

June 19, 2012

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

RECEIVED

3:49 pm, Jun 19, 2012

Alameda County
Environmental Health

RE: Ambassador Apartments, 1168 36th Street, Emeryville, California
Soil and Groundwater Investigations Work Plan

Dear Alameda County Environmental Health:

The Ambassador, L.P. is in the process of constructing a new 69-unit multifamily apartment building at the corner of Peralta and 36th Streets in Emeryville, California. Resources for Community Development (RCD) is the developer of the site and The Ambassador, L.P. is the owner. The site was previously owned by the City of Emeryville and was sold to The Ambassador, L.P. in March 2012.

The attached *Soil and Groundwater Investigation Work Plan* was prepared by Adanta, Inc. ("Adanta"), who we believe to be experienced and qualified to advise us in a technical area that requires a high degree of professional expertise. We have relied on Adanta's assistance, knowledge and expertise in their preparation of the attached Work Plan. I am unaware of any material inaccuracy in the information in the report or of any violation of government guidelines that are applicable to the Report. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Please feel free to call me at (510) 841 – 4410 x335 should you require additional information or have any questions.

Sincerely,

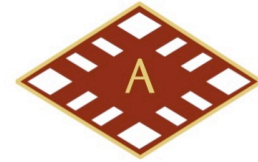


Jessica Sheldon
Associate Project Manager

Adanta, Inc.

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A d a n t a

June 19, 2012
Project A1085-6

Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Jessica Sheldon
The Ambassador LP
c/o Resources for Community Development
2220 Oxford Street
Berkeley, California 94704

**WORK PLAN
SOIL AND GROUNDWATER INVESTIGATION**

Ambassador Property
1168 36th Street
Emeryville, California

Dear Mr. Detterman

Adanta, Inc. (Adanta) is pleased to forward this work plan to Alameda County Environmental Health (ACEH) on behalf of The Ambassador, LP. The work plan was required by ACEH in a letter dated May 30, 2012 to conduct assessment and remediation at the Ambassador Property located at 1168 26th Street, Emeryville, California.

The work plan is designed to aid in a more complete understanding of the soil and groundwater conditions in the general area of a recently decommissioned water well and to design a recovery well that would be beneficial to removing floating product from the surface of the groundwater.

URGENCY

Construction is ongoing at the Property for a multi-family low-income housing project, by The Ambassador, LP, a non-profit housing developer. At the time of the writing of this document, foundation footings are being prepared with rebar, and concrete will likely be poured into the footings prior to approval of this work plan. Following completion of the footings, columns will be erected, and rebar will be laid for pouring of the concrete floor. The pouring of the concrete floor is scheduled to start June 30, 2012.

The Project construction is behind schedule because of the late rains that occurred in the area this year, and due to unexpected environmental conditions such as the necessity to decommission the water well and the removal a previously unknown UST. Ambassador, L.P. and its subcontractors would appreciate being able to complete the work described in this plan as quickly as practical, and for the field work associated with the work plan to fit into a window of opportunity between June 26, 2012 to June 29, 2012. Adanta is aware that this is an unusually fast turn-around request, but would greatly appreciate anything you could do to help out the situation.

BACKGROUND

Historically, the Property had been developed with an industrial laundry that occupied much of the Property from about 1910 until the mid 1980s. In addition, to the laundry, the Property had single family residences. The laundry building abutted the west Property boundary, the residences were mostly adjacent to Adeline Street on the east. Following use as a laundry, the Property experienced a mix of residential and commercial uses. Businesses operating at the Property included a spa assembly, a commercial sign company, art studios, bronze art foundry, a metal contractor, vehicle maintenance, and other commercial uses. All buildings had been removed from the Property by the end of 2005.

Based on information observed on a Sanborn Fire Insurance Map. The commercial laundry, that operated at the Property for over 70 years initially used their own water supply well. The well was apparently used to supply water to the onsite boilers. The 150-foot deep well was 12-inches in diameter and was constructed with a light-gauge metal casing. The well was reportedly placed into service in about 1910 during construction of the building. During excavation activities for the subsurface parking, the well was uncovered. The well was decommissioned under oversight of James Yoo, Alameda County Department of Public Works on May 18, 2012. The well had floating product that was analyzed and found to be a heavy petroleum liquid.



Historical documentation suggests that the well was in the near vicinity of a wooden sump that was removed in 2005. In addition, three underground storage tanks in the immediate vicinity of the well were removed: a 2,500-gallon UST removed by ACEH in 1995, a 750-gallon UST removed by Kleinfelder in 2007, and a 500-gallon UST removed by Golden Gate Tank Removal in 2012 (refer to Figure 2 – Data Map).

PREVIOUS REPORT SUMMARY

Adanta has reviewed several reports related to the environmental history of the Property, which was first developed in 1910 with a commercial laundry. The laundry building was of masonry construction with a concrete foundation. The building was razed in 2005. The Property also had a vehicle maintenance garage, a single-family residence, and storage sheds. The specific dates these structures were originally constructed are uncertain, but all of the buildings were removed in 2005.

Two underground storage tanks (USTs), one that stored heating oil and one that stored gasoline were removed from the Property in 1994 and 1995, respectively. In addition, two sumps were removed, one in 1999 and a second sump in 2005. In 2007 another UST was detected during a geophysical survey. That tank was subsequently removed. Kleinfelder, Inc. was contracted by the City of Emeryville to assess the contamination caused by leaks in the tanks. Results of soil sampling by Kleinfelder suggested that soil that had been affected would not be of regulatory concern. Groundwater sampling revealed that toluene and ethylbenzene were reported at concentrations exceeding the environmental screening levels (ESLs) in boring KB-9. Total petroleum hydrocarbons as gasoline (TPHg) was reported above the ESL in groundwater collected from two borings (KB-7 and KB-9), and total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) were reported above ESLs in KB-8. Because of the reported contamination, Kleinfelder installed six groundwater monitoring wells. During drilling of the monitoring wells, soil contamination by petroleum compounds was found below 16 feet. Groundwater was reported in the borings at about nine feet, after it rose from the “groundwater bearing zone” that was determined by Kleinfelder to be between about 20 and 25 feet below ground surface. It should be noted that Kleinfelder suggested that the groundwater beneath the Property surface does not have beneficial uses.

Fugro West (Fugro) conducted soil sampling at the Property at the surface and up to eight feet below surface. Fugro found that the primary contaminant of concern encountered during their sampling was lead, with a minor amount of TPHd and TPHmo. Fugro estimated that lead contamination was primarily found within two feet of the surface. Based upon the findings of their assessments as well as previous environmental assessments by others, Fugro wrote a Soil and Groundwater Management Plan (SGMP) dated January 6, 2011. An addendum was written to the SGMP dated February 8, 2011 at the request of ACEH. The SGMP details how to deal with



contaminated soil (and potentially groundwater) at the Property so that the soil (and potentially groundwater) might be appropriately managed during excavation and removal from the Property.

In December 2011, Adanta, Inc. (Adanta), conducted additional soil sampling at the Property to better assess the quantity of soil that would eventually have to be removed from the Property and transported to a regulated facility. Adanta advanced 44 soil borings to three feet below ground surface using hand driven augers. Four soil samples per boring were analyzed using an XRF in order to detect and profile lead content at various depths in the soil. Soil samples were collected at the surface, and at one, two, and three feet below surface. The resulting soil sample data provided information for a better understanding of the quantities of soil to be disposed at a Class I facility. Predominately, it was found that the majority of soil contamination is located within six inches of the soil surface. Additional soil sampling was conducted during excavation activities using the XRF as a guiding field instrument. Approximately 750 cubic yards of soil was removed to a Class I landfill facility in Utah.

During subsequent soil excavation activities for the subsurface parking garage, much of the removed soil was off-hauled to a Class II landfill for disposal due to slight to moderate hydrocarbon odor.

EXISTING SOIL AND GROUNDWATER DATA

There is a considerable amount of data within the near vicinity of the recently decommissioned well. A wooden sump, very near to the northeast of the well, was removed by Clayton in 2005. Soil data is available to a depth of about 16. Oily water and construction-type debris nearly filled the sump. Three USTs have now been removed within about 25 feet to the east of the well, a 2,500 gallon UST removed in 1995, a 750-gallon UST removed in 2007, and a 500-gallon UST removed in 2012. There is soil sampling data for each tank removal. Four monitoring wells were installed in the near vicinity of the decommissioned well, but all have been abandoned. However soil and groundwater data are available for three of the wells, and groundwater data is available for the fourth well. In addition, there are three additional soil borings that have soil sample analytical results and one soil vapor sampling location in the UST area (Please refer to Figure 2 for the approximate locations of these features). Furthermore, the floating product found in the decommissioned well was analyzed by fuel fingerprinting, and the water beneath the floating product was analyzed for numerous constituents.

As suggested in the ACEH request for a work plan, Adanta would like to use the previously gathered data to help assess soil and groundwater conditions in the near vicinity of the decommissioned well. Since the ACEH has considerable experience with this site, discussions with the ACEH project manager concluded that an additional limited assessment of the horizontal and



vertical migration of the hydrocarbons in the immediate vicinity of the old water well may be helpful. Analysis of COPC in soil and groundwater close to the water well may demonstrate whether the location and migration pattern of the COPC have been affected by the ground water drawdown during the operation of the well.

UNDERSTANDING OF REQUIRED WORK

The following facts are apparent:

1. Oil/diesel was found floating on the water surface (LNAPL [or FP]) in the old water supply well.
2. The three tanks and sump located near the old water well apparently leaked gasoline, oil, and diesel [chemicals of potential concern, COPC] into the soil.
3. Oil and diesel [Two out of three of the COPC] were detected in the displacement water which was discharged and analyzed during the well abandonment / destruction completed earlier this year.

The following questions are suggested by the facts, and require answering:

1. Did the drawdown of the water level in the well cause the COPC to migrate deeper in the soil in the vicinity of the well, and through a breach in the casing to migrate into the well?
2. If so, to what depth in the soil adjacent to the well did the COCP migrate?
3. If so, to what depth in the formational ground water are the COPC detectible?
4. Is an extraction well capable of removing detectable LNAPL necessary?
5. Can an extraction well capable of removing detectable LNAPL be constructed?

MOBILIZATION AND OFFICE ACTIVITIES

Health and Safety Plan

A site-specific Health and Safety Plan (HASP) will be prepared by Adanta prior to commencing field operations. The HASP will address known or potential health and safety hazards that may be present at the Property, and possible precautions to avoid personal injury from the hazards. The HASP will include a map of the Property area with a direct route to the nearest emergency medical facility. Adanta will conduct worker's Health and Safety meetings prior to the commencement of each day's scheduled field activities.

Subcontractors

It is likely that two drilling companies will be necessary to get the field work accomplished within the short time window available. A sonic rig drilling company will be subcontracted by Adanta, Inc.



to install the Recovery (Extraction) Well designed by the Adanta California Certified Hydrogeologist (CHG) as a part of this work plan. In addition, a direct push rig equipped with CPT capabilities will be subcontracted to conduct horizontal assessment of assumed contamination.

Adanta will arrange for a State-certified onsite analytical laboratory to analyze groundwater samples during drilling of the recovery well. A fixed-base State-certified analytical laboratory will be subcontracted to analyze soil samples collected with the CPT rig. Both drill rigs will be supervised by a field geologist.

In-House Meeting

A meeting will be held among Adanta staff to clarify each aspect of the project in order to limit misunderstandings and promote a smooth operation during mobilization and field activities. In addition, a Project Manager will be assigned to the project who will be responsible for all project-related activities, and will be a single source of contact for the client as well as the ACEH.

GENERAL OVERVIEW OF EXPLORATION AND WELL CONSTRUCTION PROGRAM

The general concept of the work plan is to drill and sample soil and water at discrete intervals, and construct a larger diameter extraction well capable of removing the viscous COPC from a low permeability formation. Rather extensive characterization of the horizontal extent of the COPC has been completed over the last 20 years. Additional CPT testing will be conducted to fill data gaps directly adjacent to the old water well in answer to question 2 above. The other part of the proposed assessment and IRM/ Long Term Remediation project will focus on the vertical extent of COPC to answer to question 3 above. These horizontal and vertical assessments should provide sufficient data to answer questions 4 and 5.

Due to the limited exploration/well construction window allowed by the construction project, a mobile laboratory will be located onsite to analyze the soil and ground water samples for total petroleum hydrocarbons as oil, diesel, and gasoline in near real time.

Experience with older water wells, particularly those used for industrial and other non-potable applications, recognizes that the oil detected in the upper part of the water column may possibly have originated from an oil lubricated line shaft pump that was the industry standard. The line shaft oil was gravity fed down an oil pipe from a one-gallon reservoir at the pump head and discharged from the pump bowl assembly into the well water. Because the oil was lighter than water, and the pump intake was well below the oil discharge port, the water rose in the surface, theoretically of no importance to water quality. In later years water lubricated line shaft pumps replaced the oil-lubricated models. The advent of electrical submersible pumps and the water



lubricated line shaft pumps has generally eliminated the oil-lubricated pumps from common use today.

The horizontal and shallow vertical assessment will utilize a CPT rig to efficiently drill a number of test borings between the probable sources of contamination, and the old water well. (Figure 1) Each CPT hole will penetrate the upper two feet of the first water zone. Past drilling data indicates this depth to be between 19 to 23 feet bgs. A soil/water/COPC concentration cross-section will be used to assess the depth and possible migration gradient or pathway from the sources to the old well. An oil/water interface probe will be utilized to measure suspected LNAPL occurrence during the entire project.

The deep vertical assessment will be accomplished by drilling an exploration boring to a depth where the oil/diesel COPC are not detected or evident. Since the surface soil is contaminated with oil/diesel to approximately 25 feet, telescoped casing will be utilized to prevent the upper contamination from being driven downward in the formation, resulting in false positive chemical detection. Additionally, the surface casing will serve to protect the screened interval of the extraction well from possible effects of COPC in the soils above the target extraction interval.

1. ASSESSMENT AND EXPLORATION

a. Sonic Drill Rig

- i. Six-inch diameter continuous core to about 25 feet bgs. Limit core runs to 5 to 10 feet to maximize recovery and limit sampler migration of COPC. Change core barrel or decontaminate core barrel after each run.
- ii. Collect discrete interval water samples at approximate five-foot intervals from first water to temporary total depth of about 25 feet bgs.
- iii. Twelve-inch diameter outer casing driven [vibrated] to 27- 28 feet bgs into a clay layer that is about 25 to 29 feet bgs. Pull back 12-inch casing to 25 feet and fill void with bentonite chips.
- iv. Six-inch diameter core barrel to drill and sample soil and water to 100 to 150 feet bgs, dependent on laboratory results.
- v. Collect discrete interval water samples at 10 foot intervals to temporary total depth of 100 to 150 feet bgs, depending on analytical results.
- vi. Backfill (tremmie) 6-inch test boring with bentonite and cement grout from the test hole TD back up to the design depth of the recovery well screen . [The preliminary depth estimate is 39 feet, based on Kleinfelder cross sections and borings, Plate 7, 2008]. Grout displacement water will be collected and stored for proper disposal.



- b. Recovery Well Construction
 - i. Drill [vibrate] 12-inch casing to design well depth (Figure 2)
 - ii. Construct eight-inch diameter well with approximately 20-foot long stainless steel screen with preliminary opening 0.060 inch. Place CA size filter pack to approximately 17 feet bgs, transitional filter pack to 16 feet bgs, and well seals to surface. The 12-inch casing will be removed gradually during the well construction process.
 - iii. After 48 hours develop the well to clean well construction debris and sediment from the well and improve transmissivity.
- c. IRM
 - i. Install passive skimming equipment in well to remove initial LNAPL COPC, if present. Utilize data collected during this phase to calculate LNAPL thickness, viscosity, temperature and recovery rate for design of long-term remediation measures, should that prove necessary.
- d. Long Term Remediation Measure [LTRM]
 - i. If COPC persist in sufficient quality, install an active LNAPL skimming device with a water level depression pump to provide a vertical gradient differential sufficient to improve migration of COPC from the formation into the well.
 - ii. Continue removing LNAPL and extracted ground water until COPC are non-detectable, and this portion of the site's potential impact on the environment can be closed.

GROUNDWATER SAMPLING

Groundwater samples from the CPT borings will be collected in clean disposable bailers and immediately placed into laboratory-cleaned glass VOAs. After filling the VOAs without headspace and sealing with a Teflon-lined cap, the samples will be labeled and handed directly to the State-certified onsite mobile laboratory for immediate analysis. The process will be documented by strict adherence to chain-of-custody protocol.

Discrete depth water samples from the sonic test hole will be collected by two methods. A weighted, double check-valve disposable bailer will be used for a majority of the ground water samples. For selected intervals a Sonic Point® depth discreet water sampling system will be used. For either case the sonic core barrel is driven three feet into the selected sample interval and then withdrawn to expose the bottom open wall interval. The zero clearance between the drive casing

and the formation effectively isolates the interval to be tested from the formation water above. The water sampler is lowered into this interval, and a depth discrete sample is collected.

Samples are obtained with the double check-valve bailer by lowering the weighted bailer into the open interval, and reciprocating the bailer to open and shut the check-valves while in the sampling interval. When the bailer is withdrawn both valves remain closed. The bailer is drained into the sample collection bottles after being withdrawn from the test hole.

This Sonic Point® system requires a second smaller diameter core string to be run inside of the regular core barrel to utilize this system. The smaller core barrel is driven into the formation at the bottom of the boring. The smaller core barrel is retracted and replaced by a three (3)-inch diameter sampler with a 6-inch k-packer to center it in the boring. A small submersible pump with an inflatable packer is lowered into the open hole section. The packer is inflated, sealing and isolating the sample pump from the water in the column above. The sample is collected directly into a sample contained from the pump discharge tube. The extra time required to obtain this type of sample limits its use in this time sensitive drilling project. Three intervals are planned to be sampled by this method: The first sand interval below 40 feet bgs; the most significant sand encountered in the 80 to 100 foot depth range; and one from the bottom (TD) of the test boring.

SOIL SAMPLING

Using the CPT rig, soil will be continuously collected in 1½-inch diameter polypropylene tubes. The sample tubes will be driven into undisturbed soil using a hydraulically driven drill rig. Each polypropylene tube is four feet in length. Soil at the appropriate depth will be cut from the tube, and the ends of the sample will be sealed with plastic caps lined with Teflon tape. The tubes will be labeled with unique identification information and stored in a chest cooled with ice, for delivery to the state certified analytical on-site laboratory.

Soil samples will be collected from the continuous sonic core at 10-foot and lithologically appropriate intervals. Samples will be collected in 4 to 8 ounce glass jars, sealed, labeled, placed in ice chilled coolers for transport to the on-site analytical laboratory. Samples will be handled under normal Chain-of-Custody protocol to protect the legal integrity of the samples.

Laboratory Analyses

There is a considerable amount of soil and groundwater analytical data from the very near vicinity of the recently decommissioned well and the location of the proposed recovery well. Based upon the chemicals that have been detected in the past, Adanta will have soil samples analyzed for the following:



- TPHd and TPHmo using US EPA method 8015 M
- Volatile Organic Compounds with TPHg using method 8260b

Groundwater will be analyzed by an onsite mobile laboratory. Groundwater will be analyzed for the following:

- TPHd and TPHmo using US EPA method 8015 M
- Volatile Organic Compounds with TPHg using method 8260b

RECOVERY WELL DEVELOPMENT

The well seals will be allowed to set for 48 hours before the wells are developed by a development rig equipped for that purpose. The well will be bailed of residual drilling sediment and mud, surged with a vented surge block in 3 to 4-foot intervals, and finally pumped with a small electric submersible pump, assuming adequate flow. Apparent pumping capacity and recovery rate will be recorded to obtain a preliminary approximation of the well's capacity. Imhoff cones will be utilized to record sediment concentrations during the development process, and to document final sediment concentrations.

DATA COMMPILATION

The Property has been the subject of numerous environmental assessments that included soil borings, monitoring wells, UST and sump removals, and remediation efforts. A considerable amount of assessment and remediation work has been conducted in the near vicinity of the decommissioned water well. Information concerning soil and groundwater chemical analyses that has been accumulated since 1995 in the near vicinity of the decommissioned well will be assimilated into a single table in an attempt to get an understanding as to the extent of contamination.

REPORT

The report will contain an explanation of the assessment activities and the results of each activity. In addition, the report will contain a section that summarizes the appropriate data and makes recommendations for conducting or not conducting further work. The appendices of the report will contain photographs of the fieldwork, appropriate maps and figures including cross sections and boring logs, tables of the results of analyses, and laboratory analytical reports.



Adanta appreciates the opportunity to submit this work plan, and looks forward to working with Resources for Community Development and its subcontractors on this project.

LIMITATIONS

In today's technology, no amount of assessment can ascertain that the Property is free of environmental concern. No warranty or guarantee is expressed or implied. This assessment will be conducted in compliance with similar assessments conducted in the environmental industry for similar sites in this geographic region. Any physical data are to be used only by Adanta for the purposes set forth in this work plan, and for no other purpose.

Sincerely,
Adanta, Inc.



Nick Patz
Project Manager



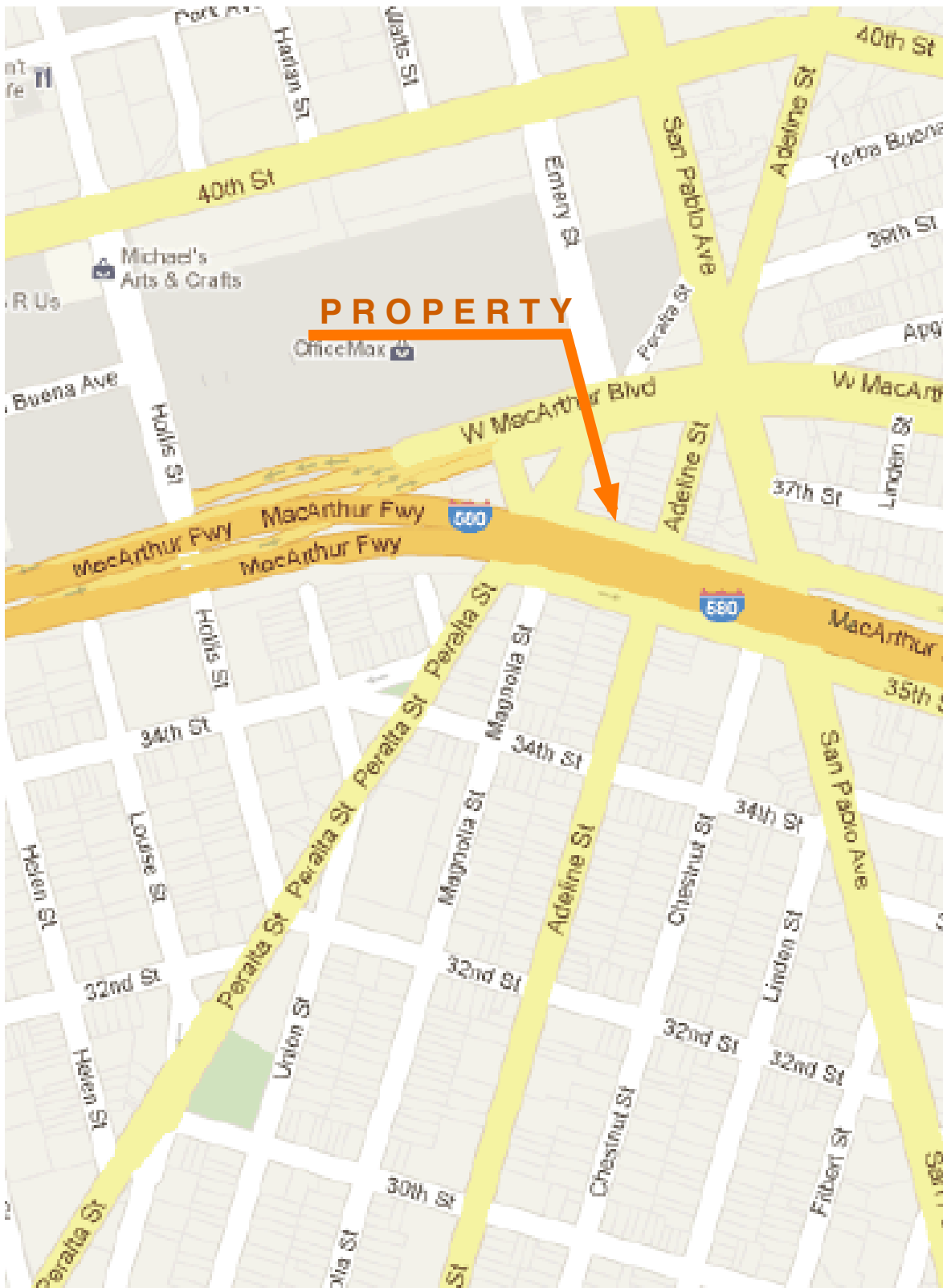
Randolph C. Harris, PG, CHG
Senior Hydrogeologist



Attachments

- Figure 1 – Property Location Map
- Figure 2 – Assessment Map
- Figure 3 – Recover Well Diagram

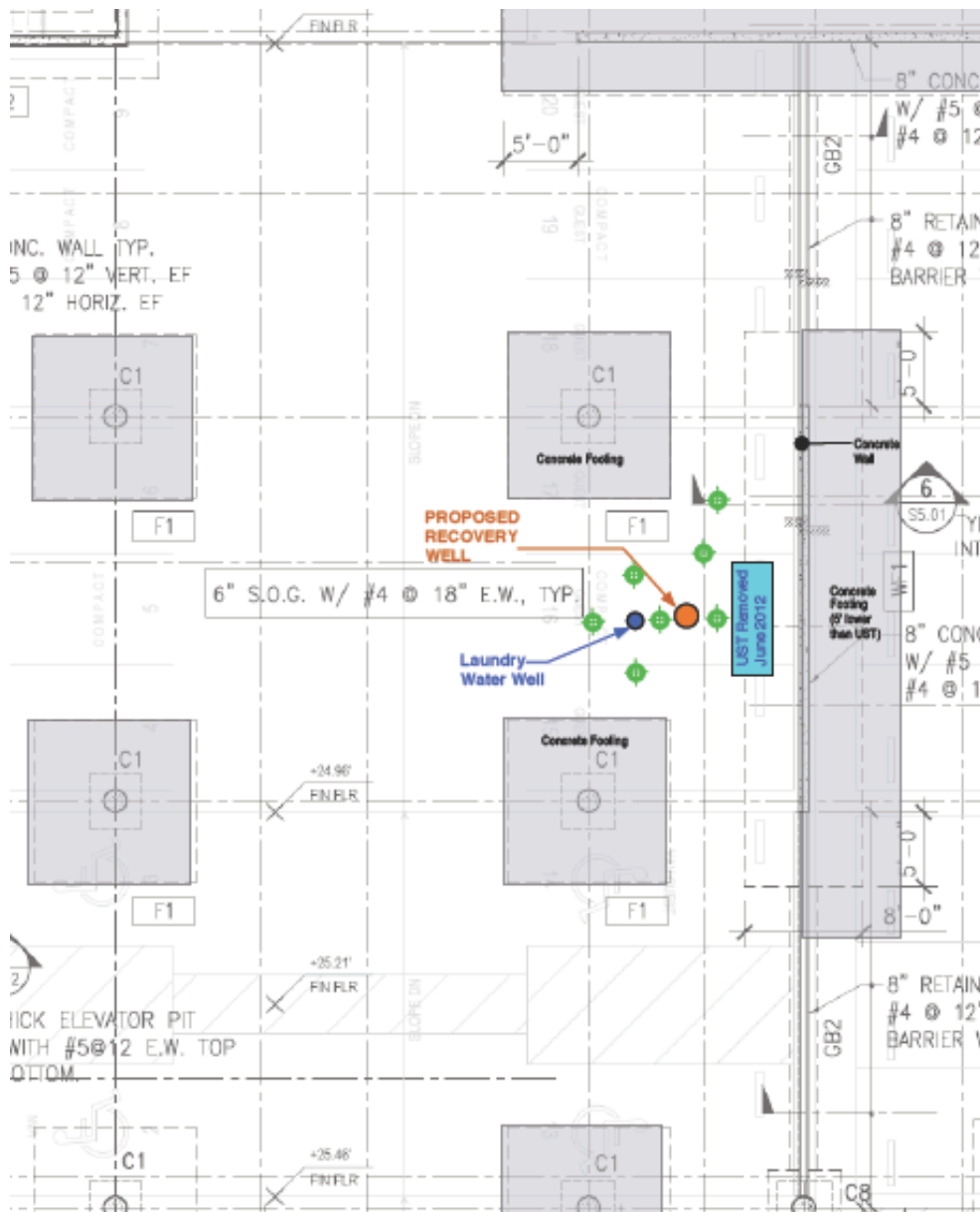




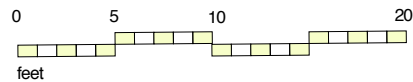
Ambassador
1168 36th Street
Emeryville, California

FIGURE 1
PROPERTY LOCATION MAP

Project A1085-5



 CPT location



Base Taken From:
 Building Foundation and Basement Floor
 Plan by Kava Massih



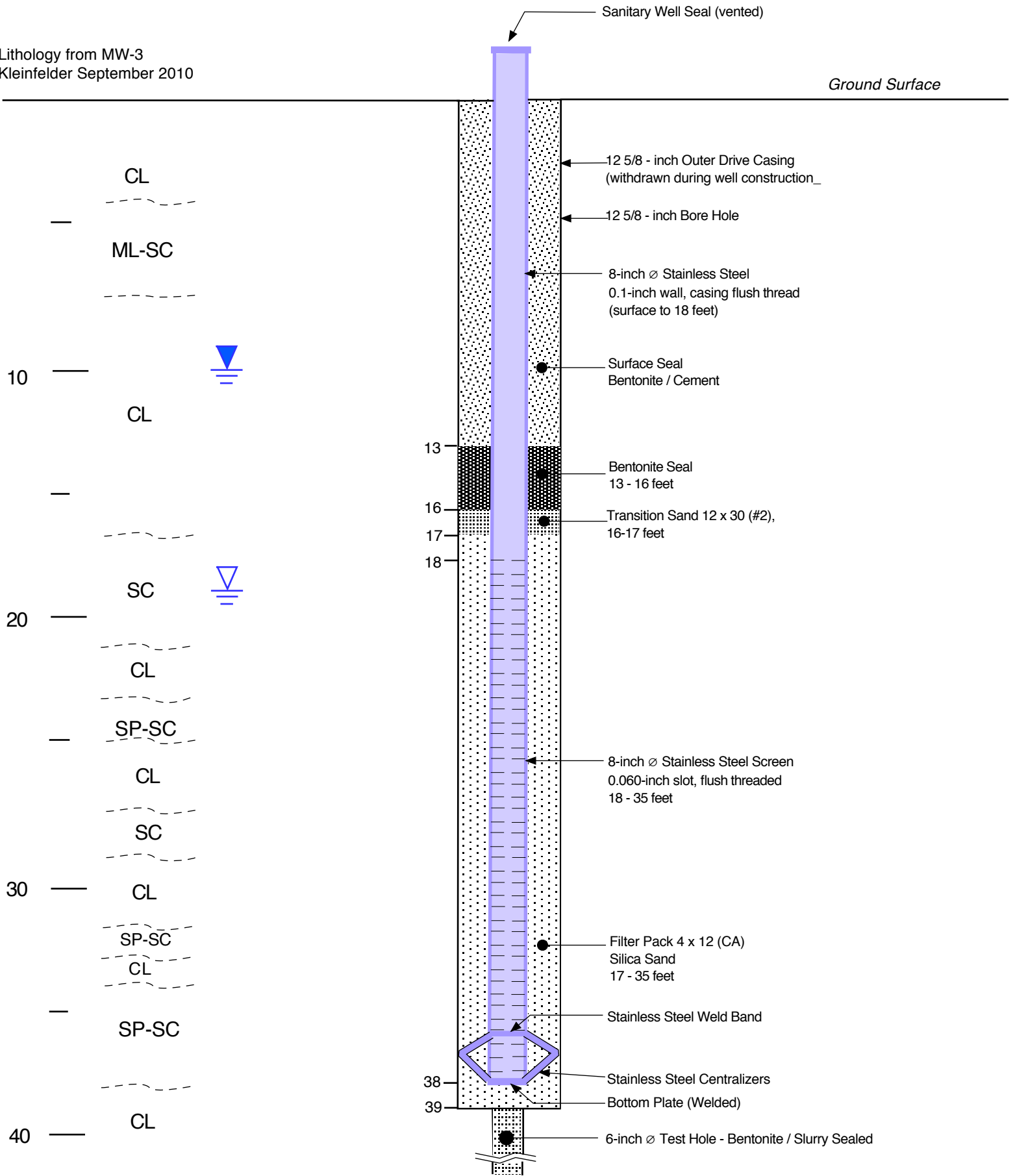
The Ambassador
 Emeryville, California

FIGURE 2
ASSESSMENT MAP

Project A1085-5

June 2012

Lithology from MW-3
Kleinfelder September 2010



The Ambassador
Emeryville, California

FIGURE 2
RECOVERY WELL DIAGRAM

Project A1085-5

June 2012