site groundwater to be a potential drinking water source. Under most circumstances, the presence of a chemical at a concentration below the corresponding ESL is presumed to not pose a significant risk to human health and the environment. Since the site is paved and in a commercial/industrial area, there is no direct contact exposure pathway and residential exposure standards do not apply.

The only detected TPH-d concentration, at 6,700 mg/Kg in a soil sample collected from a depth of 12.0 feet bgs in boring MW-1, exceeded the corresponding RWQCB ESL of 83 mg/Kg. The only detected TPH-g and TPH-mo concentrations, at 16 mg/Kg and 2,100 mg/Kg, also in the soil sample from 12.0 feet bgs in boring MW-1, did not exceed their corresponding ESLs of 83 mg/Kg and 2,500 mg/Kg (Table 2).

### Groundwater Screening Levels

To assess if the identified petroleum hydrocarbons in the groundwater pose a risk to human health and the environment, concentrations were compared with the RWQCB

ESLs from *Table F-1A – Groundwater Screening Levels (Groundwater is a Current or Potential Drinking Water Resource)*, (RWQCB, 2008).

The only detected TPH-d concentration of 390 µg/L, from well MW-1, marginally exceeded the corresponding RWQCB ESL of 100 µg/L. The only detected TPH-g concentration of 61 µg/L, also in MW-1, did not exceed the corresponding RWQCB ESL of 100 µg/L (Table 3).

#### *Petroleum Hydrocarbon Distribution in Groundwater*

Data from the current investigation further delineates the extent of the dissolved petroleum hydrocarbon plume characterized in previous investigations. The only petroleum hydrocarbons detected in soil or groundwater during the current investigation were from well MW-1 located near the likely petroleum hydrocarbon source area near the fuel dispensers or ancillary piping located at the southern end of the fuel island. The petroleum hydrocarbon concentrations detected in groundwater samples from well MW-1 were lower than those detected in samples from the adjacent but slightly downgradient boring SB-7 during the July 2008 investigation.

The area of highest dissolved petroleum hydrocarbon concentrations extends in an elliptical plume along a northwest trending axis in the estimated hydraulic gradient direction from the source area, near well MW-1 and boring SB-7, to between boring SB-19 and well MW-2 near the northwest site boundary. The dissolved petroleum hydrocarbon plume does not appear to extend beyond the subject site boundaries. The downgradient and cross-gradient extent of the dissolved hydrocarbon plume is defined by the lack of detected petroleum hydrocarbon concentrations in downgradient wells MW-2 and MW-3 near the site boundaries. Lateral distribution of TPH-d and TPH-mo concentrations and iso-concentration contours in groundwater are shown in Figures 3 and 4.

## **VII. CONCLUSIONS AND RECOMMENDATIONS**

AllWest conducted a subsurface assessment consisting of three groundwater monitoring well installations (MW-1, MW-2 and MW-3) at the subject site to provide additional characterization of site hydrogeology, vertical and lateral extent of petroleum hydrocarbon contamination in soil and groundwater, and potential human health impacts from the release at the subject site.

TPH-g, TPH-d and TPH-mo were identified in one soil and one shallow groundwater sample. TPH-d concentrations in soil and groundwater exceeded corresponding RWQCB ESL values. BTEX and MTBE were not detected in soil or groundwater samples analyzed during this investigation. The vertical extent of petroleum hydrocarbons in unsaturated soil has been defined. The lateral extent of the dissolved petroleum hydrocarbon plume in shallow groundwater has been defined and does not extend beyond the subject site boundaries.

AllWest recommends case closure for the property as a low risk groundwater site based on the following six criteria presented by the RWQCB in their *Interim Guidance Document* dated January 5, 1996:

1. The fuel release has been mitigated and ongoing sources, including free product, have been removed or remediated.
  - All primary fuel and waste sources have been removed, including the USTs, fuel dispensers and product lines. Petroleum hydrocarbon-impacted soil was over-excavated from the former UST locations. No free product was observed in soil or groundwater during field activities in the last two subsurface investigations.
2. The site has been adequately characterized.
  - The lateral extent of petroleum hydrocarbons in soil and groundwater has been delineated and does not extend beyond the subject site boundaries. The vertical extent of petroleum hydrocarbons in unsaturated soil has been defined.
3. The dissolved hydrocarbon plume is not migrating.
  - The downgradient extent of the dissolved petroleum hydrocarbon plume has been defined by the lack of detected petroleum hydrocarbons in groundwater samples from downgradient monitoring wells MW-2 and MW-3 and low to nondetectable concentrations in downgradient boring HB-3.
  - The period of time elapsed since the removal of the active contaminant sources (USTs, product lines and dispensers) suggests it is highly unlikely that any plume migration is occurring.
4. No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted.
  - The shallow water-bearing sediments are not used for domestic water supply. No local domestic or irrigation wells or sensitive receptors are known to occur within 1,320 feet of the site.
  - No surface water sources exist within the immediate vicinity of the subject site.
  - Groundwater flow does not appear to be intercepted by utility or storm drain lines on or in the immediate vicinity of the subject site.
5. The site presents no significant risk to human health.
  - The site is covered with a building and with asphalt and concrete pavement, except for a landscaped strip along the west property boundary. The building is

constructed on a concrete slab without a basement. Any residual soil or groundwater contamination is below grade and covered with asphalt or concrete; therefore no direct contact exposure pathway to site occupants exists.

- Groundwater in the subject site vicinity is not used for drinking water, therefore no ingestion pathway to site occupants exists.
- Volatile petroleum hydrocarbon constituents including BTEX and MTBE have not been detected in soil or groundwater at levels likely to pose an indoor or outdoor vapor intrusion inhalation hazard to site occupants, according to the RWQCB ESLs (*Table F-1b*, May 2008) and the City of Oakland Public Works Agency *Oakland Urban Land Redevelopment Program: Guidance Document, Appendix F: Tier 2 Site Specific Target Levels (SSTL), Table 6, Oakland Tier 2 SSTLs for Merritt Sands*, January 1, 2000 (Oakland, 2000).
- Total petroleum hydrocarbons as gasoline, diesel and motor oil have been detected in soil and groundwater at concentrations below RWQCB commercial/industrial ESLs for vapor intrusion and gross contamination hazards where groundwater is not a drinking water resource (RWQCB ESLs *Tables B-2, D-2 and F-1b*, May 2008).

6. The site presents no significant risk to the environment.

- No surface water sources exist in the vicinity of the subject site; therefore, no exposure pathway to aquatic habitat exists.
- The site is covered with asphalt or concrete except for a narrow strip along the west boundary which is outside the extent of the petroleum hydrocarbon plume. Therefore, there is no pathway to onsite environmental receptors.
- The sorbed-phase and dissolved-phase petroleum hydrocarbon plumes do not extend beyond subject site boundaries and there is no evidence of plume migration; therefore, there is no exposure pathway to offsite environmental receptors.

## VIII. REPORT LIMITATIONS

The work described in this report is performed in accordance with the Environmental Consulting Agreement between Mr. Clarence Glasper c/o Mr. Thomas Gillis (Client) and AllWest Environmental, Inc, dated May 2009. AllWest has prepared this report for the exclusive use of the Client for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representations, either expressed or implied are made as to the professional advice offered.

The services provided for the Client were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site conditions. No matter how much research and sampling may be performed the only way to know about the actual composition and condition of the subsurface of a site is through excavation.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest is not responsible for the accuracy of the test data from an independent laboratory nor for any analyte quantities falling below the recognized standard detection limits or for the method utilized by the independent laboratories.

## **IX. REFERENCES**

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State of California Environmental Protection Agency (Cal EPA). 1995. *Drilling, Coring, Sampling and Logging at Hazardous Substance Release Sites*. Guidance Manual for Ground Water Investigations, July 1995.

Cal EPA. 1995. *Reporting Hydrogeologic Characterization Data from Hazardous Substance Release Sites*. Guidance Manual for Ground Water Investigations, July 1995.

# TABLES

**TABLE 1**  
**Summary of Well Construction Details**  
**and Groundwater Elevation Data**  
**Former Mandela Trucking**  
**1225 Mandela Parkway**  
**Oakland, California**  
**AllWest Project No. 29020.23.1**

	Casing Diameter (inches)	Borehole Diameter (inches)	Total Depth of Well (feet bgs)	Top-Bottom of Screen (feet bgs)	Screen Length (feet)
MW-1	2	8	18	8-18	10
MW-2	2	8	18	8-18	10
MW-3	2	8	18	8-18	10

Well Number	Date	TOC Elevation (feet MSL)	Ground Surface Elevation (feet MSL)	Depth to Groundwater (feet below TOC)	Groundwater Surface Elevation (feet MSL)
MW-1	6/24/2009a	19.75	20.09	9.75	10.00
MW-1	6/25/2009b	19.75	20.09	9.81	9.94
MW-1	7/8/2009c	19.75	20.09	9.84	9.91
MW-2	6/24/2009a	18.51	18.84	8.61	9.90
MW-2	6/25/2009b	18.51	18.84	8.71	9.80
MW-2	7/8/2009c	18.51	18.84	8.65	9.86
MW-3	6/24/2009a	18.92	19.32	9.02	9.90
MW-3	6/25/2009b	18.92	19.32	9.06	9.86
MW-3	7/8/2009c	18.92	19.32	9.09	9.83

**Notes:**

bgs below ground surface

TOC Top of Well Casing

MSL above Mean Sea Level

Elevation referenced to North American Datum (NAD) 1983 & North American Vertical Datum (NAVD) 1988

NM Not Measured

a prior to well development - water levels used for contour map

b prior to sampling; water levels not recovered from development - not used for contouring

c during well elevation survey; water levels recovered from development & sampling



**TABLE 2**  
**Summary of Soil Analytical Data, June 2009**  
**Former Mandela Trucking**  
**1225 Mandela Parkway**  
**Oakland, California**  
**AllWest Project No. 29020.23.1**

Sample ID Number	Date Sampled	Sample Depth (feet bgs)	Total Petroleum Hydrocarbons					Benzene	Toluene	Ethyl benzene	Xylenes	MTBE
			TPH-G	Qualifiers	TPH-D	Qualifiers	TPH-MO					
MW-1-8.0	06/22/09	7.5-8.0	ND (<1.0)		ND (<1.0)		ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
MW-1-10.0	06/22/09	9.5-10.0	ND (<1.0)		ND (<1.0)		ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
MW-1-12.0	06/22/09	11.5-12.0	16	d7	<b>6,700</b>	e1	2,100	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
MW-1-14.5	06/22/09	14.0-14.5	ND (<1.0)		ND (<1.0)		ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
MW-2-10.0	06/22/09	9.5-10.0	ND (<1.0)		ND (<1.0)		ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
MW-3-9.5	06/22/09	9.0-9.5	ND (<1.0)		ND (<1.0)		ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)
RWQCB Soil ESLs (Shallow, <9.9 feet bgs)			<b>83</b>		<b>83</b>		<b>2,500</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>
RWQCB Soil ESLs (Deep, >9.9 feet bgs)			<b>83</b>		<b>83</b>		<b>5,000</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>

**Notes:** All results are reported in milligrams per kilogram (mg/kg) [equivalent to parts per million (ppm)], except where noted.

TPH-G - Total petroleum hydrocarbons as gasoline (analytical method SW8015Bm)

TPH-D - Total petroleum hydrocarbons as diesel, C10-C23 (analytical method SW8015B with silica gel cleanup)

TPH-MO - Total petroleum hydrocarbons as motor oil, C18-C36 (analytical method SW8015B with silica gel cleanup)

MTBE - Methyl tert-butyl ether (analytical method SW8021B)

Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (analytical method SW8021B)

EDB - 1,2 Dibromoethane (analytical method SW8260B)

ND - Not detected at or above listed reporting limit

NA - Not analyzed

Laboratory Qualifiers: d7 = strongly aged gasoline or diesel range compounds are significant in the TPH-g chromatogram

e1 = Unmodified or weakly modified diesel is significant

RWQCB Soil ESLs: Environmental Screening Levels (ESLs) for commercial/industrial land use where groundwater is a potential drinking water resource from Tables A, C, A-2 and C-2, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. San Francisco Bay Regional Water Quality Control Board (RWQCB), May 2008

**TABLE 3**  
**Summary of Groundwater Analytical Data, June 2009**  
**Former Mandela Trucking**  
**1225 Mandela Parkway**  
**Oakland, California**  
**AllWest Project No. 29020.23.1**

Well / Sample ID Number	Date Sampled	Total Petroleum Hydrocarbons					Benzene	Toluene	Ethyl benzene	Xylenes	MTBE
		TPH-G	Qualifiers	TPH-D	Qualifiers	TPH-MO					
MW-1	6/25/2009	61	d7, b6, b1	<b>390</b>	e1, b6, b1	ND (<250)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5)
MW-2	6/25/2009	ND (<50)	b1	ND (<50)	b1	ND (<250)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5)
MW-3	6/25/2009	ND (<50)	b1	ND (<50)	b1	ND (<250)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5)
Water Quality Criteria (RWQCB ESLs)		<b>100</b>		<b>100</b>		<b>100</b>	<b>1</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>5</b>

**Notes:** All results are reported in micrograms per liter (µg/L) [equivalent to parts per billion (ppb)], except where noted.

TPH-G - Total petroleum hydrocarbons as gasoline (analytical method SW8015Bm)

TPH-D - Total petroleum hydrocarbons as diesel, C10-C23 (analytical method SW8015B with silica gel cleanup)

TPH-MO - Total petroleum hydrocarbons as motor oil, C18-C36 (analytical method SW8015B with silica gel cleanup)

MTBE - Methyl tert-butyl ether (analytical method SW8021B)

Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (analytical method SW8021B)

ND - Not detected at or above listed reporting limit

NE - Not established

NA - Not analyzed

Laboratory Qualifiers: b1 = aqueous sample that contains greater than ~1 vol. % sediment

b6 = lighter than water immiscible sheen/product is present

d1 = weakly modified or unmodified gasoline is significant

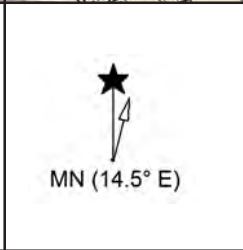
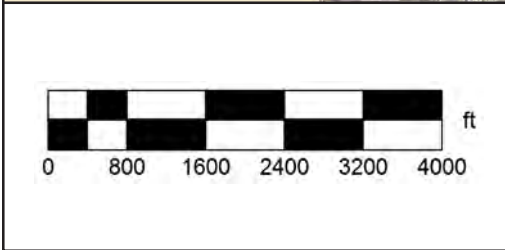
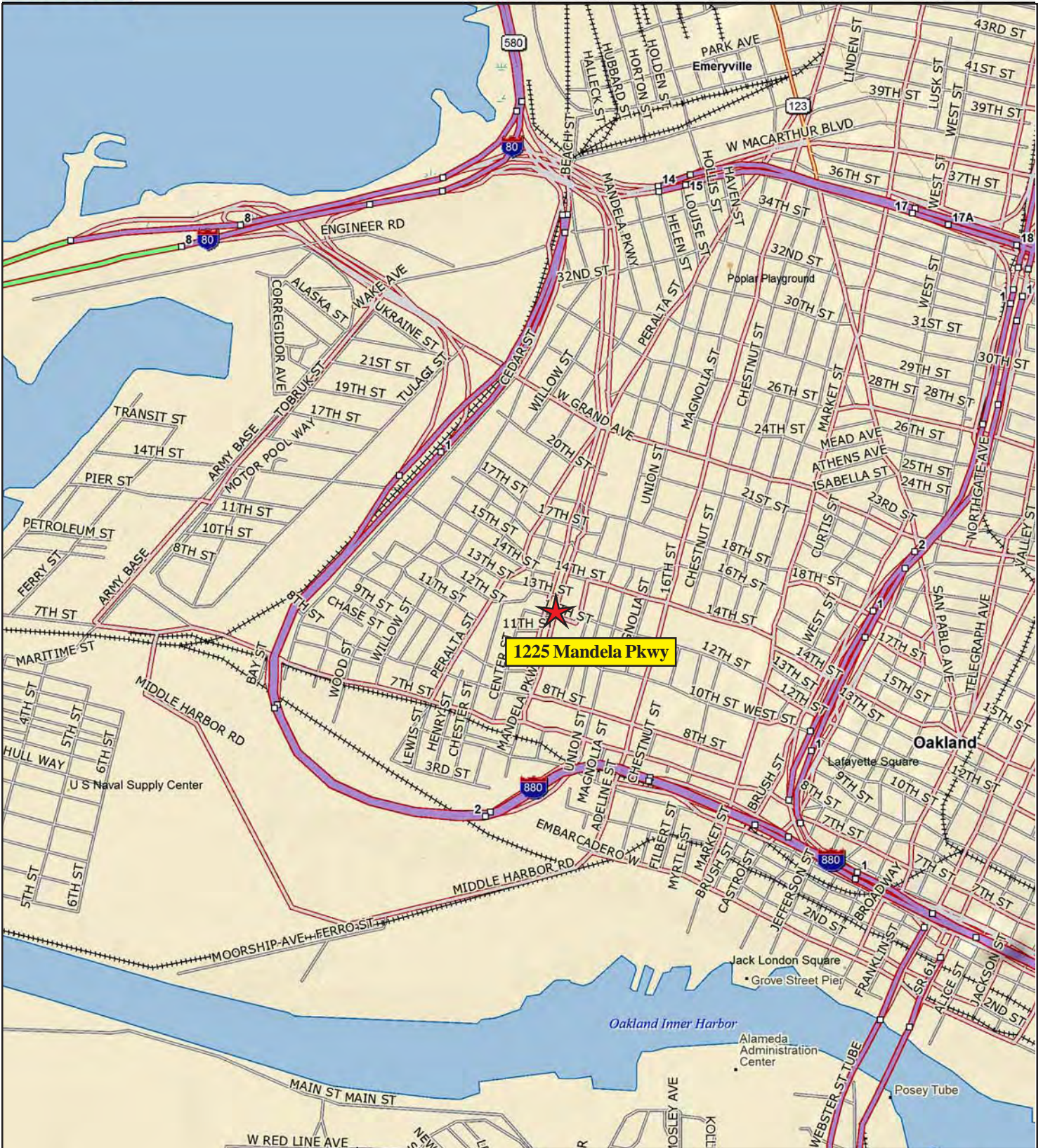
d7 = strongly aged gasoline or diesel range compounds are significant in the TPH-g chromatogram

e1 = unmodified or weakly modified diesel is significant

e2 = diesel range compounds are significant, no recognizable pattern

Water Quality Criteria: Environmental Screening Levels (ESLs) for commercial/industrial land use where groundwater is a potential drinking water resource from Tables A, C and F1a, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. San Francisco Bay Regional Water Quality Control Board (RWQCB), May 2008

# FIGURES

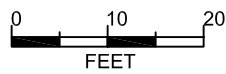
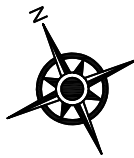
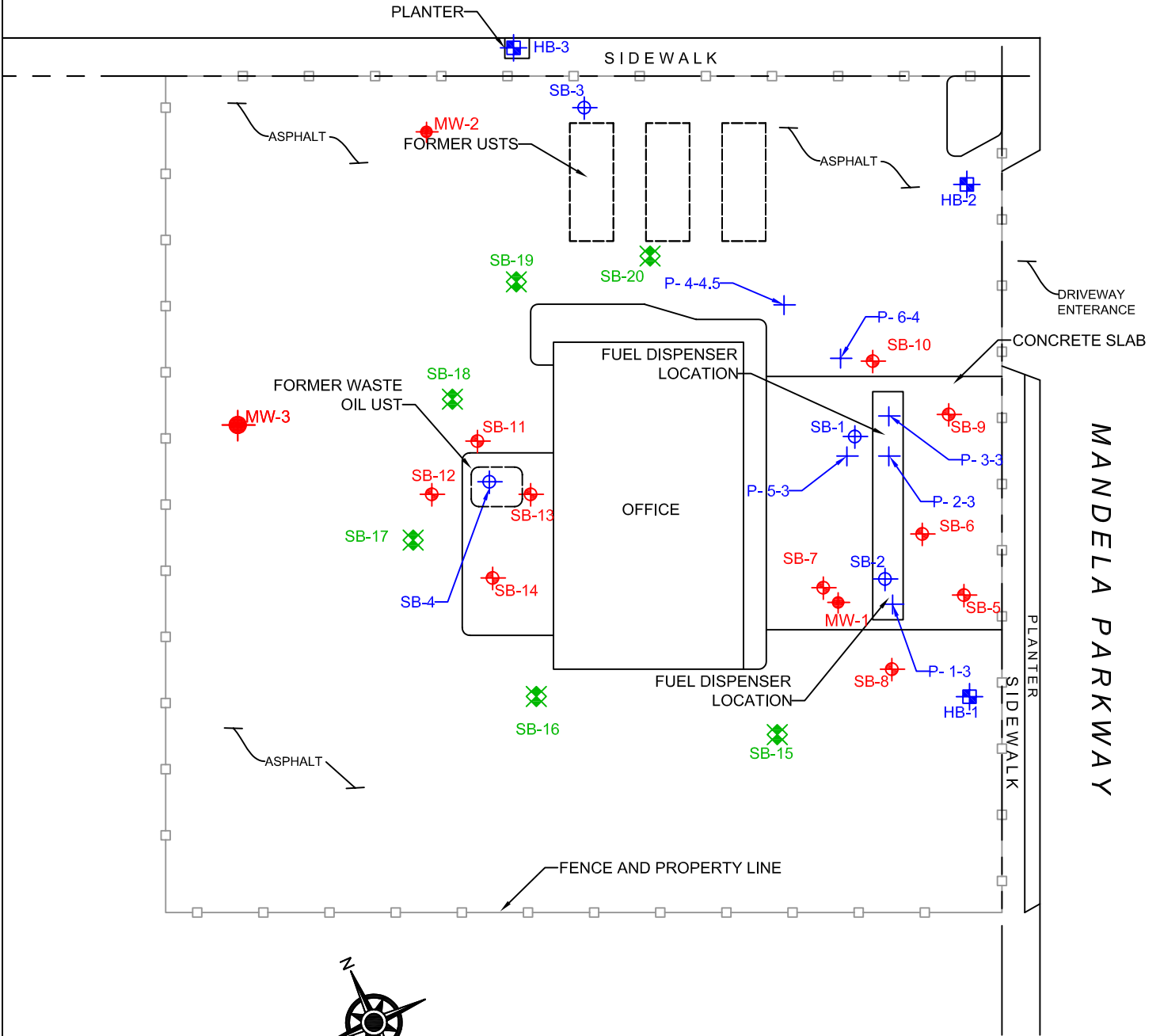


**AllWest**

PROJECT NO.  
29020.23.1

<b>SITE LOCATION MAP</b>	
<b>FIGURE 1</b>	
FORMER MANDELA TRUCKING	
1225 MANDELA PARKWAY	
OAKLAND, CALIFORNIA	
SOURCE: DELORME TOPO 6.0	
PREPARED BY: C. RAMELB (07/13/09)	

# 13 TH STREET



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

	GROUNDWATER SAMPLING BORING (ALLWEST, 7/21/08)
	SOIL BORING LOCATIONS (ALLWEST 7/14/08)
	PREVIOUS SOIL BORING LOCATIONS (GGTR)
	PIPING SOIL SAMPLE LOCATION (GGTR)
	HYDRO PUNCH LOCATION (GGTR 6/7/06)
	GROUNDWATER MONITORING WELL (ALLWEST 6/22/09)

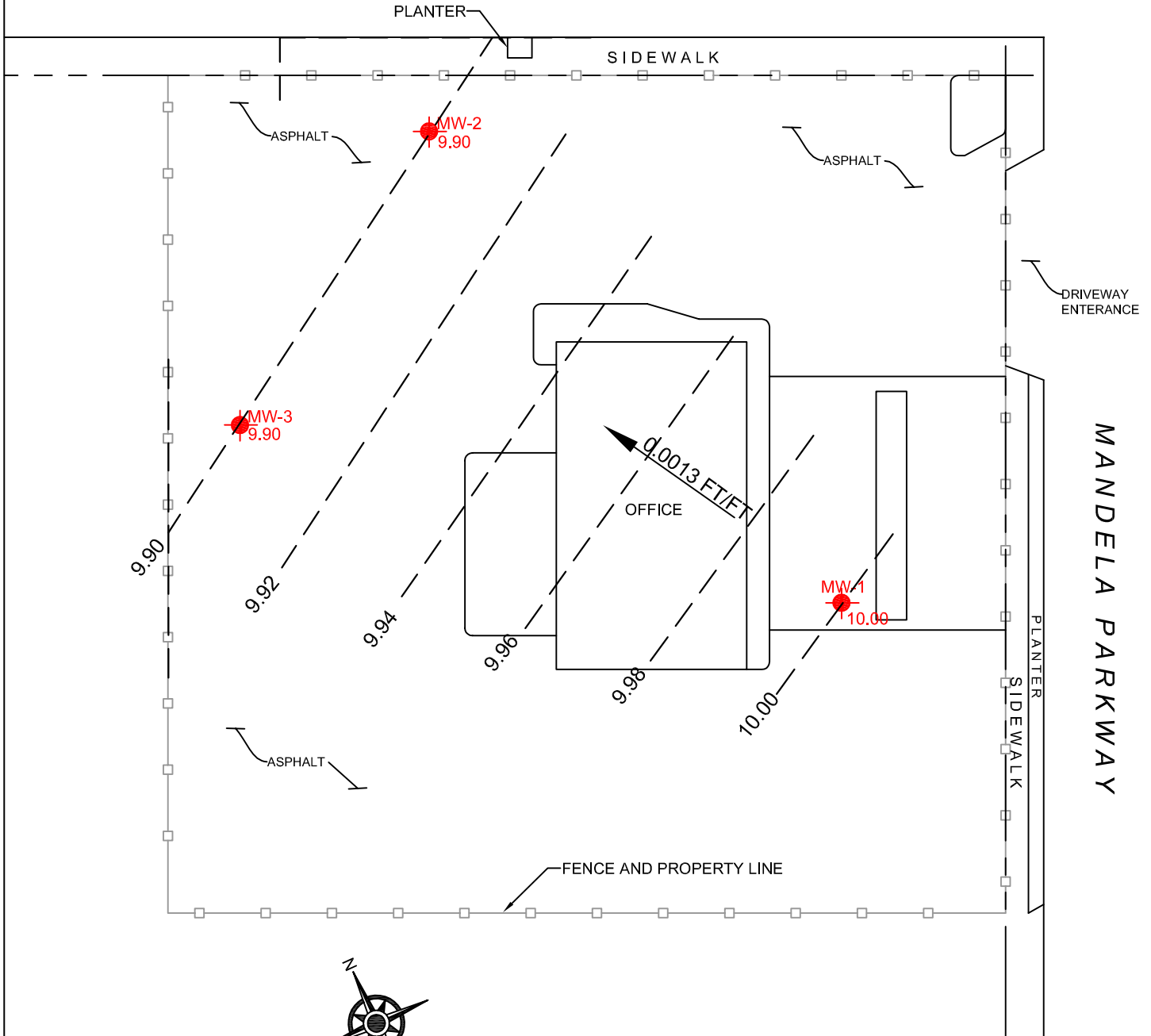


**AllWest**

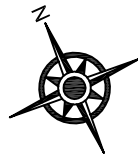
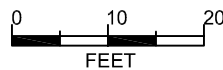
PROJECT NO.  
29020.23.1

SITE PLAN WITH BORING & WELL LOCATIONS	
FIGURE 2	
FORMER MANDELA TRUCKING	
1225 MANDELA PKWY, OAKLAND, CA	
Drawn by:	PRAKASH KRISHAN
Date:	7/13/09

13 TH STREET



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



**MW-1**  
 MONITORING WELL LOCATION WITH  
 GROUNDWATER ELEVATION IN FEET  
 ABOVE MEAN SEA LEVEL (MSL)

9.96  
 GROUNDWATER ELEVATION  
 CONTOUR IN FEET MSL

0.0013  
 GROUNDWATER FLOW DIRECTION  
 AND GRADIENT IN FEET PER FEET (FT/FT)

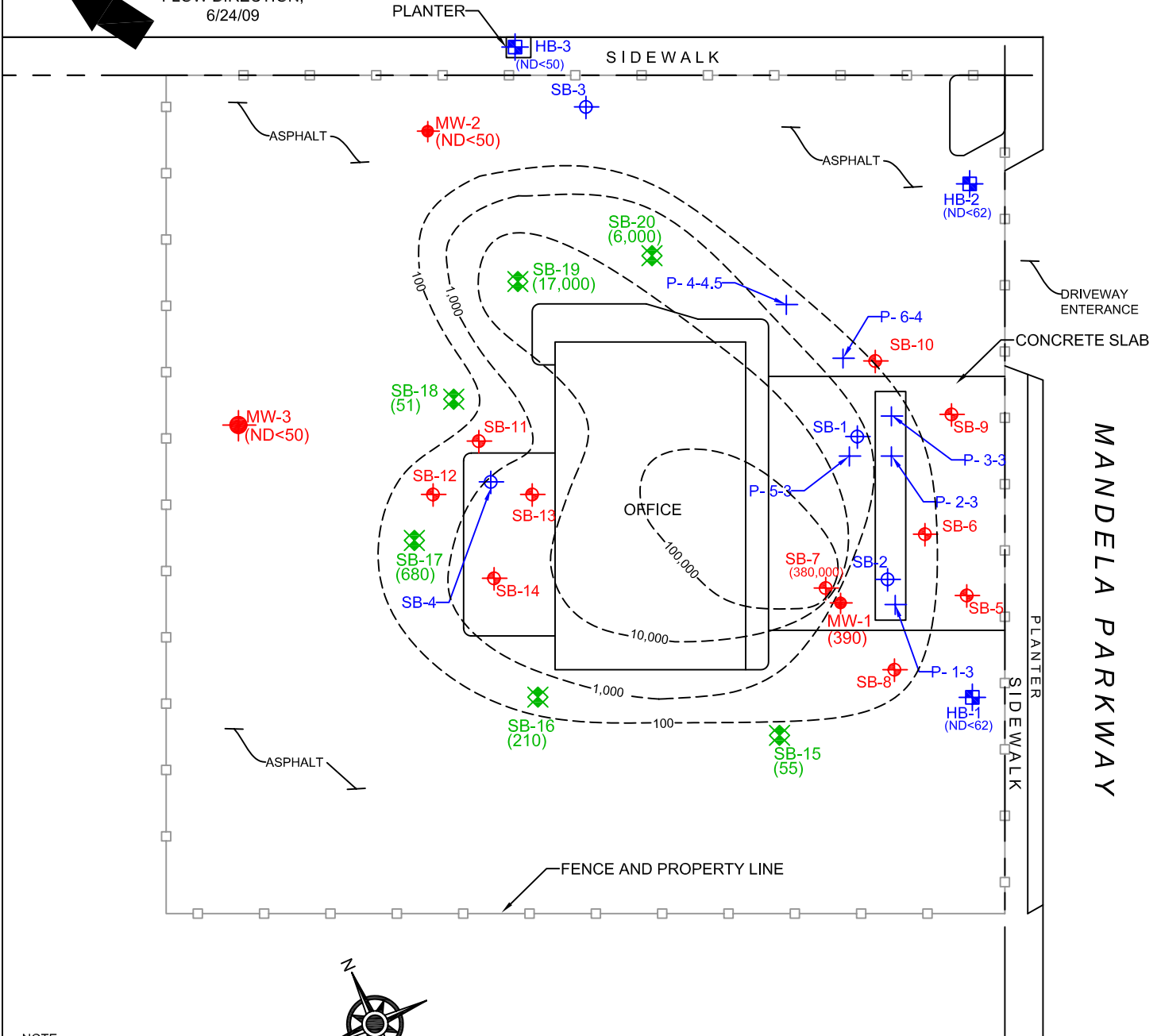
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PROJECT NO.  
 29020.23.1

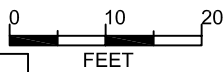
GROUNDWATER ELEVATION CONTOURS, 6/24/09	
FIGURE 3	
FORMER MANDELA TRUCKING WORK PLAN	
1225 MANDELA PKWY, OAKLAND, CA	
PROJECT NO. 29020.23.1	Drawn by: PRAKASH KRISHAN
	Date: 7/13/09

# 13 TH STREET

GROUNDWATER FLOW DIRECTION, 6/24/09



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



- GROUNDWATER SAMPLING BORING LOCATION (ALLWEST, 11/21/08)
- SOIL BORING LOCATIONS (ALLWEST 7/14/08)
- PREVIOUS SOIL BORING LOCATIONS (GGTR)
- PIPING SOIL SAMPLE LOCATION (GGTR)
- HYDRO PUNCH LOCATION (GGTR 6/7/06)
- 17,000 TOTAL PETROLEUM HYDROCARBON AS DIESEL (TPH-D) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- 1,000 (TPH-D) ISO CONCENTRATION CONTOUR IN µg/L, DASHED WHERE UNCERTAIN
- GROUNDWATER MONITORING WELL (ALLWEST 6/25/09)



PROJECT NO.  
28209.23.1

GROUNDWATER TPH-D ISOCONCENTRATION  
MAP, 6/25/09

FIGURE 4

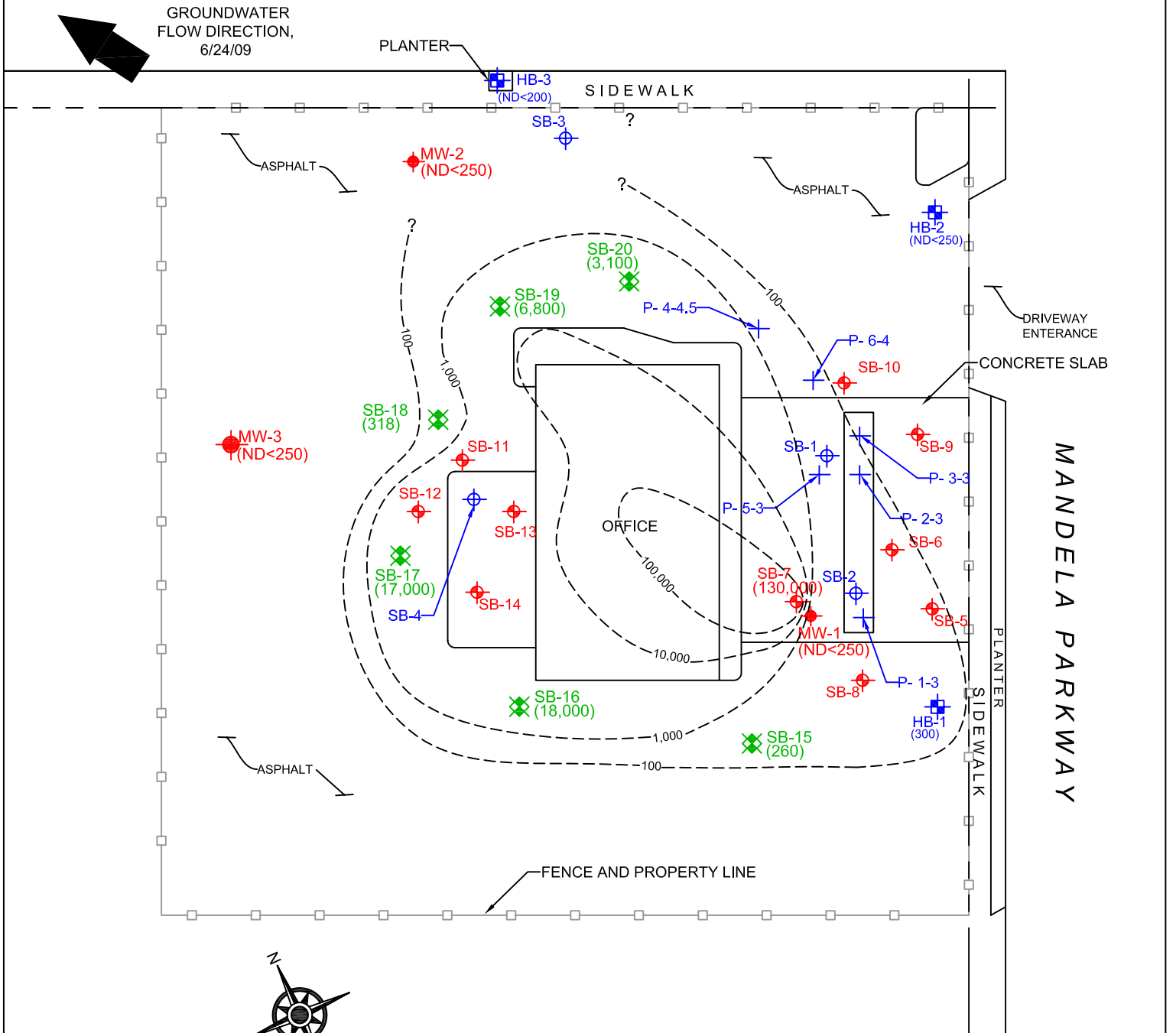
FORMER MANDELA TRUCKING

1225 MANDELA PKWY, OAKLAND, CA

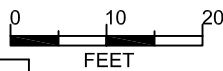
Drawn by: PRAKASH KRISHAN

Date: 7/13/09

# 13 TH STREET



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



- GROUNDWATER SAMPLING BORING LOCATION (ALLWEST, 11/21/08)
- SOIL BORING LOCATIONS (ALLWEST 7/14/08)
- PREVIOUS SOIL BORING LOCATIONS (GGTR)
- PIPING SOIL SAMPLE LOCATION (GGTR)
- HYDRO PUNCH LOCATION (GGTR 6/7/06)
- 17,000 TOTAL PETROLEUM HYDROCARBON AS MOTOR OIL (TPH-MO) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- (TPH-MO) ISO CONCENTRATION CONTOUR IN µg/L, DASHED
- 1,000 - WHERE UNCERTAIN
- GROUNDWATER MONITORING WELL (ALLWEST 6/25/09)

	<b>GROUNDWATER TPH-MO ISOCONCENTRATION MAP, 6/25/09</b>	
	<b>FIGURE 5</b>	
	MANDELA TRUCKING	
	1225 MANDELA PKWY, OAKLAND, CA	
	PROJECT NO. 29020.23.1	Drawn by: PRAKASH KRISHAN
	Date: 6/25/09	



# Appendix A

**Table A-1**  
**Summary of Historical UST Removal Soil Analytical Data, 1996-1997**  
**Source: Golden Gate Tank Removal, Inc., 2007**

**Table 1 - Results of UST Removal Soil Samples 1996-1999**  
*1225 Mandela Parkway, Oakland, CA*

Sample ID	Sample Depth (fbg)	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	B/T/E/X (mg/kg)	MTBE (mg/kg)	Total Pb (mg/kg)
<b>Gasoline/Diesel UST Removal Soil Sample Analytical Results – July 1996</b>							
D-1-N-11	11	7/11/1996	--	ND<1	ND<0.005/ND<0.005/ND<0.005/0.015	0.014	--
D-1-S-11	11		--	110	ND<0.005/ND<0.005/ND<0.005/0.015	ND<0.005	--
D-2-N-11	11		--	1,300	ND<0.005/ND<0.005/ND<0.005/0.061	ND<0.005	--
D-2-S-11	11		--	320	ND<0.005/ND<0.005/ND<0.005/0.063	ND<0.005	--
G-1-N-11	11		0.68	--	0.005/0.013/0.005/0.021	0.035	350
G-1-S-11	11		ND<0.005	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	0.07	91
<b>Confirmation Soil Sample Analytical Results – June 1998</b>							
7519-B-N	9	6/17/1998	ND<0.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	--
7519-B-S	9	6/17/1998	ND<0.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	--
7519-B-E	9	6/17/1998	ND<0.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	--
7519-B-W	9	6/17/1998	ND<0.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	--
7519-B-C	10	6/17/1998	ND<0.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	--
<b>Waste Oil UST Removal Soil Sample Analytical Results – June 1998</b>							
7519-C*	9	6/17/1998	ND<0.5	ND<1.0	ND<0.005/ND<0.009/0.008/0.03	ND<0.005	33
<b>Gasoline/Diesel UST Over-Excavation Soil Sample Analytical Results – April 1999</b>							
7519D1-S	11	4/23/1999	--	ND<1.0	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	4
7519D2-S	11		--	ND<1.0	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	4
7519D2-N	11		--	ND<1.0	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	7
7519I-S	2 (dispenser)		85 (Atyp)	12,000	ND<0.02/0.074/1.4/5.0	ND<0.02	6
7519I-N	2 (dispenser)		1.8 (Atyp)	960 (Atyp)	ND<0.005/0.009/ND<0.005/ND<0.010	ND<0.005	100

**NOTES:**

TPH-G = Total Petroleum Hydrocarbons as gasoline

TPH-D = Total Petroleum Hydrocarbons as diesel

BTEX = benzene, toluene, ethylbenzene, and total xylenes; MTBE = methyl tertiary-butyl ether; Pb = Lead

fbg = feet below grade surface; mg/kg = milligrams per kilogram; Atyp = atypical pattern on lab chromatogram (See Specific Lab Report)

-- not analyzed for this constituent; not detected

\* Sample also analyzed for following constituents, in mg/kg: VOCs (0.012 - 1,2,4-trimethylbenzene), Semi-VOCs (ND<1.7), cadmium (ND<1), Chromium (37), lead (33), nickel (40), and zinc (430)

**Table A-2**  
**Summary of Historical Product Line Removal/Subsurface Investigation Soil Analytical Data, 2006**  
**Source: Golden Gate Tank Removal, Inc., 2007**

**TABLE 2**  
**Results of UST/Product Line Soil Sampling - May-June 2006**  
*1225 Mandela Parkway, Oakland, CA*

Sample ID	Sample Depth	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	TPH-MO (mg/kg)	B/T/E/X (mg/kg)	MTBE (mg/kg)	Oxy (mg/kg)
<b>Product Line Removal Sample Analytical Results – May 2006</b>								
P-1-3	3	5/19/2006	0.340 (Atyp)	200 (Atyp)	ND<50	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
P-2-3	3	5/19/2006	0.920 (Atyp)	9.4 (Atyp)	ND<50	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
P-3-3	3	5/19/2006	0.330 (Atyp)	300 (Atyp)	ND<100	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
P-4-4.5	4.5	5/19/2006	1.8 (Atyp)	ND<5.0	66	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
P-5-3	3	5/19/2006	ND<0.100	ND<2.5	ND<10	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.200
P-6-4	4	5/19/2006	ND<0.100	ND<2.5	ND<10	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.200
<b>Soil Boring Sample Analytical Results – June 2006</b>								
SB-1-5	5	6/7/2006	0.210 (Atyp)	3.6	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-1-8	8	6/7/2006	ND<0.100	ND<2.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-2-5	5	6/7/2006	550 (Atyp)	1,700	--	ND<2.5/ND<2.5/ND<2.5/ND<5	ND<2.5	ND<100
SB-2-8	8	6/7/2006	2500 (Atyp)	11,000	--	ND<25/ND<25/ND<25/ND<50	ND<25	ND<1,000
SB-2-10	10	6/7/2006	7,100 (Atyp)	13,000	--	ND<25/ND<25/ND<25/ND<50	ND<25	ND<1,000
SB-3-5	5	6/7/2006	ND<0.100	ND<2.5	11	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-3-8	8	6/7/2006	ND<0.100	ND<2.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-3-11	11	6/7/2006	ND<0.100	ND<2.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-4-5.5	5.5	6/7/2006	ND<0.100	ND<120	1,600	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2
SB-4-9	9	6/7/2006	ND<0.100	ND<2.5	--	ND<0.005/ND<0.005/ND<0.005/ND<0.01	ND<0.005	ND<0.2

**Table Notes:**

TPH-G = Total Petroleum Hydrocarbons as gasoline

TPH-D = Total Petroleum Hydrocarbons as diesel w/ silica gel cleanup

TPH-MO = Total Petroleum Hydrocarbons as motor oil

BTEX = benzene, toluene, ethylbenzene, and total xylenes; MTBE = methyl tertiary-butyl ether

Oxy = Fuel Oxygenates

fbg = feet below grade surface; mg/kg = milligrams per kilogram; Atyp = atypical pattern on lab chromatogram (See Specific Lab Report)

-- not analyzed for this constituent or not detected; NC = no criteria established

**Table A-3**  
**Summary of Historical Groundwater Analytical Data, 2006**  
**Source: Golden Gate Tank Removal, Inc., 2007**

**TABLE 3**  
**Results of Grab Groundwater Sampling - June 2006**  
*1225 Mandela Parkway, Oakland, CA*

Sample ID	GW Sample Depth (fbg)	Sample Date	TPH-G (ug/l)	TPH-D (ug/l)	TPH-MO (ug/l)	B/T/E/X (ug/l)	MTBE (ug/l)	Oxy (ug/l)	Pb (ug/l)
SB-1-W	8.25	6/7/2006	210 (Atyp)	680	ND<250	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	9
SB-2-W	7.35	6/7/2006	1,100 (Atyp)	190,000	ND<53,000	0.77/ND<0.5/4.2/2.1	ND<1.0	ND<100	52
SB-3-W	6.75	6/7/2006	ND<25	ND<66	280	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	9
SB-4-W*	7.45	6/7/2006	ND<25	ND<50	390	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	55 (Total)
HB-1-W	6.99	6/7/2006	ND<25	ND<62	300	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	6
HB-2-W	6.65	6/7/2006	ND<25	ND<62	ND<250	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	8
HB-3-W	6	6/7/2006	29 (Atyp)	ND<50	ND<200	ND<0.5/ND<0.5/ND<0.5/ND<0.5	ND<1.0	ND<100	8

**Table Notes:**

TPH-G = Total Petroleum Hydrocarbons as gasoline

TPH-D = Total Petroleum Hydrocarbons as diesel w/ silica gel cleanup

TPH-MO = Total Petroleum Hydrocarbons as motor oil

BTEX = benzene, toluene, ethylbenzene, and total xylenes; MTBE = methyl tertiary-butyl ether

Oxy = Fuel Oxygenates; Pb = Lead (Dissolved)

fbg = feet below grade surface; ug/l = micrograms per liter; Atyp = atypical pattern on lab chromatogram (See Specific Lab Report)

-- not analyzed for this constituent; not detected

\* = Sample also analyzed for Oil & Grease (ND<500 ug/l), VOCs (All ND<50 ug/l), and SVOCs (All ND<50 ug/l)

*Static groundwater levels measured in HB-1 to HB-3 on June 8, 2006*

**TABLE A-4**  
**Summary of Historical Soil Analytical Data, 2008**  
**Former Mandela Trucking**  
**1225 Mandela Parkway**  
**Oakland, California**  
**AllWest Project No. 29020.23.1**

Date Sampled	Sample Name and Depth in feet bgs	Total Petroleum Hydrocarbons			Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2 Dibromoethane (EDB)	1,2 Dichloroethane (1,2-DCA)	VOCs (Reporting Limit Varies)	Lead
		TPH-G	TPH-D	TPH-MO									
07/14/08	SB-5 6' - 6.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-5 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-6 5.5' - 6'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-6 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-7 6' - 6.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	all	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	5.8
07/14/08	SB-7 10' - 10.5'	<b>220</b>	<b>3,900</b>	1,400	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<0.10)	ND (<1.0)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-7 14.5' - 15'	ND (<1.0)	2	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-7 15.5' - 16'	1.9	11	5.3	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-7 19.5' - 20'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-8 6' - 6.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	7.4
07/14/08	SB-8 9.5' - 10'	ND (<1.0)	<b>230</b>	71	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-9 3' - 3.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	240
07/14/08	SB-9 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	5.2
07/14/08	SB-10 3' - 3.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-10 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.05)	ND (<0.004)	ND (<0.004)	NA	ND (<5.0)
07/14/08	SB-11 5.5' - 6'	ND (<1.0)	ND (<1.0)	5.7	NA	NA	NA	NA	NA	NA	NA	0.022 PCE	550
07/14/08	SB-11 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
07/14/08	SB-12 5' - 5.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
07/14/08	SB-12 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
07/14/08	SB-13 5' - 5.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
07/14/08	SB-13 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	5.1
07/14/08	SB-14 5' - 5.5'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
07/14/08	SB-14 9.5' - 10'	ND (<1.0)	ND (<1.0)	ND (<5.0)	NA	NA	NA	NA	NA	NA	NA	all ND	ND (<5.0)
Soil Quality Criteria (RWQCB ESLs), <9.9 feet bgs		<b>83</b>	<b>83</b>	<b>2,500</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>	<b>0.00033</b>	<b>0.0045</b>	<b>varies</b>	<b>750</b>
Soil Quality Criteria (RWQCB ESLs), >9.9 feet bgs		<b>83</b>	<b>83</b>	<b>5,000</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>	<b>0.00033</b>	<b>0.0045</b>	<b>varies</b>	<b>750</b>

**Notes:** All results are reported in milligrams per kilogram (mg/kg) [equivalent to parts per million (ppm)], except where noted.

TPH-G - Total petroleum hydrocarbons as gasoline (analytical method SW8015Cm)

TPH-D - Total petroleum hydrocarbons as diesel (analytical method SW8015C)

TPH-MO - Total petroleum hydrocarbons as motor oil (analytical method SW8015C)

MTBE - Methyl tert-butyl ether (analytical method SW8260B)

Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (analytical method SW8260B)

EDB - 1,2 Dibromoethane (analytical method SW8260B)

1,2-DCA - 1,2 Dichloroethane (analytical method SW8260B)

VOCs - Volatile organic compounds (analytical method SW8260B)

Lead (analytical method 6010C)

ND (<1) - Not detected at or above listed reporting limit

NA - Not analyzed

feet bgs = feet below ground surface

Soil Quality Criteria: Environmental Screening Levels (ESLs) for commercial/industrial land use where groundwater is a potential drinking water resource from Tables A, C, A-2 and C-2, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. San Francisco Bay Regional Water Quality Control Board (RWQCB), May 2008

**TABLE A-5**  
**Summary of Historical Groundwater Analytical Data, 2008**  
**Former Mandela Trucking**  
**1225 Mandela Parkway**  
**Oakland, California**  
**AllWest Project No. 29020.23.1**

Sample Name	Date Sampled	Total Petroleum Hydrocarbons					Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	VOC's	LEAD
		TPH-G	Qualifiers	TPH-D	Qualifiers	TPH-MO							
W-SB-7	7/14/2008	<b>270</b>		<b>380,000</b>		<b>130,000</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	3,1 (naphthalene) 2,4 (see Butyl benzene)	ND (<0.5)
SB-15	11/21/2008	ND (<50)	b1	55	e7, e2, b1	<b>260</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	ND	NA
SB-16	11/21/2008	ND (<50)	b1	<b>210</b>	e7, e2, b1	<b>1,800</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	ND	NA
SB-17	11/21/2008	ND (<50)	b1	<b>680</b>	e7, e2, b1	<b>1,700</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	ND	NA
SB-18	11/21/2008	ND (<50)	b1	51	e7, e2, b1	<b>310</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	ND	NA
SB-19	11/21/2008	71	d1, b6, b1	<b>17,000</b>	e3, b6, b1	<b>6,800</b>	0.52	1.7	ND (<0.5)	1.4	ND (<5.0)	16 (acetone), 7.0 (MEK)	NA
SB-20	11/21/2008	ND (<50)	b1	<b>6,000</b>	e1, e7, b1	<b>3,100</b>	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	12 (acetone)	NA
Water Quality Criteria (RWQCB ESLs)		<b>100</b>		<b>100</b>		<b>100</b>	<b>1</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>5</b>	<b>1,500 (acetone), 4,200 (MEK)</b>	<b>2.5</b>

**Notes:** All results are reported in micrograms per liter (µg/L) [equivalent to parts per billion (ppb)], except where noted.

TPH-G - Total petroleum hydrocarbons as gasoline (analytical method SW8015Cm)

TPH-D - Total petroleum hydrocarbons as diesel, C10-C23 (analytical method SW8015B with silica gel cleanup)

TPH-MO - Total petroleum hydrocarbons as motor oil, C18-C36 (analytical method SW8015B with silica gel cleanup)

MTBE - Methyl tert-butyl ether (analytical method SW8260B)

Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (analytical method SW8260B)

VOCs - Volatile organic compounds (analytical method SW8260B)

MEK = 2-butanone, or methyl ethyl ketone

Lead (analytical method 6010C)

ND - Not detected at or above listed reporting limit

NE - Not established

NA - Not analyzed

**Laboratory Qualifiers:**

- b1 = aqueous sample contains greater than ~1 vol. % sediment
- b6 = lighter than water immiscible sheen/product is present
- d1 = weakly modified or unmodified gasoline is significant
- e1 = unmodified or weakly modified diesel is present
- e2 = diesel range compounds are significant, no recognizable pattern
- e3 = aged diesel is significant
- e7 = oil range compounds are significant

Water Quality Criteria: Environmental Screening Levels (ESLs) for commercial/industrial land use where groundwater is a potential drinking water resource from Tables A, C and F1a, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. San Francisco Bay Regional Water Quality Control Board (RWQCB), May 2008

# Appendix B

# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 06/09/2009 By jamesy**

**Permit Numbers: W2009-0556 to W2009-0558**  
**Permits Valid from 06/22/2009 to 06/22/2009**

**Application Id:** 1243635400395  
**Site Location:** Former Mandela Trucking Co.  
1225 Mandela Parkway  
Oakland, CA 94607

**City of Project Site:**Oakland

**Project Start Date:** 06/10/2009  
**Assigned Inspector:** Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org  
**Extension Start Date:** 06/22/2009  
**Extension Count:** 1

**Completion Date:**06/12/2009  
**Extension End Date:** 06/22/2009  
**Extended By:** vickyh1

**Applicant:** AllWest Environmental, Inc. - Leonard Niles  
530 Howard Street, Suite 300, San Francisco, CA 94105  
**Property Owner:** Thomas Gillis  
1153 Copper Verde Lane, Modesto, CA 95355  
**Client:** \*\* same as Property Owner \*\*  
**Contact:** Leonard Niles

**Phone:** 415-391-2510 x109

**Phone:** --

**Phone:** 415-391-2510 x109  
**Cell:** 415-686-4412

	<b>Total Due:</b>	\$1035.00
<b>Receipt Number: WR2009-0205</b>	<b>Total Amount Paid:</b>	\$1035.00
<b>Payer Name : AllWest Environmental, Inc.</b>	<b>Paid By: CHECK</b>	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Well Construction-Monitoring-Monitoring - 3 Wells  
Driller: Clear Heart Drilling, Inc. - Lic #: 780357 - Method: hstem

**Work Total: \$1035.00**

**Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2009-0556	06/09/2009	09/08/2009	MW-1	8.00 in.	2.00 in.	9.00 ft	20.00 ft
W2009-0557	06/09/2009	09/08/2009	MW-2	8.00 in.	2.00 in.	9.00 ft	20.00 ft
W2009-0558	06/09/2009	09/08/2009	MW-3	8.00 in.	2.00 in.	9.00 ft	20.00 ft

**Specific Work Permit Conditions**

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
  
2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
  
3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits














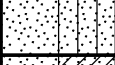




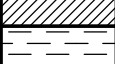





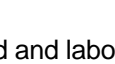
## Alameda County Public Works Agency - Water Resources Well Permit

and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
  5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
  6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
  7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
  8. Minimum surface seal thickness is two inches of cement grout placed by tremie
  9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
  10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-

# Appendix C

# UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

MAJOR DIVISION		GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
<b>COARSE GRAINED SOILS</b> CONTAINS MORE THAN 50% FINES	<b>GRAVEL AND GRAVELLY SOILS</b> MORE THAN 50% OF COARSE FRACTION <u>RETAINED</u> ON NO. 4 SIEVE	GRAVEL WITH <u>* 5% FINES</u>	 GW	Well-graded GRAVEL
		GRAVEL WITH <u>* 5% FINES</u>	 GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES	 GW-GM	Well-graded GRAVEL with silt
			 GW-GC	Well-graded GRAVEL with clay
			 GP-GM	Poorly graded GRAVEL with silt
			 GP-GC	Poorly graded GRAVEL with clay
	GRAVEL WITH $\geq 15\%$ FINES	 GM	Silty GRAVEL	
		 GC	Clayey GRAVEL	
	<b>SAND AND SANDY SOILS</b> MORE THAN 50% OF COARSE FRACTION <u>PASSING</u> ON NO. 4 SIEVE	SAND WITH <u>* 5% FINES</u>	 SW	Well-graded SAND
		SAND WITH <u>* 5% FINES</u>	 SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES	 SW-SM	Well-graded SAND with silt
			 SW-SC	Well-graded SAND with clay
			 SP-SM	Poorly graded SAND with silt
			 SP-SC	Poorly graded SAND with clay
SAND WITH $\geq 15\%$ FINES		 SM	Silty SAND	
		 SC	Clayey SAND	
<b>FINE GRAINED SOILS</b> CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT <u>LESS</u> THAN 50	 ML	Inorganic SILT with low plasticity
		LIQUID LIMIT <u>LESS</u> THAN 50	 CL	Lean inorganic CLAY with low plasticity
		LIQUID LIMIT <u>LESS</u> THAN 50	 OL	Organic SILT with low plasticity
	LIQUID LIMIT <u>GREATER</u> THAN 50	LIQUID LIMIT <u>GREATER</u> THAN 50	 MH	Elastic inorganic SILT with moderate to high plasticity
		LIQUID LIMIT <u>GREATER</u> THAN 50	 CH	Fat inorganic CLAY with moderate to high plasticity
		LIQUID LIMIT <u>GREATER</u> THAN 50	 OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS		 PT	PEAT soils with high organic contents	

**NOTES:**

- 1) Sample descriptions are based on visual field and laboratory observations using classification methods of ASTM D2488. Where laboratory data are available, classifications are in accordance with ASTM D2487.
- 2) Solid lines between soil descriptions indicate change in interpreted geologic unit. Dashed lines indicate stratigraphic change within the unit.
- 3) Fines are material passing the U.S. Std. #200 Sieve.



AllWest Environmental  
 530 Howard Street  
 San Francisco, CA 94105  
 Telephone: 415-391-2510  
 Fax: 415-391-2008

# WELL NUMBER MW-1

PAGE 1 OF 1

**CLIENT** Thomas O. Gillis ESQ. **PROJECT NAME** Mandela Parkway  
**PROJECT NUMBER** 29020.23.1 **PROJECT LOCATION** 1225 Mandela Parkway, Oakland, California  
**DATE STARTED** 6/22/09 **COMPLETED** 6/22/09 **GROUND ELEVATION** 20.09 ft **HOLE SIZE** 8  
**DRILLING CONTRACTOR** Clear Heart Drilling **GROUND WATER LEVELS:**  
**DRILLING METHOD** Hollow Stem Auger **AT TIME OF DRILLING** 10.00 ft / Elev 10.09 ft  
**LOGGED BY** Leonard Niles **CHECKED BY** Leonard Niles **AT END OF DRILLING** ---  
**NOTES** Hand augered to 5 feet below ground surface **AFTER DRILLING** 10.09 ft / Elev 10.00 ft

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/16/09 14:26 - C:\PROGRAM FILES\GINT\PROJECTS\29020.23.1 MANDELA.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0						6" concrete slab, cored by 12" rig corer		Casing Top Elev: 19.75 (ft) Casing Type: 2" PVC
0.5				GC		(GC) Clayey gravel, dark grayish brown, damp, fill		Capped riser Vault box
1.5				SP		(SP) Sand, dark grayish brown, fine sand, damp, no odor, post-holed to 1.5 feet then hand augered to 5'. no hydrocarbon odor or PID reading	PID = 0	cement grout
4.0				SC		(SC) Clayey sand, yellowish brown, mottled with olive gray, very fine to fine sand, silty to clayey fines, low plasticity, moist to very moist, medium dense, no odor, increasing clayey fines at 7 feet	PID = 0	Bentonite chips
5	MW-1-5	100	4	SC			PID = 0	
5	MW-1-5	100	5-10	SC			PID = 0	
5	MW-1-5	100	5-4	SC			PID = 0	
5	MW-1-5	100	6	CL			PID = 0	
7.5	MW-1-8	100	9-18-18 (36)	SC		(CL) Sandy clay, yellowish brown, mottled with olive gray, very fine sand, moderate plasticity, damp to moist, stiff, no hydrocarbon odor	PID = 0	
8.0	MW-1-8	100	9-18-18 (36)	SC			PID = 0	
10	MW-1-10	100	26	SC		(SC) Clayey sand, yellowish brown, very fine to fine sand, clayey-silty fines, very low plasticity, dense, moist; color change to olive gray at 9 feet, wet at 10 feet, no odor	PID = 0	
10	MW-1-10	100	14-26-22 (48)	SP			PID = 0.4	
10	MW-1-10	100	20	SC		(SP) Sand, olive gray, fine sand, <10% clay and silty fines, dense, wet, faint sweet hydrocarbon odor	PID = 1.6	
10	MW-1-10	100	24-24	SC		(SC) Clayey sand, (SC), yellowish brown, 10-15% clayey to silty fines, very fine to fine sand, dense, wet, faint sweet hydrocarbon odor, increasing clayey to silty fines at 14 feet, very low plasticity, no odor; increasing clay at 16 feet	PID = 0.8	#2/12 Monterey sand 0.01" slot 2" schedule 40 PVC screen
10	MW-1-10	100	14-18	SC			PID = 0	
15	MW-1-14	100	22	SC		(SC) Clayey sand, as above except increased clay to almost 50%, low plasticity, mottled with olive gray, moist to wet, no odor	PID = 0	
15	MW-1-14	100	10-8-8 (16)	SC			PID = 0	
15	MW-1-14	100	6-7-12 (19)	SC		(SC) Clayey sand, as above except increased clay to almost 50%, low plasticity, mottled with olive gray, moist to wet, no odor	PID = 0	End cap
16.0				SC			PID = 0	
17.0				SC			PID = 0	
18.0				SC		(SC) As above except decreasing fines, wet	PID = 0	
						Bottom of borehole at 18.0 feet.		



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# WELL NUMBER MW-2

PAGE 1 OF 1

**CLIENT** Thomas O. Gillis ESQ. **PROJECT NAME** Mandela Parkway  
**PROJECT NUMBER** 29020.23.1 **PROJECT LOCATION** 1225 Mandela Parkway, Oakland, California  
**DATE STARTED** 6/22/09 **COMPLETED** 6/22/09 **GROUND ELEVATION** 18.84 ft **HOLE SIZE** 8  
**DRILLING CONTRACTOR** Clear Heart Drilling **GROUND WATER LEVELS:**  
**DRILLING METHOD** Hollow Stem Auger **AT TIME OF DRILLING** 10.10 ft / Elev 8.74 ft  
**LOGGED BY** Leonard Niles **CHECKED BY** Leonard Niles **AT END OF DRILLING** ---  
**NOTES** Hand augered to 5 feet below ground surface **AFTER DRILLING** 8.94 ft / Elev 9.90 ft

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/16/09 14:26 - C:\PROGRAM FILES\GINT\PROJECTS\29020.23.1 MANDELA.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0								Casing Top Elev: 18.51 (ft) Casing Type: 2" PVC
0.3				GC		2" of asphalt pavement		
1.5				GC		(GC) Clayey gravel, yellow brown, damp, fill		Capped riser Vault box
4.0				SP		(SP) Sand, dark grayish brown, fine sand, damp, no hydrocarbon odor.		cement grout
5.0						Hand augered to 5 feet.		
8.5				SC		(SC) Clayey sand, yellowish brown, very fine - fine sand, clayey fines, very low plasticity, moist, no hydrocarbon odor.	PID = 0	Bentonite chips
10.3				SP		7 feet - as above decreasing clay, dense, damp to moist, no odor.	PID = 0	
10.3				SP		8 feet - as above, yellowish brown mottled with olive brown, increasing clay at 8 feet, damp, low plasticity, no odor.	PID = 0	
11.5				SC		(SP) Sand, yellowish brown, fine sand, <10% clayey fines, very dense, moist to wet, no hydrocarbon odor, wet at 10 feet.	PID = 0	
13.5				SC		10.5 feet - as above, wet.	PID = 0	#2/12 Monterey sand
14.5				SC		11.5 feet - increasing clay, grading to clayey sand	PID = 0	0.01" slot 2" schedule 40 PVC screen
14.5				SC		(SC) Clayey sand, yellowish brown mottled with olive brown, very fine to fine sand, clay, very low plasticity, moist to wet, dense, no hydrocarbon odor	PID = 0	
18.0				SC		(SC) Clayey sand to sandy clay, increasing clay at 13' - 13.5', decreasing clay at 13.5' to 14.5', increasing clay at 14.5' to 15'	PID = 0	End cap
18.0				SC		(SC) Clayey sand, yellowish brown mottled with olive brown, very fine to fine sand, clay, very low plasticity, moist to wet, dense, no hydrocarbon odor	PID = 0	

Bottom of borehole at 18.0 feet.



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# WELL NUMBER MW-3

PAGE 1 OF 1

**CLIENT** Thomas O. Gillis ESQ. **PROJECT NAME** Mandela Parkway  
**PROJECT NUMBER** 29020.23.1 **PROJECT LOCATION** 1225 Mandela Parkway, Oakland, California  
**DATE STARTED** 6/22/09 **COMPLETED** 6/22/09 **GROUND ELEVATION** 19.32 ft **HOLE SIZE** 8  
**DRILLING CONTRACTOR** Clear Heart Drilling **GROUND WATER LEVELS:**  
**DRILLING METHOD** Hollow Stem Auger **▽ AT TIME OF DRILLING** 9.50 ft / Elev 9.82 ft  
**LOGGED BY** Leonard Niles **CHECKED BY** Leonard Niles **AT END OF DRILLING** ---  
**NOTES** Hand augered to 5 feet below ground surface **▽ AFTER DRILLING** 9.42 ft / Elev 9.90 ft

GENERAL BH / TP / WELL - GINT STD US.GDT - 7/16/09 14:27 - C:\PROGRAM FILES\GINT\PROJECTS\29020.23.1 MANDELA.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0								Casing Top Elev: 18.92 (ft) Casing Type: 2" PVC
0.3				GC		3" of asphalt pavement		
1.0						(GC) Clayey gravel, yellowish brown, dry, fill		Capped riser Vault box
				SP		(SP) Sand, grayish brown, very fine sand, dry to damp, no hydrocarbon odor		cement grout
4.0						Hand augered to 5 feet		
5				SC		(SC) Clayey sand, yellowish brown, mottled with olive brown, very fine sand, silt, clay, very low plasticity, damp, dense, no hydrocarbon odor	PID = 0	Bentonite chips
6.5	SS	100	14-20-21 (41)				PID = 0	
	SS	100	12-18-18 (36)	SC-SM		(SC-SM) As above, clayey to silty sand, yellowish brown at 7.5 feet (no olive), no hydrocarbon odor	PID = 0	
	SS	100	12-20				PID = 0	
	SS	100	32				PID = 0	
	SS	100	32				PID = 0	
9.0	SS	100	14-24-24 (48)	SP		As above except moist; very moist to wet at 9 feet, decreasing silty/clayey fines, wet at 9.5 feet	PID = 0	
	SS	100	14-24-24 (48)			(SP) Sand, dark yellowish brown, fine sand, <15% silt/clay, very dense, wet, no hydrocarbon odor	PID = 0	
11.5				SP-SM		(SP-SM) sand to silty sand as above except increased silt and clay at 12 to 13 feet, olive brown mottling, no hydrocarbon odor	PID = 0	
12.5							PID = 0	
13.0				SP		(SP) Sand, decreasing silt and clay at 12.5 to 13 feet, otherwise as above	PID = 0	
	SS	100	8-10-14-18 (24)				PID = 0	
	SS	100	4-5-5 (10)	SM		(SM) Silty sand, yellowish brown mottled with olive gray and olive brown, very fine to fine sand, silt and clay fines 30 - 50%, moist to wet, dense, no hydrocarbon odor, none to very low plasticity, increasing clayey fines at 15 feet, grading to clayey sand	PID = 0	#2/12 Monterey sand 0.01" slot 2" schedule 40 PVC screen
	SS	100	6-9-11 (20)				PID = 0	
15.0				SC		(SC) Clayey sand, yellowish brown mottled with olive brown and gray, very fine to fine sand, silty to clayey fines, low plasticity, loose to medium dense, wet, no hydrocarbon odor, ~50% silty and clayey fines, grading to sandy clay	PID = 0	
18.0						(SC) Clayey sand, yellowish brown mottled with olive brown and gray, very fine to fine sand, silty to clayey fines, low plasticity, loose to medium dense, wet, no hydrocarbon odor, ~50% silty and clayey fines, grading to sandy clay	PID = 0	End cap

Bottom of borehole at 18.0 feet.

# Appendix D

AllWest

PURGE TABLE

WELL ID: MW-1  
Page - 1 -

SITE NAME: Mandela - Oakland, CA LOCATION: 1225 Mandela Pkwy, Oakland  
 PROJECT NO: 29020.23 DATE PURGED: 6/24/09  
 PURGED/SAMPLED BY: Leonard Niles DATE SAMPLED:  
 TIME SAMPLED: 12:03 - DTW DEPTH TO BOTTOM (feet): 18.25 (TOC), 18.60 (bgs)  
 DEPTH TO WATER (feet): 9.75 (TOC), 10.10 (bgs) WATER COLUMN HEIGHT (feet): 8.50  
 CALCULATED PURGE (gallons): 14 CASING VOLUME (gallons): 1.4  
 ACTUAL PURGE (gallons) 6.5 x 10 vols = 14 gal

DEVELOPMENT  QUARTERLY  BIANNUAL  OTHER   
 SAMPLE TYPE: Groundwater  Surface Water  Other   
 CASING DIAMETER: 2" x 10 3" 4"  
 Casing Volume (gallons per foot): (0.16) (0.38) (0.66)  
*Bailer = 1L = 1/4 gal*

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP C (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>Surge Block</u>	<u>12:09 - 12:15</u>					
<u>1</u>	<u>12:23</u>	<u>22.5°C</u>	<u>6.54</u>	<u>2157</u>		<u>sandy, silty</u>
<u>3</u>	<u>12:30</u>	<u>21.7°C</u>	<u>6.68</u>	<u>1932</u>	<u>Slight HC odor</u>	<u>11 11</u>
<u>5</u>	<u>12:35</u>	<u>20.5°C</u>	<u>6.80</u>	<u>1899</u>	<u>11 11 11</u>	<u>11 11</u>
<u>6.5</u>	<u>12:41</u>	<u>20.2°C</u>	<u>6.91</u>	<u>1534</u>	<u>Purging Dry 11</u>	<u>11 11 11 11</u>

SAMPLE INFORMATION

Post-purge  
 SAMPLE DEPTH TO WATER (feet): 16.35 @ 12:43 Analyses:  
 80% RECHARGE: Y/N SAMPLE TURBIDITY: Sandy, silty, clayey, slight HC odor,  
 ODOR: Slight, sweet HC (diesel) SAMPLE BOTTLE/PRESERVATIVE: no screen, visible

PURGING EQUIPMENT

Centrifugal Pump  Bailer (Teflon)  
 Submersible Pump  Bailer (PVC or disposable)  
 Peristaltic Pump  Bailer (Stainless Steel)  
 Purge Pump  
 Other: Surge Block

SAMPLING EQUIPMENT

Centrifugal Pump  Bailer (Teflon)  
 Submersible Pump  Bailer (PVC or disposable)  
 Peristaltic Pump  Bailer (Stainless Steel)  
 Purge Pump  
 Other: \_\_\_\_\_

Comments: -0.35 ft between TOC & Van (rim (ground surface))  
Purging dry at 6.5 gal. 6 drums onsite - 3 soil, 1 decon/  
purge water - all full, 2 empty

13:15 - left site, lunch 13:35 - 14:25



All West

PURGE TABLE

WELL ID: MW-2

Page 1 of 1

SITE NAME: <u>Mandela - Oakland, CA</u>	LOCATION: <u>1225 Mandela Pkwy, Oakland</u>
PROJECT NO: <u>29020, 23.1</u>	DATE PURGED: <u>6/24/09</u>
PURGED/SAMPLED BY: <u>Leonard Niles</u>	DATE SAMPLED: <u>18.23 (TOC), 18.58 (BGS)</u>
TIME SAMPLED: <u>9:14 (OTW)</u>	DEPTH TO BOTTOM (feet): <u>17.93 (TOC) 18.28 (BGS)</u>
DEPTH TO WATER (feet): <u>8.61 (TOC), 8.96 (BGS)</u>	WATER COLUMN HEIGHT (feet): <u>9.32</u>
CALCULATED PURGE (gallons): <u>15</u>	CASING VOLUME (gallons): <u>1.5</u>
ACTUAL PURGE (gallons): <u>9</u>	<u>x 10 vols = 15 gal</u>

DEVELOPMENT  QUARTERLY  BIANNUAL  OTHER  1L/bailer ≈ 1/4 gal

SAMPLE TYPE: Groundwater  Surface Water  Other

CASING DIAMETER: 2" x 10 3" 4"

Casing Volume (gallons per foot): (0.16) (0.38) (0.66)

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP °C (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>Surge Block</u>	<u>9:50-9:55</u>					
<u>1</u>	<u>10:10</u>	<u>21.9°C</u>	<u>6.56</u>	<u>1981</u>	<u>—</u>	<u>Silty, sandy</u>
<u>5</u>	<u>10:22</u>	<u>20.5°C</u>	<u>6.95</u>	<u>2104</u>		<u>" "</u>
<u>8</u>	<u>10:28</u>	<u>20.0°C</u>	<u>6.54</u>	<u>1780</u>	<u>Purging Dry</u>	<u>" "</u>
<u>9</u>	<u>10:37</u>	<u>20.4°C</u>	<u>6.55</u>	<u>1579</u>	<u>Purging Dry</u>	<u>" "</u>

Post Purge 10:30 SAMPLE INFORMATION

SAMPLE DEPTH TO WATER (feet): 16.78 Analyses: \_\_\_\_\_

80% RECHARGE: Y/N SAMPLE TURBIDITY: Sandy, silty, clayey, no odor/sheen

ODOR: none SAMPLE BOTTLE/PRESERVATIVE: \_\_\_\_\_

PURGING EQUIPMENT

- Centrifugal Pump
- Submersible Pump
- Peristaltic Pump
- Purge Pump
- Other: \_\_\_\_\_
- Bailer (Teflon)
- Bailer (PVC or disposable)
- Bailer (Stainless Steel)

SAMPLING EQUIPMENT

- Centrifugal Pump
- Submersible Pump
- Peristaltic Pump
- Purge Pump
- Other: \_\_\_\_\_
- Bailer (Teflon)
- Bailer (PVC or disposable)
- Bailer (Stainless Steel)

Comments: -0.35 ft between TOC and vault rim (ground surface)  
Surge block screen interval for 5 min

AllWest

PURGE TABLE

WELL ID: MW-3

Page 1 of 1

SITE NAME: <u>Mandela, Oakland, CA</u>	LOCATION: <u>1225 Mandela Pkwy, Oakland</u>
PROJECT NO: <u>29020.23.1</u>	DATE PURGED: <u>6/24/09</u>
PURGED/SAMPLED BY: <u>Leonard Niles</u>	DATE SAMPLED:
TIME SAMPLED: <u>DTW-10:54</u>	DEPTH TO BOTTOM (feet): <u>18.26 (TOC), 18.67 (bgs)</u>
DEPTH TO WATER (feet): <u>9.02 (TOC), 9.46 (bgs)</u>	WATER COLUMN HEIGHT (feet): <u>9.24</u>
CALCULATED PURGE (gallons): <u>15</u>	CASING VOLUME (gallons): <u>1.48</u>
ACTUAL PURGE (gallons) <u>6</u>	<u>X 10 VOL = 14.8 gal</u>

DEVELOPMENT  QUARTERLY  BIENNIAL  OTHER  Bailer = 1L = 1/4 gal

SAMPLE TYPE: Groundwater  Surface Water  Other

CASING DIAMETER: 2"  (0.16) 3"  (0.38) 4"  (0.66)  
 Casing Volume (gallons per foot):

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP C (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
Surge Block	11:04-11:09					
M'	11:18	20.0°C	6.37	2610		Sandy, silty
3	11:24	19.5°C	6.37	2635		" "
5	11:29	18.6°C	6.75	2510		" "
6	11:34	18.4°C	6.85	2199		Purging Dry

post-purge @ 11:36

SAMPLE DEPTH TO WATER (feet): 17.20 Analyses:

80% RECHARGE:  SAMPLE TURBIDITY: Sandy, silty, clayey, no odor/sheen

ODOR: none SAMPLE BOTTLE/PRESERVATIVE:

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- |   |  |   |   |
|---|--|---|---|
| <input type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailer (Teflon)                     | <input type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailer (Teflon)            |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (PVC or disposable)          | <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (PVC or disposable) |
| <input type="checkbox"/> Peristaltic Pump | <input checked="" type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Peristaltic Pump | <input type="checkbox"/> Bailer (Stainless Steel)   |
| <input type="checkbox"/> Purge Pump       |  | <input type="checkbox"/> Purge Pump       |   |
- Other: surge block

Comments: Well covered by parked mobile home  
-0.44ft between TOC and vault rim (ground surface)  
surge blocked for 5 minutes, purged dry at 6 gal  
post-purge TD = 18.26 (same as before)



PURGE TABLE

WELL ID: MW-1

Page - 1 -

SITE NAME: <u>Mandela - Oakland</u>	LOCATION: <u>1225 Mandela Pkwy Oakland</u>
PROJECT NO: <u>29020.23</u>	DATE PURGED: <u>6/25/09</u>
PURGED/SAMPLED BY: <u>Leonard Niles</u>	DATE SAMPLED: <u>6/25/09</u>
TIME SAMPLED: <u>12:02</u>	DEPTH TO BOTTOM (feet): <u>18.26</u>
DEPTH TO WATER (feet): <u>9.85 @ 10:05, 9.81 @ 11:49</u>	WATER COLUMN HEIGHT (feet): <u>8.41</u>
CALCULATED PURGE (gallons): <u>4.04</u>	CASING VOLUME (gallons): <u>1.35</u>
ACTUAL PURGE (gallons) <u>4</u>	<u>X 3 vols = 4.04 gal</u>

DEVELOPMENT QUARTERLY BIENNIAL OTHER

SAMPLE TYPE: Groundwater Surface Water Other

CASING DIAMETER: 2" x 3" 3" 4"  
Casing Volume (gallons per foot): (0.16) (0.38) (0.66)

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
1	11:53	22.6°C	6.53	1246	—	SILTY
2	11:55	21.3°C	6.66	1064	—	SILTY
3	11:58	21.0°C	6.59	927	—	SILTY
4	12:02	21.4°C	6.71	1062	—	SILTY

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER (feet): 12.04 Analyses: TPH-g/BTEX/MTBE, TPH-d/mo  
80% RECHARGE: Y/N SAMPLE TURBIDITY: SILTY  
ODOR: very faint HC SAMPLE BOTTLE/PRESERVATIVE: 3 x VOA, 1 x amber LL, HCl

PURGING EQUIPMENT

Centrifugal Pump  Bailer (Teflon)  
 Submersible Pump  Bailer (PVC or disposable)  
 Peristaltic Pump  Bailer (Stainless Steel)  
 Purge Pump  
Other: \_\_\_\_\_

SAMPLING EQUIPMENT

Centrifugal Pump  Bailer (Teflon)  
 Submersible Pump  Bailer (PVC or disposable)  
 Peristaltic Pump  Bailer (Stainless Steel)  
 Purge Pump  
Other: \_\_\_\_\_

Comments: very faint hydrocarbon odor, no sheen



AllWest

PURGE TABLE

WELL ID: MW-2

Page - of -

SITE NAME: <u>Mandela - Oakland</u>	LOCATION: <u>1225 Mandela Pkwy, Oakland</u>
PROJECT NO: <u>29020.23</u>	DATE PURGED: <u>6/25/09</u>
PURGED/SAMPLED BY: <u>Leonard Niles</u>	DATE SAMPLED: <u>6/25/09</u>
TIME SAMPLED: <u>10:39</u>	DEPTH TO BOTTOM (feet): <u>18.24</u>
DEPTH TO WATER (feet): <u>8.71 @ 10:21</u>	WATER COLUMN HEIGHT (feet): <u>9.47, 9.53</u>
CALCULATED PURGE (gallons): <u>4.55</u>	CASING VOLUME (gallons): <u>1.5</u>
ACTUAL PURGE (gallons) <u>4.75</u>	<u>x 3 vols = 4.55 gal</u>

DEVELOPMENT QUARTERLY ✓ BIENNIAL \_\_\_\_\_ OTHER \_\_\_\_\_

SAMPLE TYPE: Groundwater ✓ Surface Water \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2" x 3 3" \_\_\_\_\_ 4" \_\_\_\_\_  
Casing Volume (gallons per foot): (0.16) (0.38) (0.66)

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>1</u>	<u>10:25</u>	<u>21.6°C</u>	<u>6.88</u>	<u>1243</u>	<u>---</u>	<u>SILTY</u>
<u>2.25</u>	<u>10:29</u>	<u>20.7°C</u>	<u>6.95</u>	<u>1310</u>	<u>---</u>	<u>SILTY</u>
<u>3.5</u>	<u>10:32</u>	<u>20.2°C</u>	<u>6.98</u>	<u>1386</u>	<u>---</u>	<u>SILTY</u>
<u>4.75</u>	<u>10:34</u>	<u>20.1°C</u>	<u>6.76</u>	<u>1160</u>	<u>---</u>	<u>SILTY</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER (feet): 13.61 Analyses: TPH-g/BTEX/MTBE, TPH-d/mo  
80% RECHARGE: Y/N SAMPLE TURBIDITY: SILTY  
ODOR: none SAMPLE BOTTLE/PRESERVATIVE: 3x JVAS, 1x amber 1L, HCl

PURGING EQUIPMENT

Centrifugal Pump  
 Submersible Pump  
 Peristaltic Pump  
 Purge Pump  
Other: \_\_\_\_\_  
 Bailer (Teflon)  
 Bailer (PVC or disposable)  
 Bailer (Stainless Steel)

SAMPLING EQUIPMENT

Centrifugal Pump  
 Submersible Pump  
 Peristaltic Pump  
 Purge Pump  
Other: \_\_\_\_\_  
 Bailer (Teflon)  
 Bailer (PVC or disposable)  
 Bailer (Stainless Steel)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

AllWest

PURGE TABLE

WELL ID: MW-3  
Page 1 of 1

SITE NAME: <u>Mandela - Oakland</u>	LOCATION: <u>1225 Mandela Pkwy, Oakland</u>
PROJECT NO: <u>29020, 23</u>	DATE PURGED: <u>6/25/09</u>
PURGED/SAMPLED BY: <u>Leonard Niles</u>	DATE SAMPLED: <u>6/25/09</u>
TIME SAMPLED: <u>11:22</u>	DEPTH TO BOTTOM (feet): <u>18.28</u>
DEPTH TO WATER (feet): <u>9.07 @ 10:00, 9.06 @ 11:10</u>	WATER COLUMN HEIGHT (feet): <u>9.21</u>
CALCULATED PURGE (gallons): <u>4.42</u>	CASING VOLUME (gallons): <u>147</u>
ACTUAL PURGE (gallons) <u>4.5</u>	<u>x 3 vols = 4.42</u>

DEVELOPMENT QUARTERLY BIANNUAL OTHER

SAMPLE TYPE: Groundwater Surface Water Other

CASING DIAMETER: 2" x 3" 3" 4"  
Casing Volume (gallons per foot): (0.16) (0.38) (0.66)

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees F)	PH (units)	CONDUCTIVITY (umhos/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
1	11:11	<del>19.9</del> 20.0°C	6.74	1908	—	SILTY
2	11:14	18.9°C	6.82	1740	—	"
3.25	11:17	19.0°C	6.89	1914	—	"
4.5	11:22	18.8°C	6.85	1922	—	SILTY

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER (feet): 15.60 Analyses: +PH-g/BTEX/MTBE/TPH-d/mo  
80% RECHARGE: Y/N SAMPLE TURBIDITY: SILTY  
ODOR: none SAMPLE BOTTLE/PRESERVATIVE: 3xVOA, 1x Amber IL/HCI

PURGING EQUIPMENT

- Centrifugal Pump
- Submersible Pump
- Peristaltic Pump
- Purge Pump
- Other: \_\_\_\_\_
- Bailer (Teflon)
- Bailer (PVC or disposable)
- Bailer (Stainless Steel)

SAMPLING EQUIPMENT

- Centrifugal Pump
- Submersible Pump
- Peristaltic Pump
- Purge Pump
- Other: \_\_\_\_\_
- Bailer (Teflon)
- Bailer (PVC or disposable)
- Bailer (Stainless Steel)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Appendix E



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc 530 Howard Street, Ste. 300 San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/22/09
	Client Contact: Leonard Niles	Date Received: 06/23/09
	Client P.O.:	Date Reported: 06/29/09
		Date Completed: 06/29/09

**WorkOrder: 0906696**

June 29, 2009

Dear Leonard:

Enclosed within are:

- 1) The results of the **6** analyzed samples from your project: **#29020.23.1; Mandela-MW1**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

0906096

**McCAMPBELL ANALYTICAL, INC.**

1534 WILLOW PASS ROAD  
PITTSBURG, CA 94565-1701

Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME

RUSH 24 HR  48 HR  72 HR  5 DAY

GeoTracker EDF  PDF  Excel  Write On (DW)

Report To: Leonard Niles Bill To: Darlene Torio  
Company: Allwest Environmental, Inc.  
530 Howard Street, Suite 300  
San Francisco, CA 94105 E-Mail: LNiles@allwest1.com  
Tele: (415) 391-2510 x109 Fax: (415) 391-2008  
Project #: 29020.23.1 Project Name: Mandela-MW1  
Project Location: 1225 Mandela Pkwy, Oakland, CA  
Sampler Signature: Leonard Niles

**Analysis Request**

Other

Comments

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	
MTBE / BTEX ONLY (EPA 602 / 8021)	
TPH as Diesel / Motor Oil (8015) w/Silica Gel	
Total Petroleum Oil & Grease (1664 / 8520 E/B&F)	
Total Petroleum Hydrocarbons (418.1)	
EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	
EPA 505 / 608 / 8081 (CI Pesticides)	
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	
EPA 507 / 8141 (NP Pesticides)	
EPA 515 / 8151 (Acidic CI Herbicides)	
EPA 524.2 / 624 / 8260 (VOCs)	
EPA 525.2 / 625 / 8270 (SVOCs)	
EPA 8270 SIM / 8310 (PAHs / PNAs)	
CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	
LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	
Lead (200.7 / 200.8 / 6010 / 6020)	

Filter Samples for Metals analysis: Yes / No

Silica Gel cleanup for TPH-d & mo

SAMPLE ID	LOCATION Field Point Name	SAMPLING		Containers		MATRIX					METHOD PRESERVED						
		Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
MW-2-10.0	MW-2	6/22/09	10:00	1	T		X				X						
MW-3-9.5	MW-3		13:10	1			X				X						
MW-1-5.5	MW-1		16:13	1			X				X						
MW-1-8.0	MW-1		16:33	1			X				X						
MW-1-10.0	MW-1		16:45	1			X				X						
MW-1-12.0	MW-1		17:16	1			X				X						
MW-1-14.5	MW-1		17:43	1			X				X						

Hold

Relinquished By: Leonard Niles Date: 6/22/09 Time: 1:30 Received By: [Signature]  
Relinquished By: [Signature] Date: 6/23/09 Time: 9:00 Received By: Me Vall  
Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

COMMENTS:  
ICE/P 625  
GOOD CONDITION   
HEAD SPACE ABSENT \_\_\_\_\_  
DECHLORINATED IN LAB \_\_\_\_\_  
APPROPRIATE CONTAINERS   
PRESERVED IN LAB \_\_\_\_\_  
VOAS O&G METALS OTHER  
PRESERVATION pH<2

sample actually labelled MW-1-10.0



**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0906696**

**ClientCode: AWE**

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**  
 Leonard Niles  
 All West Environmental, Inc  
 530 Howard Street, Ste. 300  
 San Francisco, CA 94105  
 (415) 391-2510    FAX (415) 391-2008

**Email:**    Iniles@allwest1.com  
**cc:**  
**PO:**  
**ProjectNo:** #29020.23.1; Mandela-MW1

**Bill to:**  
 Darlene Torio  
 All West Environmental, Inc  
 530 Howard Street, Ste.300  
 San Francisco, CA 94105  
 darlene@allwest1.com

**Requested TAT: 5 days**  
  
**Date Received: 06/23/2009**  
**Date Printed: 06/23/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906696-001	MW-2-10.0	Soil	6/22/2009 10:00	<input type="checkbox"/>	A	A	A									
0906696-002	MW-3-9.5	Soil	6/22/2009 13:10	<input type="checkbox"/>	A		A									
0906696-004	MW-1-8.0	Soil	6/22/2009 16:33	<input type="checkbox"/>	A		A									
0906696-005	MW-1-10.0	Soil	6/22/2009 16:45	<input type="checkbox"/>	A		A									
0906696-006	MW-1-12.0	Soil	6/22/2009 17:16	<input type="checkbox"/>	A		A									
0906696-007	MW-1-14.5	Soil	6/22/2009 17:43	<input type="checkbox"/>	A		A									

**Test Legend:**

1	G-MBTX_S	2	PREDF REPORT	3	TPH(DMO)WSG_S	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Melissa Valles**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



**Sample Receipt Checklist**

Client Name: **All West Environmental, Inc**

Date and Time Received: **6/23/09 5:18:25 PM**

Project Name: **#29020.23.1; Mandela-MW1**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **0906696** Matrix Soil

Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Sample IDs noted by Client on COC? Yes  No
- Date and Time of collection noted by Client on COC? Yes  No
- Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

- Custody seals intact on shipping container/cooler? Yes  No  NA
- Shipping container/cooler in good condition? Yes  No
- Samples in proper containers/bottles? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 6.2°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

=====

Client contacted:

Date contacted:

Contacted by:

Comments: All sample ID's agree with sample labels except for MW-2-10.0. The tube is actually labelled MW-1-10.0 so I went off the time on the tube.



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc  530 Howard Street, Ste. 300  San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/22/09
	Client Contact: Leonard Niles	Date Received: 06/23/09
	Client P.O.:	Date Extracted: 06/23/09
		Date Analyzed: 06/25/09-06/26/09

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0906696

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-2-10.0	S	ND	ND	ND	ND	ND	ND	1	77	
002A	MW-3-9.5	S	ND	ND	ND	ND	ND	ND	1	77	
004A	MW-1-8.0	S	ND	ND	ND	ND	ND	ND	1	79	
005A	MW-1-10.0	S	ND	ND	ND	ND	ND	ND	1	83	
006A	MW-1-12.0	S	16	ND	ND	ND	ND	ND	1	82	d7
007A	MW-1-14.5	S	ND	ND	ND	ND	ND	ND	1	85	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	0.005	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



# McC Campbell Analytical, Inc.

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1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc 530 Howard Street, Ste. 300 San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/22/09
	Client Contact: Leonard Niles	Date Received: 06/23/09
	Client P.O.:	Date Extracted: 06/23/09
		Date Analyzed: 06/24/09-06/25/09

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up\*

Extraction method: SW3550C/3630C

Analytical methods: SW8015B

Work Order: 0906696

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
0906696-001A	MW-2-10.0	S	ND	ND	1	110	
0906696-002A	MW-3-9.5	S	ND	ND	1	105	
0906696-004A	MW-1-8.0	S	ND	ND	1	109	
0906696-005A	MW-1-10.0	S	ND	ND	1	107	
0906696-006A	MW-1-12.0	S	6700	2100	100	103	e1
0906696-007A	MW-1-14.5	S	ND	ND	1	104	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e1) unmodified or weakly modified diesel is significant



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 43986

WorkOrder 0906696

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0906614-011A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	ND	20	113	114	0.283	97.8	100	2.31	70 - 130	30	70 - 130	30
%SS:	110	50	111	110	0.822	109	111	2.16	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 43986 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906696-001A	06/22/09 10:00 AM	06/23/09	06/24/09 3:37 PM	0906696-002A	06/22/09 1:10 PM	06/23/09	06/24/09 4:45 PM
0906696-004A	06/22/09 4:33 PM	06/23/09	06/24/09 7:02 PM	0906696-005A	06/22/09 4:45 PM	06/23/09	06/24/09 8:10 PM
0906696-006A	06/22/09 5:16 PM	06/23/09	06/25/09 3:52 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 44010

WorkOrder 0906696

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0906644-002A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	0.60	113	110	2.43	113	107	6.26	70 - 130	20	70 - 130	20
MTBE	ND	0.10	98	97.5	0.507	98.7	104	5.61	70 - 130	20	70 - 130	20
Benzene	ND	0.10	116	118	1.59	113	108	4.19	70 - 130	20	70 - 130	20
Toluene	ND	0.10	113	114	1.32	106	102	3.88	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	117	119	1.92	110	107	2.79	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	115	113	1.66	109	107	2.20	70 - 130	20	70 - 130	20
%SS:	86	0.10	95	96	1.06	99	97	2.27	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 44010 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906696-001A	06/22/09 10:00 AM	06/23/09	06/25/09 4:09 AM	0906696-002A	06/22/09 1:10 PM	06/23/09	06/25/09 4:38 AM
0906696-004A	06/22/09 4:33 PM	06/23/09	06/25/09 11:55 PM	0906696-005A	06/22/09 4:45 PM	06/23/09	06/26/09 12:25 AM
0906696-006A	06/22/09 5:16 PM	06/23/09	06/26/09 3:26 AM	0906696-007A	06/22/09 5:43 PM	06/23/09	06/26/09 2:56 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 44061

WorkOrder 0906696

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0906696-007A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	ND	20	100	99.7	0.567	119	109	8.28	70 - 130	30	70 - 130	30
%SS:	104	50	106	105	0.308	115	91	23.1	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 44061 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906696-007A	06/22/09 5:43 PM	06/23/09	06/24/09 1:20 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc 530 Howard Street, Ste. 300 San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/25/09
	Client Contact: Leonard Niles	Date Received: 06/25/09
	Client P.O.:	Date Reported: 07/02/09
		Date Completed: 06/30/09

**WorkOrder: 0906786**

July 02, 2009

Dear Leonard:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#29020.23.1; Mandela-MW1**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.



0906786

**McCAMPBELL ANALYTICAL, INC.**

1534 WILLOW PASS ROAD  
PITTSBURG, CA 94565-1701  
Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME  RUSH 24 HR 48 HR 72 HR 5 DAY  
 GeoTracker EDF  PDF  Excel  Write On (DW)

Report To: Leonard Niles Bill To: Darlene Torio  
Company: AllWest Environmental, Inc.  
530 Howard St., #300, San Francisco, CA 94105  
E-Mail: LNiles@allwest1.com  
Tele: (415) 391-2510 x 109 Fax: (415) 391-2008  
Project #: 29020, 23.1 Project Name: Mandela-MW1  
Project Location: 1225 Mandela Parkway, Oakland, CA  
Sampler Signature: Leonard Niles

SAMPLE ID			LOCATION/ Field Point Name		SAMPLING		# Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
					Date	Time		Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>			
+5	MW-1	MW-1	6/25/09	12:02	3	V/B	X					X	X					Filter Samples for Metals analysis: Yes / No  Silica Gel Cleanup for TPH-d/TPH-mo	
+5	MW-2	MW-2	↓	10:39	3	V/B	X					X	X						
+5	MW-3	MW-3	↓	11:22	3	V/B	X					X	X						

Relinquished By: Leonard Niles Date: 6/25/09 Time: 2:16 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: 6/30/09 Time: 4:30 Received By: Chris [Signature]  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/ GOOD CONDITION \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_  
 APPROPRIATE CONTAINERS \_\_\_\_\_  
 PRESERVED IN LAB \_\_\_\_\_

VOAS O&G METALS OTHER  
 PRESERVATION pH<2

# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906786

ClientCode: AWE

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Leonard Niles  
 All West Environmental, Inc  
 530 Howard Street, Ste. 300  
 San Francisco, CA 94105  
 (415) 391-2510    FAX (415) 391-2008

Email: Iniles@allwest1.com  
 cc:  
 PO:  
 ProjectNo: #29020.23.1; Mandela-MW1

**Bill to:**

Darlene Torio  
 All West Environmental, Inc  
 530 Howard Street, Ste.300  
 San Francisco, CA 94105  
 darlene@allwest1.com

**Requested TAT: 5 days**

**Date Received: 06/25/2009**

**Date Printed: 06/25/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906786-001	MW-1	Water	6/25/2009 12:02	<input type="checkbox"/>	A	A	B									
0906786-002	MW-2	Water	6/25/2009 10:39	<input type="checkbox"/>	A		B									
0906786-003	MW-3	Water	6/25/2009 11:22	<input type="checkbox"/>	A		B									

**Test Legend:**

1	G-MBTEX_W	2	PREDF REPORT	3	TPH(DMO)WSG_W	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Ana Venegas**

**Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
 Hazardous samples will be returned to client or disposed of at client expense.



### Sample Receipt Checklist

Client Name: **All West Environmental, Inc**

Date and Time Received: **6/25/2009 6:06:33 PM**

Project Name: **#29020.23.1; Mandela-MW1**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **0906786** Matrix Water

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Sample IDs noted by Client on COC? Yes  No
- Date and Time of collection noted by Client on COC? Yes  No
- Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes  No  NA
- Shipping container/cooler in good condition? Yes  No
- Samples in proper containers/bottles? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 8.8°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted:

Date contacted:

Contacted by:

Comments:



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1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc  530 Howard Street, Ste. 300  San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/25/09
	Client Contact: Leonard Niles	Date Received: 06/25/09
	Client P.O.:	Date Extracted: 06/27/09-06/30/09
		Date Analyzed: 06/27/09-06/30/09

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0906786

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	61	ND	ND	ND	ND	ND	1	99	d7,b6,b1
002A	MW-2	W	ND	ND	ND	ND	ND	ND	1	99	b1
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	102	b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	0.005	mg/Kg

\* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment  
b6) lighter than water immiscible sheen/product is present  
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



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Telephone: 877-252-9262 Fax: 925-252-9269

All West Environmental, Inc 530 Howard Street, Ste. 300 San Francisco, CA 94105	Client Project ID: #29020.23.1; Mandela-MW1	Date Sampled: 06/25/09
	Client Contact: Leonard Niles	Date Received: 06/25/09
	Client P.O.:	Date Extracted: 06/25/09
		Date Analyzed: 06/27/09-07/01/09

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up\*

Extraction method: SW3510C/3630C

Analytical methods: SW8015B

Work Order: 0906786

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
0906786-001B	MW-1	W	390	ND	1	108	e1,b6,b1
0906786-002B	MW-2	W	ND	ND	1	113	b1
0906786-003B	MW-3	W	ND	ND	1	112	b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	NA	NA	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

#) cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract; &) low or no surrogate due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

b1) aqueous sample that contains greater than ~1 vol. % sediment  
b6) lighter than water immiscible sheen/product is present  
e1) unmodified or weakly modified diesel is significant



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 44100

WorkOrder: 0906786

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0906775-006A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	122	115	6.08	120	116	3.40	70 - 130	20	70 - 130	20
MTBE	ND	10	86.4	85.4	1.20	87.8	87.1	0.861	70 - 130	20	70 - 130	20
Benzene	ND	10	98.5	98.9	0.450	99	101	1.54	70 - 130	20	70 - 130	20
Toluene	ND	10	98.8	99.2	0.434	98.9	101	2.25	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	97.3	98.2	0.883	98.7	99.6	0.961	70 - 130	20	70 - 130	20
Xylenes	ND	30	99.5	100	0.962	101	101	0	70 - 130	20	70 - 130	20
%SS:	102	10	99	100	1.06	100	99	1.22	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 44100 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906786-001A	06/25/09 12:02 PM	06/30/09	06/30/09 1:05 PM	0906786-002A	06/25/09 10:39 AM	06/30/09	06/30/09 4:30 AM
0906786-003A	06/25/09 11:22 AM	06/27/09	06/27/09 2:48 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 44135

WorkOrder: 0906786

EPA Method SW8015B		Extraction SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	87.6	89.2	1.79	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	107	109	2.03	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 44135 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906786-001B	06/25/09 12:02 PM	06/25/09	07/01/09 4:58 AM	0906786-002B	06/25/09 10:39 AM	06/25/09	06/27/09 2:40 PM
0906786-003B	06/25/09 11:22 AM	06/25/09	06/27/09 4:05 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

# Appendix F





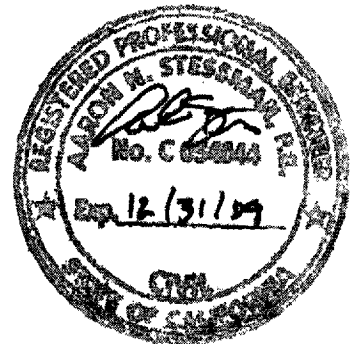
CSS ENVIRONMENTAL SERVICES, INC.  
 Managing Cost, Scope and Schedule  
 100 Galli Drive, Suite 1  
 Novato, CA 94949  
 Telephone: (415) 883-6203  
 Facsimile: (415) 883-6204

**Site Positions**

CSS Project 6606 - AllWest  
 1225 Mandela Pkwy., Oakland

Horizontal Coordinate System: North American 1983-CONUS Survey Date: 7/08/09  
 Height System: North American Vertical Datum 1988-Ortho. Ht. (GEOID03)  
 Project file: 6606 - Allwest Oakland.spr  
 Desired Horizontal Accuracy: 0.100Ft + 1ppm  
 Desired Vertical Accuracy: 0.100Ft + 2ppm  
 Confidence Level: 95% Err.  
 Linear Units of Measure: Int. Feet

Site ID	Site Descriptor	Position	95% Error	Fix Status
1 MW-1	TBM-A ON N RIM	Lat. 37° 48' 34.84232" N	0.019	
		Lon. 122° 17' 32.23077" W	0.019	
	TBM-A ON N RIM	Elev. 20.09	0.032	
	N TOC	Elev. 19.75		
2 MW-3	NR WELL LOC	Lat. 37° 48' 35.25451" N	0.013	
		Lon. 122° 17' 33.03651" W	0.006	
	NR WELL LOC	Elev. 19.32		
	N TOC	Elev. 18.92		
3 MW-2	TBM-B ON N RIM	Lat. 37° 48' 35.59386" N	0.013	
		Lon. 122° 17' 32.72382" W	0.013	
	N RIM WELL LOCATION	Elev. 18.84		
	N TOC	Elev. 18.51		
4 0882	MONUMENT HT0882	Lat. 37° 46' 48.04867" N	0.000	Fixed
		Lon. 122° 17' 53.51878" W	0.000	Fixed
		Elev. 9.131	0.000	Fixed
5 0654	MONUMENT HT0654	Lat. 37° 47' 44.25902" N	0.000	Fixed
		Lon. 122° 16' 47.38718" W	0.000	Fixed
		Elev. 9.390	0.000	Fixed



# Appendix G



**APPLICATION FOR AUTHORIZATION TO USE**

**REPORT TITLE:** GROUNDWATER MONITORING WELL INSTALLATION REPORT  
FORMER MANDELA TRUCKING  
1225 MANDELA PARKWAY  
OAKLAND, CALIFORNIA

To: AllWest Environmental, Inc.  
530 Howard Street, Suite 300  
San Francisco, CA 94105

From (Applicant): \_\_\_\_\_  
(Please clearly identify name and address of person/entity applying for permission to use or copy this document)

Ladies and Gentlemen:

Applicant hereby applies for permission to rely upon *AllWest's* work product, as described above, for the purpose of: (state here the purpose for which you wish to rely upon the work product)

Applicant only can accept and rely upon *AllWest* work product under the strict understanding that Applicant is bound by all provisions in the Terms and Conditions attached to the report. Every report, recommendation, finding, or conclusion issued by *AllWest* shall be subject to the limitations stated in the Agreement and subject report(s). If this is agreeable, please sign below and return one copy of this letter to us along with the applicable fees. Upon receipt and if acceptable, our signed letter will be returned. *AllWest* may withhold permission at its sole discretion or require additional re-use fees or terms.

**FEES:** A \$1,000 coordination and reliance fee, payable in advance, will apply. If desired, for an additional \$75 report reproduction fee, we will reissue the report in the name of the Applicant; the report date, however, will remain the same. All checks will be returned if your request for reliance is not approved.

**REQUESTED BY**

\_\_\_\_\_  
Applicant Company

\_\_\_\_\_  
Print name and Title

\_\_\_\_\_  
Signature and Date

**APPROVED BY**

**AllWest Environmental, Inc.**

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Signature and Date

PROJECT NUMBER: 29020.23.1  
PROJECT NAME: GROUNDWATER MONITORING WELL INSTALLATION REPORT  
FORMER MANDELA TRUCKING  
1225 MANDELA PARKWAY  
OAKLAND, CALIFORNIA

## **GENERAL CONDITIONS TO THE WORK AUTHORIZATION**

### **AGREEMENT**

It is hereby agreed that the Client retains AllWest to act for and represent it in all matters set forth in the Work Authorization attached hereto (the "Work"). Such contract of retainer shall be subject to and is conditioned upon the following terms, conditions, and stipulations, which terms, conditions and stipulations will also apply to any further agreements, purchase orders, or documentation regarding the Work unless modified by a writing signed by both Parties to this Agreement. Signature by client on work authorization constitutes agreement with General Conditions as stated here.

It is recognized and agreed that AllWest has assumed responsibility only for making the investigations, reports and recommendations to the Client included within the Scope of Work. The responsibility for making any disclosures or reports to any third party and for the taking of corrective, remedial, or mitigative action shall be solely that of the Client.

### **REIMBURSABLE COSTS/INTEREST AND ATTORNEYS FEES**

1. Reimbursable Costs will be charged to the Client in addition to the fees for the basic services under this Agreement and all Additional Services under the Agreement. Reimbursable Costs include, but are not limited to, expenses for travel, including transportation, meals, lodging, long distance telephone and other related expenses, as well as the costs of reproduction of all drawings for the Client's use, costs for specifications and type-written reports, permit and approval fees, automobile travel reimbursement, costs and fees of subcontractors, and soil and other materials testing. No overtime is accrued for time spent in travel. All costs incurred which relate to the services or materials provided by a contractor or subcontractor to AllWest shall be invoiced by AllWest on the basis of cost plus twenty percent (20%). Automobile travel reimbursement shall be at the rate of fifty-four cents (\$.54) per mile. All other reimbursable costs shall be invoiced and billed by AllWest at the rate of 1.2 times the direct cost to AllWest. Any rates set forth in this Agreement are subject to reasonable increases by AllWest upon giving thirty days' written notice to Client. Reimbursable costs will be charged to the client *only as outlined* in the attached proposal if the work is a for Phase I Environmental Site Assessment. Client knowingly and willingly agrees to pay interest on the balance of on unpaid invoices overdue more than 30 days at a rate of 18% per annum and all attorney fees incurred by AllWest to secure payment of unpaid invoices. AllWest may waive such fees at its discretion.

### **WARRANTY AND LIMITATION OF LIABILITY**

2. AllWest will perform the Work with the usual degree and standard of care and skill observed by members of AllWest's profession in the same geographic area on projects of the type engaged in by AllWest. The financial liability of AllWest, including its employees and independent contractors including attorney fees for negligent errors or omissions including negligent misrepresentation(s) resulting from inspection/assessment services shall not exceed \$25,000 and shall be limited to direct damages. All other damages such as loss of use, profits, anticipated profits, interest, and like losses are consequential damages for which neither AllWest nor its employees or independent contractors are liable. Client hereby releases AllWest from all liability and damage incurred by the Client or other person which are associated with the services provided by AllWest, or the employees, agents, contractors or subcontractors of AllWest, under this Agreement. Payment of any invoice by the Client to AllWest shall be taken to mean the Client is satisfied with AllWest's services to the date of payment and is not aware of any deficiencies in those services.

Further, Client hereby releases AllWest from any and all liability for risks or damages to the Project site. AllWest assumes no liability or duties regarding the Project site by reason of its performance of the Work at the Project. Client shall hold AllWest harmless from any liabilities or duties with respect to the work or the Project. Client shall further release, Indemnify and hold AllWest harmless from any and all claims, liabilities or damages resulting from AllWest's use of technological or design concepts, or any other concepts or uses which, though acceptable and standard at the time the decision to use them was made, are unacceptable or non-standard beginning at the time work commences or any time thereafter. If AllWest must incur additional expenses in the work by reason or the need to incorporate new or different technologies into the Work, whether necessitated by new laws, regulations or guidelines, or by the desire of Client, Client agrees to reimburse AllWest for such expenses, as well as provide compensation for AllWest's services at the rates set forth in the Work Authorization.

Client acknowledges that AllWest and its sub-contractors have played no part in the creation of any hazardous waste, pollution sources, nuisance, or chemical or industrial disposal problem, which may exist, and that AllWest has been retained for the sole purpose of assisting the Client in assessing any problem which may exist and in assisting the Client in formulating a remedial program, if such is within the Scope of Work which AllWest has assumed. Client recognizes that while necessary for investigations, commonly used exploration methods, may penetrate through contaminated materials and serve as a connecting passageway between the contaminated material and an uncontaminated aquifer or groundwater, possibly inducing cross contamination. While back-filling with grout, or other means, according to a state of practice design, is intended to provide a seal against such passageway, it is recognized that such a seal may be imperfect and that there is an inherent risk in drilling borings of performing other exploration methods in a hazardous waste site.

AllWest shall not be required to sign any documents, no matter by whom requested, that would result in AllWest having to certify, guarantee, warrant or opine on conditions whose existence AllWest cannot ascertain. The CLIENT also agrees not to make resolution of any dispute with AllWest or payment of any amount due to AllWest in any way contingent upon AllWest signing any such documents.

### **TERMINATION**

3. This Agreement may be terminated by either party upon seven (7) days' written notice should the other party substantially fail to perform in accordance with its terms through no fault of the party initiating the termination. In the event of termination which is not the fault of AllWest, AllWest shall be paid no less than eighty percent (80%) of the contract price, provided, however, that if AllWest shall have completed more than eighty percent of the Work at the time of said termination, AllWest shall be compensated as provided in the Work Authorization for all services performed prior to the termination date which fall within the scope of work described in the Work Authorization and may as well, at its sole discretion and in accordance with said Schedule of Fees, charge Client its reasonable costs and labor in winding up its files and removing equipment and other materials from the Project.

AllWest may issue notice to other consultants, contractors, subcontractors and to governing agencies having jurisdiction over the Project and take such other actions as are reasonably necessary in order to give notice that AllWest is no longer associated with the Project and to protect AllWest from claims of liability from the work of others.

### **DOCUMENTS**

4. Any documents prepared by AllWest, including but not limited to proposals, project specifications, drawings, calculations, plans and maps, and any ideas and designs incorporated therein, as well as any reproduction of the above are and shall remain the property of AllWest whether or not said documents are actually utilized in connection with the Project. The Client shall be permitted to retain a copy of any documents provided to the Client by AllWest, but said documents may not be used by the Client on other projects or for any other purpose, except the current one, except by agreement in writing with AllWest and with appropriate compensation to AllWest.

Client shall furnish, or cause to be furnished to AllWest, all documents and information known to Client that relate to the identity, location, quantity, nature, or characteristics of any asbestos, PCBs, or any other hazardous materials or waste at, on or under the site. In addition, Client will furnish or cause to be furnished such reports, data, studies, plans, specifications, documents and other information on surface or subsurface site conditions, e.g., underground tanks, pipelines and buried utilities, required by AllWest for proper performance of its services. IF CLIENT fails to provide AllWest with all hazardous material subject matter reports including geotechnical assessments in their possession during the period that AllWest is actively providing expertise (30 days post the final invoice), CLIENT shall release AllWest from any and all liability for risks and damages the CLIENT incurs resulting from their reliance on AllWest's professional opinion. AllWest shall be entitled to rely upon Client - provided documents and information in performing the services required in this Agreement; however, AllWest assumes no responsibility or liability for their accuracy or completeness. Client-provided documents will remain the property of the Client.

### **ACCESS TO PROJECT**

5. Client grants to AllWest the right of access and entry to the Project at all times necessary for AllWest to perform the Work. If Client is not the owner of the Project, then Client represents that Client has full authority to grant access and right of entry to AllWest for the purpose of AllWest's performance of the Work. This right of access and entry extends fully to any agents, employees, contractors or subcontractors of AllWest upon reasonable proof of association with AllWest.

### **CONFIDENTIAL INFORMATION**

6. Both Client and AllWest understand that in conjunction with AllWest's performance of the Work on the project, both Client and AllWest's performance of the Work on the project, both Client and AllWest may receive or be exposed to Proprietary Information of the other. As used herein, the term "Proprietary Information" refers to any and all information of a confidential, proprietary or secret nature which may be either applicable to, or relate in any way to: (a) the personal, financial or other affairs of the business of each of the Parties, or (b) the research and development or investigations of each of the Parties. Proprietary Information includes, for example and without limitation, trade secrets, processes, formulas, data, know-how, improvements, inventions, techniques, software technical data, developments, research projects, plans for future development, marketing plans and strategies. Each of the Parties agrees that all Proprietary Information of the other party is and shall remain exclusively the property of that party. The parties further acknowledge that the Proprietary Information of the other party is a special, valuable and unique asset of that party, and each of the Parties hereto agrees that at all times during the terms of this Agreement and thereafter to keep in confidence and trust all Proprietary Information of the other party, whether such Proprietary Information was obtained or developed by the other party before, during or after the term of this Agreement. Each of the Parties agrees not to sell, distribute, disclose or use in any other unauthorized manner the Proprietary Information of the other party. AllWest further agrees that it will not sell, distribute or disclose information or the results of any testing obtained by AllWest during the performance of the Work without the prior written approval of Client unless required to do so by federal, state or local statute, ordinance or regulation.

### **ADDITIONAL SERVICES**

7. In addition to the services to be performed by AllWest as described in the Work Authorization, the following items shall for the purposes of this Agreement be termed "Additional Services": (a) work resulting from changes in scope or magnitude of the Work as described therein, (b) work resulting from changes necessary because of construction cost over-runs, (c) work resulting from implementation of alternative or different designs from that first contemplated by the Parties, (d) work resulting from corrections or revisions required because of errors or omissions in construction by the building contractors, (e) work due to extended design or construction time schedules, (f) layout surveys in review of in-place constructed elements, and (g) services as an expert witness in connection with any public hearing, arbitration or proceedings of a court of record with respect to the Work on the Project.

AllWest will be compensated by Client for any Additional Services as provided under the Work Authorization.

## DISPOSAL OF CONTAMINATED MATERIAL

8. Client understands and agrees that AllWest is not, and has no responsibility as, a generator, operator, treater, storer, transporter or disposer of hazardous or toxic substances found or identified at the site, including investigation-derived waste. The Client shall undertake or arrange for handling, removal, treatment, storage, treatment of hazardous material shall be the sole responsibility of Client. AllWest's responsibilities shall be limited to recommendations regarding such matters and assistance with appropriate arrangements if authorized by Client.

## INDEPENDENT CONTRACTOR

9. Both Client and AllWest agree that AllWest will act as an independent contractor in the performance of the Work under this Agreement. All persons or parties employed by AllWest in connection with the Work are the agents, employees or subcontractors of AllWest and not of Client. Accordingly, AllWest shall be responsible for payment of all taxes arising out of AllWest's activities in performing the Work under this Agreement.

## NOTICES

10. (a) All notices, demands or requests provided for or permitted to be given pursuant to this Agreement must be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or if mailed by first class certified mail, return receipt requested, and properly addressed as follows:

To Client: \_\_\_\_\_  
To AllWest: AllWest Environmental, Inc.  
530 Howard Street, Suite 300  
San Francisco, California 94105

when either (i) the return receipt is signed by the addressee, (ii) the mailing is refused by the addressee, or (iii) the mailing is not delivered because the addresses moved and left no forwarding address; b) By giving the other party to this Agreement ten (10) days' written notice thereof, the parties hereto and their respective successors and assigns shall have the right from time to time and at any time during the term of this Agreement to change their respective addresses and each shall have the right to specify as its address any other address within the United States of America.

## ENTIRE AGREEMENT

11. This Agreement contains the entire agreement between the Parties pertaining to the subject matter contained in it and supersedes all prior and contemporaneous agreements, representations and understandings of the Parties. The terms of this Agreement are contractual and not a mere recital. The undersigned have carefully read and understand the contents of this Agreement and sign their names to the same as their own free act. This Agreement was entered into following negotiations between the Parties.

## MODIFICATION / WAIVER / PARTIAL INVALIDITY

12. The terms of this Agreement may be modified only by a writing signed by both Parties. No consent or waiver, express or implied, by either party to or of any breach or default by another in the performance by the other of its obligations hereunder shall be deemed or construed to be a consent or waiver to or of any other breach or default in the performance by such other party of the same or any other obligations of such party hereunder. Failure on the part of either party to complain of any act or failure to act of the other, or to declare the other party in default, shall not constitute a waiver by such party of its rights hereunder. If any provision of this Agreement or the application thereof to any person or circumstances shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provisions to other persons or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

## INUREMENT / TITLES / ATTORNEYS' FEES

13. Subject to any restrictions on transfers, assignments and encumbrances set forth herein, this Agreement shall inure to the benefit of and be binding upon the undersigned Parties and their respective heirs, executors, legal representatives, successors and assigns. Paragraph titles or captions contained in this Agreement are inserted only as a matter of convenience, and for reference only, and in no way limit, define or extend the provisions of any paragraph. If any legal action or any arbitration or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default or misrepresentation in connection with any of the provisions of this Agreement, the successful prevailing party shall be entitled to recover reasonable attorneys' fees and other costs incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled. In addition, AllWest and Client shall be entitled to be reimbursed by the other for any attorneys' fees or other costs reasonably incurred in enforcing the terms of this Agreement in the event such fees are incurred without resorting to arbitration or litigation.

## INTERPRETATION / ADDITIONAL DOCUMENTS

14. The words "Client" and "AllWest" as used herein shall include the plural as well as the singular. Words used in the neuter gender include the masculine and feminine. Words used in the masculine gender include the feminine and neuter. If there is more than one Client or Consultant, the obligations hereunder imposed on Client or AllWest or Consultant shall be joint and several. Although the printed provisions of this Agreement were drafted by the attorneys for AllWest, the terms of this Agreement were fully negotiated by the Parties and shall not be construed for or against the Client or AllWest but shall be interpreted in accordance with the general meaning of the language herein contained in an effort to reach the intended result. Each of the Parties hereto shall upon request execute and/or acknowledge and/or deliver to each other Party or to its representatives any and all further documents which may now or hereafter be necessary to enable any of the Parties to effectuate any of the provisions of this Agreement.

#### **AUTHORITY**

15. Each of the persons executing this Agreement on behalf of a corporation does hereby covenant and warrant that the corporation is duly authorized and existing under the laws of its respective state of incorporation, that the corporation has and is qualified to do business in its respective state of incorporation, that the corporation has the full right and authority to enter into this Agreement, that the Board of Directors if required pursuant to the bylaws or resolution of the corporation approved this Agreement, and that each person signing on behalf of the corporation is authorized to do so. If the Client is a joint venture or a general partnership, the signatories below warrant that said joint venture or general partnership is properly and duly organized and existing under the laws of the respective state of its formation and pursuant to the joint venture agreement or a partnership agreement as well as by virtue of the laws of the respective state of its formation, said signatory is a joint venturer or a general partner of said joint venture or general partnership and has the power and authority to bind the joint venture or the general partnership.

#### **COUNTERPARTS / ABSENCE OF PARTNERSHIP OR JOINT VENTURE**

16. This Agreement may be signed in counterparts by each of the Parties hereto and, taken together, the signed counterparts shall constitute a single document. It is expressly understood that the Client does not, in any way or for any purpose, become a partner of AllWest in the conduct of its business, or otherwise, or joint venturer or a member of a joint enterprise with AllWest. It is expressly understood that AllWest do not, in any way or for any purpose, become a partner of the Client in the conduct of Client's business, or otherwise, or joint venturer or a member of a joint enterprise with Client.

#### **THIRD PARTY BENEFICIARIES / CONTROLLING LAW**

17. There are no intended third party beneficiaries of this Agreement. The services, data & opinions expressed by AllWest are for the sole use of the client, are for a particular project and may not be relied upon by anyone other than the client. This Agreement shall be controlled by the laws of the State of California and any action by either party to enforce this Agreement shall be brought in San Francisco County, California.