Dave Driling Environmental Engineering, Inc.
Water well drillers & Enviromental Engineering Consultants
2283 Willow Avenue, Bay Point, CA 94565. Phone: (510) 258-5167 Website: www.ddfagele.com Email: fagele@outlook.com

RECEIVED
By Alameda County Environmental Health 11:51 am, Jan 14, 2016

TECHNICAL REPORT **ELEGANT CLEANERS**

SIGNATURE PAGE

LIMITATIONS

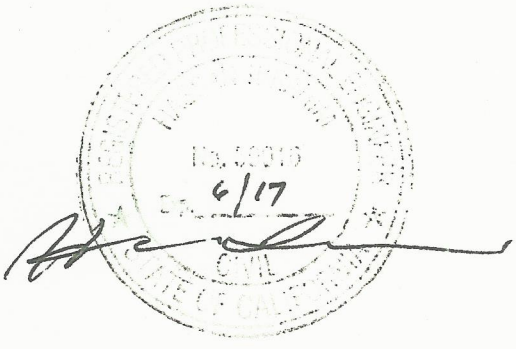
This report describes the methodology for the engineering work (i.e.; Site Investigation, Remedial Investigation, Remedial Action, Remedial Action plan, Geotechnical, Environmental, Drilling, Soil and Groundwater samplings) at the subject facility. The report has been reviewed by a registered civil Engineer in State of California, his signature and licence appears below.

DDEE will focus on locating the most significant sources or potential sources and plume size and migration pathway and implement soil and groundwater remediation. DDEE will conclude a clean-up and /or monitoring program until the concentrations of the contaminant of concern will reach acceptable clean-up levels to the agencies.

DDEE's liability to our Clients for injury or damages to persons or property arising out of work performed for our Clients and for which legal liability may be found to rest upon DDEE, other than for professional errors and omissions, will be limited to its general liability insurance coverage maximum limit.

For any damage on account of any error, omission, or other professional negligence, DDEE's liability will be limited to a sum not to exceed our fees.

The Client shall indemnify DDEE against any claims or costs, which exceed the limitation on DDEE's liability provided in our insurance coverage, or results from acts or omissions of the Client.



Hassan Ibrahim, PE
Project Engineer
DDEE
P.O. BOX 72305
Oakland, CA 94612
(510) 258-5167

David Ade Fagorala
Project Environmental Scientist
DDEE
P.O. BOX 72305
Oakland, CA 94612
(510) 258-5167

STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

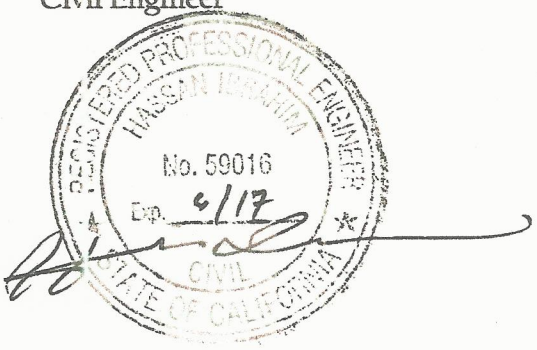
The information provided in this technical report, prepared by DDEE, is intended exclusively for the use of DDEE and Regulatory Agencies for the evaluation of subsurface conditions regarding the subject site. The professional services provided have been performed in accordance with practices generally accepted by other environmental professionals practicing in the environmental engineering field. No other warranty, either expressed or implied is made. As with all subsurface investigations, there is no guarantee that the work conducted will identify all sources of locations of contamination.

DDEE reserves the right to deviate from the proposed scope of services outlined in this Workplan as needed to obtain the required information. If such deviation is necessary, DDEE will seek prior approval from the regulatory agency overseeing this project.

This Proposal is issued for review and consideration for approval by the appropriate regulatory agency. This Proposal has been reviewed by a geologist/engineer who is registered in the state of California and whose signature and license number appears below.

Hassan Ibrahim, PE.

Civil Engineer



David A Fagorala

Environmental Professional

Dave Driling Environmental Engineering, Inc.
2283 Willow Avenue, Bay Point, CA 94565. Phone: (510) 258-5167 Website: www.ddfagala.com Email: fagala@outlook.com

DATE: ***JULY 17,*** 2015
FILE: RO0003163

Karel Detterman
Hazardous Materials Specialist
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
FAX: (510) 337 - 9335
Phone: (510) 567 - 6700

SUBJECT: ***PERJURY STATEMENT - REMEDIATION WORK AT ELEGANT CLEANERS #RO0003163, LOCATED AT 1208 LINCOLN AVENUE, ALAMEDA, CALIFORNIA 94501-2326***

I, Mr. Reza Sheikhai, the responsible party for the subject project, hereby, "declares , under penalty of perjury, that the information and/or recommendations contained in the attached document and/or report is true and correct to the best of my knowledge."

This letter is also signed by Dave Fagorala, the representative of the consulting firm (Dave Drilling Environmental Engineering, Inc.), that, I retained to implement the remediation work at the subject site.

If you have any questions regarding this letter, please call me at (510) 377 – 0233, or email me at: cpareza@aol.com

Sincerely,

Reza Sheikhai
Elegant Cleaners
1208 Lincoln Avenue
Alameda, CA 94501-2326

Dave A. Fagorala
Dave Drilling Environmental Engineering, Inc.
2283/2285 Willow Avenue, Bay Point, CA 94565

TECHNICAL REPORT

FIELD SAMPLING PLAN – FOR REMEDIAL INVESTIGATION FOR SOIL GAS, SOIL AND GROUNDWATER

Case #RO0003163 AND GEO TRACKER GLOBAL ID T10000006546

AT ELEGANT CLEANER LOCATED AT 1208 LINCOLN AVENUE, ALAMEDA, CALIFORNIA 94501-2326

Prepared for:

Mr. REZA SHEIKHAI, 1208 LINCOLN AVENUE, ALAMEDA, CA 94501/Open Bank, 1000 Wilshire Blvd. Suite 500 Los Angeles, CA 90017

Prepared by:

Dave Drilling Environmental Engineering, Inc. (DDEE)

2283/2285 Willow Avenue, Bay Point, CA 94565. Phone: (510) 258 – 5167

DECEMBER 11, 2015.

TABLE OF CONTENTS

STATEMENT OF LIMITATIONS AND PROFESSIONAL CERTIFICATION

Information provided in this Workplan, prepared by DDEE, is intended exclusively for the use of DDEE and Regulatory Agencies for the evaluation of subsurface conditions regarding the subject site. The professional services provided, have been performed in accordance with practices generally accepted by other geologists, hydrologists, hydrogeologists, engineers, and environmental scientists practicing in the environmental engineering field. No other warranty, either expressed or implied, is made. As with all subsurface investigations, there is no guarantee that the work conducted will identify all sources or locations of contamination.

DDEE reserves the right to deviate from the proposed scope of services outlined in this Workplan as needed to obtain the required information. If such deviation is necessary, DDEE will seek prior approval from the regulatory agency overseeing this project.

This Workplan is issued for review and consideration for approval by the appropriate regulatory agency. This Workplan has been reviewed by a geologist/engineer who is registered in the State of California and whose signature and license number appears below.

Hassan Ibrahim, PE.

Civil Engineer/Environmental Professional

Dave A. Fagorala

Environmental Professional

1.0 INTRODUCTION

DDEE has prepared this Field Sampling Plan (FSP) for installation of borings/monitoring wells to be utilized for collecting soil gas vapor, soil and groundwater samples, for determining vertical and lateral extent of contamination at the Elegant Cleaner's site.

DDEE scope of work will be implemented with the objective to calculate groundwater gradient and determine the local groundwater flow direction by plotting groundwater elevations to identify any shift in the direction of groundwater flow calculated in the previous site investigation (ENCON, ESA III January 2015). DDEE also plans to determine vertical and lateral extent of contamination in soil and groundwater during this stage.

Thereafter, groundwater will be monitored quarterly for one monitoring cycle from 2016 to 2017. EPA Methods agreed to by ACEH will be utilized for laboratory analysis of samples collected from the site.

Groundwater elevations will be measured over two monitoring cycles, and the data from the elevation measurements will be utilized to calculate groundwater gradient and plot groundwater flow direction(s) for the site. Soil and groundwater samples will be collected and analyzed at a State of California certified laboratory. Laboratory results will be evaluated and interpreted, to determine the vertical and lateral extent of contamination in soil and groundwater.

The scope of work for this investigation includes:

- Drilling 7 soil borings to depth of approximately 20 feet in the shallow zone and 3 soil borings or wells in the deep zone;
- Collecting samples to characterize soil and groundwater quality where tested;
- Chemical Analysis of soil and groundwater samples;
- Collecting air quality samples;
- Collecting soil gas vapor samples; and
- Final Report detailing the results of the investigation.

1.1 PROJECT OBJECTIVE

The objective of the project is to further evaluate the extent and nature of soil and groundwater contamination at the subject site and implement insitu removal of dry cleaning products (PCE) in the environment. Analytical results from the vapor, soil and groundwater investigation will be examined

with respect to regulatory criteria and published guidelines. A previous soil and groundwater investigation (ENCON, ESA III Report, January 15, 2015), which included the installation of 3 monitoring wells, indicated low levels impact of groundwater and soil and vapor by PCE and its breakdown products. ENCON ESA III report of January 2015, reported that, there are VOCs in the subsurface soil and groundwater. If VOCs are present in sufficient concentrations above regulatory standards, they pose a health risk through vapor intrusion pathway. Risk to human health from VOCs are driven by exposure through the inhalation and ingestion pathways. Ingestion of groundwater is not considered to be a complete exposure pathway since municipal water is used in this area of Alameda City. Inhalation may be a complete exposure pathway if VOCs are intruding into indoor air spaces. Soil gas sampling is the primary method to be used to gather data to assess potential vapor intrusion into indoor air and evaluate the resulting risk to human health.

1.2 PROJECT TEAM ORGANIZATION

Title/Responsibility Name Telephone Number Email ACEH Officer/Public Participation

ACEH Site Supervisor Karel L. Detterman, (510) 567-6708 Karel Detterman

DDEE's Project Manager (Environmental Professional)– Dave A. Fagorala (510) 258-5167-

DDEE's Project Civil Engineer – Hassan Ibrahim (510) 258 – 5167

DDEE's Project Civil Engineer – Emmanuel Okereke (510) 258 – 5167

DDEE's Project Engineering Technician (925) 203 – 8899- Adedola A. Fagorala

DDEE's Project Environmental Scientist – Dr. Afolami Fagorala - (510) 258 – 5167 –

Work is performed pursuant to this Soil, Soil Gas, and Groundwater Sampling Workplan and Revised Data Gap and Investigation Workplan. These Workplans are primarily for a soil, soil gas, and groundwater investigation to be conducted at the Elegant Cleaner located at 1208 Lincoln Avenue, Alameda, California. The objective of conducting this assessment is to evaluate the presence of contaminants in the subsurface at subject site. Work performed pursuant to these Workplans will be under the direction and supervision of the DDEE's Project Engineers who are qualified registered professional engineers (PE) in compliance with the requirements of the Professional Engineers Act, Business and Professions Code Sections 6700-6899 and Section 7838, and the Geologist and Geophysicists Act, Business and Professions Code sections 7800-7887.

1.3 SITE DESCRIPTION AND BACKGROUND HISTORY

The subject property is located at 1208 Lincoln Avenue, Alameda, California, in the partly commercial and residential area of the city of Alameda, California. The Property is a 5,500 square-foot irregularly shaped parcel that is developed with two-story 2,500 square-foot commercial building currently occupied by a dry cleaning business name Elegant Cleaner. The northern portion of the building's first floor features a main entrance door leading into a reception area and clothes racks. The southern portion features a large dry cleaning machine, storage and various pressers and dryers. The second floor is used as storage. There is an unpaved parking area at the southern end of the Property. Access to the Property is achieved from the north along Lincoln Avenue and southwest along Bay Street.

The Property was developed with the current site building in the late 1800s or early 1900s. The building was originally developed as a meat market and was occupied by a store until the mid-1900s. In the 1970s it was occupied by a general store, and in 1980 it was occupied by a pet store. The current occupant, Elegant Cleaners, began occupying the building in 1986. The dry cleaners upgraded to an eco-friendly dry cleaning machine (see Appendix) in 2005, which replaced the previous machine that used Tetrachloroethylene (PCE) (ENCON ESA III 2015).

The property on the east of the Elegant Cleaner is a two stories building used for church ministry, while the property on the west is the Faith Bible Church building. The Elegant Cleaner building toward the north is facing the Lincoln Road and the south side of the Elegant building is an open area. The second floor of the Elegant Cleaner building is the lunch area for the cleaner's staff.

1.4 GEOLOGY AND HYDROGEOLOGY

There are distinct hydrogeologic sub-areas in the Alameda Island. The Berkeley sub-area is a single hydrogeologic unit, containing numerous alluvial fan units. Individual wells provided water for most homes. There were no historic municipal well fields and no large-scale groundwater sources. The Oakland sub-area is filled with alluvial fan material. It contains two main aquifers, the Merritt Sand and the deeper gravels. Both were primary sources of groundwater for more than 60 years in the Alameda Island. A series of historical municipal well fields extended from the eastern end of Alameda, through the Oakland Coliseum, and mark a major hydrogeologic trend.

The site is located within the Coast Ranges geomorphic province of Northern California. The Coast Ranges are characterized as parallel mountain ranges and valleys displaced by strike-slip earthquake faults. The site is underlain by Quaternary-aged beach and dune sand.

Alameda Island, once a peninsula that connected the cities of Alameda and Oakland, is composed of wetlands, lagoons, and several artificial bodies of water. The Oakland Estuary, also known as the Oakland Inner Harbor, was originally San Antonio Creek, whose branches extended into Lake Merritt in downtown Oakland and the Brooklyn Basin. The peninsula became an island when a shipping lane known as the Tidal Canal was dredged in 1901, turning San Antonio Creek into the Oakland Estuary. Freshwater creeks are not a part of the natural landscape of Alameda Island due to its flat topography and porous sand.

1.5 LOCAL GEOLOGY

The local geology as indicated from drilling program during previous site investigation showed shallow zone groundwater was first encountered at depths of approximately 10 to 15 feet bgs. Shallow Zone groundwater quality at the site has been partially investigated. The shallow zone groundwater gradients is 0.003 and the groundwater flow direction is defined as northwest at the site. The groundwater flow direction will be confirmed during remedial investigation and cleanup activities. The Shallow Zone hydraulic gradient at this part of Alameda has been reported as being relatively flat and may also be influenced by other groundwater extraction systems operating on nearby properties, dewatering and/or pumping. Some portions of the site are covered by buildings or paving that inhibits infiltration of rainfall except in the unpaved areas.

Based on Boring logs from site investigations, the soil predominantly consists of fill material overlying alluvial deposits. In the previous investigation report, the soil beneath the fill material was classified primarily as silts and silt sands (see Appendix).

2.0 HISTORICAL INVESTIGATION

A Phase III Environmental Site Assessment was prepared by ENCON Solutions, Inc. (January 14, 2015), for the subject property located at 1208 Lincoln Avenue. The subject property is located in a downgradient groundwater flow direction (northwest). The subsurface investigation report indicated that dry cleaning fluid PCE were detected at low concentration levels of 29 ug/L, this level is below one order of magnitude of PCE MCLs for groundwater. Shallow and deep groundwater aquifers sampling are recommended for evaluation of PCE presence at the primary source areas and around northwest groundwater flow direction (7nos borings/wells recommended see figure), starting on January 30, 2016 (see appendix for sampling locations). Groundwater monitoring will continue for one year to evaluate effect of remediation program for the Elegant Cleaner. Three more wells will be installed in the deep zone to characterize the deep zone.

PCE level in vadose zone subsurface was measured at a maximum level of 22480 ug/m3 beneath the Elegant Cleaner property. A soil vapor monitoring program will be implemented inside the building and around the source areas. Four more soil vapor wells in addition to the existing 6 soil vapor wells will be monitored starting on February 30, 2016 (see Appendix). More soil vapor wells will be installed along sewer pipelines.

The indoor air quality was reported to be degraded by PCE inside the building from south (1.0 ug/m3) to north (0.35 ug/m3). Regular monitoring of indoor air quality will be implemented and a mitigation approach will be recommended, starting from February 30, 2016.

The site history report from Environmental Record Search indicated that chlorinated solvents have been detected in soil vapor in the area of a historical dry cleaning operation at the site and that further investigation of the extent of the chlorinated solvents will be required.

3.0 SCOPE

The purpose of this investigation is to determine whether VOCs in the subsurface are present in sufficient concentrations to pose a health risk through the vapor intrusion pathway. Risk to human health from VOCs are driven by exposure through the inhalation and ingestion pathways. Ingestion of groundwater is not considered to be a complete exposure pathway since public water supply is used in this neighborhood.

Inhalation may be a complete exposure pathway if VOCs are intruding into indoor air spaces. Soil gas sampling is the primary method used to gather data to assess potential vapor intrusion into indoor air and evaluate the resulting risk to human health.

4.0 REMEDIAL OPTION

If sufficient VOC contamination is detected, an insitu remedial option using the fenton's reaction (oxidation-reduction) method to breakdown contaminants to carbon dioxide and water will be utilized. A final report detailing the results generated from this treatment will be submitted to regulatory agencies.

5.0 SAMPLING AND ANALYSIS PLAN

This Field Sampling Plan (FSP) will be used to evaluate the potential presence of chemical constituents in soil, soil gas, and groundwater in the Elegant Cleaner site. The data collected will be used to assess environmental conditions at the site. The U.S. EPA approved methods will be used for sampling and analysis. The following sections describe the sampling strategy, rationale, investigative methods and procedures, sample analysis program, sample handling, decontamination procedures, and management of investigation-derived wastes.

5.1 SAMPLING STRATEGY, RATIONALE, AND APPROACH

The field activities consist of soil, soil gas, and groundwater sampling to understand the extent of VOCs in the Elegant Cleaner site.

A sub-contractor will be used to conduct the drilling and sampling to collect the soil, soil gas, and groundwater samples as specified in these Workplans.

Soil gas samples will be analyzed on-site. DDEE's staff will arrange for utility clearance and obtain the required permit(s) before subsurface investigation activities begin. It is believed that permits will be

required for groundwater sampling and encroachment and/or sidewalk closure (issued through the City). A State-certified laboratory will be used to analyze soil and groundwater samples that are collected during the field activities. The sampling method for the soil, soil gas, and groundwater programs are described in the following sections. Sample designations are listed in Table A. To obtain access to sidewalk and roadside, the ACEH Public Participation Specialist will assist in the development and distribution of Access Agreements with the residents.

A Work Notice informing the residents of the date, time, sampling activities and sampling locations will be developed by the ACEH Public Participation Specialist. The Work Notice will be distributed at least 2 weeks prior to the start of sampling activities.

5.1.1 Soil Gas Sampling

The purpose of the soil gas survey is to assess potential source areas and extent of VOCs in the Elegant Cleaner site. The soil gas survey will be conducted in accordance with the Advisory – Active Soil Gas Investigations (Advisory) [DTSC, 2012] and the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance) [VIG 2011] in Appendix. Soil gas samples will be collected from 6 locations at Elegant Cleaner site (see Figure). Soil gas samples, with the exception of the three sub-slab sample locations, will be collected at each location from depths of approximately 5 and 15 feet (Table A).

Sub-slab samples will be collected from directly below the slab. In addition, three field duplicate quality control samples will be collected at sample locations showing elevated concentrations of VOCs. Thus, a total of thirty six soil gas samples will be collected and analyzed for target VOCs. The soil gas samples will be analyzed on-site for target VOCs. As recommended by the Advisory, a purge-volume test will be conducted at the first sampling location using 1, 3, and 10 purge volumes. The soil gas survey will not be conducted during rain events or within 7 days after significant rainfall. If groundwater is encountered at proposed sampling depth or shallower and the proposed soil gas sample cannot be collected, a grab groundwater sample may be collected for VOC analysis. Sub-slab samples will also be subject to purge volume testing; however, the rain requirement may be waved based on field conditions in accordance with Section 5.2 and Appendix G of the Advisory.

The protocol for soil gas sampling is discussed in Section 5.2.2. The analytical methods and field QC samples are discussed in Sections 6.0 and 5.2.5, respectively.

5.1.2 Continuous Borings and Soil Sampling

The purpose of the continuous boring and soil sampling is to assess geologic conditions beneath the Elegant Cleaner site. Previous lithologic logs have described the soil at the site as silt and sand up to 20 ft. bgs. The sample locations will be advanced to the first occurrence of groundwater to depths of 20 to 40 ft. bgs. Lithologic logs will be prepared for the borings.

At boring locations soil samples will be collected at 1, 2, 3, 4, 5, and five foot intervals to 20 ft. bgs for shallow zone and up to 40 ft bgs for deeper zone. The soil samples will be collected from the soil core

using a soil sampler and will be prepared for laboratory analysis in accordance with U.S. EPA Method 8260B. The soil samples will be analyzed for volatile organic compounds, PCE and its breakdown products TCE, DCA, VC and etc. using appropriate U.S. EPA Methods.

Groundwater samples will be collected from the subsurface borings. (Section 5.1.3). The soil sampling methods and procedures are discussed in Section 5.2.3. The analytical methods and field QC samples are discussed in Sections 6.0 and 5.2.5, respectively.

5.1.3 Groundwater Sampling

The purpose of the groundwater sampling is to assess the potential for contaminants in groundwater. The groundwater samples will be collected from each boring using a 3/4-inch polyvinyl chloride (PVC) bailers, transferred to appropriate sample containers provided by the laboratory, and submitted for laboratory analysis of VOCs using U.S. EPA Methods 8260B. The groundwater sampling methods and procedures are discussed in Section 5.2.4. The analytical methods and field QC samples are discussed in Sections 6.0 and 5.2.5, respectively.

5.2 SAMPLING METHODS AND PROCEDURES

This section describes the methods and procedures used to conduct a utility clearance and to collect soil, soil gas, and groundwater samples.

5.2.1 Utility Clearance

DDEE staff will contact underground service alert (USA) before commencement of field activities to locate subsurface utilities. As part of this task, a site walk will be conducted to confirm and mark proposed sample locations. The proposed drilling locations will be clearly marked with white paint or surveyor's flagging as required by USA. USA will contact the utility owners of record within the site vicinity and notify them of DDEE's intention to conduct a subsurface investigation. The utility owners of record, or their designated agents, will be expected to clearly mark the position of their utilities on the ground surface throughout the area designated for subsurface investigation. If any suspect buried structures or pipelines are delineated, sample locations will be moved to avoid the delineated or suspected subsurface features.

5.2.2 Soil Gas Sampling

Soil gas probes will be installed and analyzed using a direct push type rig and an onsite laboratory, respectively. As described in Section 5.1.1, soil gas sampling will not occur during any rainfall or within seven days after a heavy rain event.

A general description of the probe installation and soil gas sampling is presented below. Any requirement of the Advisory not specifically described below is incorporated by reference to the Advisory (See Advisory, Appendix C). The soil gas probes will be installed following the method described in the Advisory, Section 3.2. Depending on subsurface conditions, soil gas probes may be installed using

either permanent or temporary emplacement methods. Hollow steel drive rods will be hydraulically pushed to the desired sampling depth. The sample probes will be completed as follows:

1) Install a sand pack to minimize disruption of airflow to the sampling tip. A tremie pipe should be used for soil gas wells deeper than 15 feet to avoid bridging or segregation during placement of the sand pack and bentonite seal. The sand pack should be a minimum of six inches thick. Place the probe tip midway in the sand pack;

2) Emplace at least six inches of dry granular bentonite on top of each sand pack. Following the dry bentonite, fill the borehole to the surface with hydrated bentonite. The bentonite should be hydrated in a container at the surface and then slowly poured into the borehole. Follow a similar procedure for deep well construction with multiple probe depths, in that one foot of dry granular bentonite should be emplaced on top of the sand pack encasing each probe, followed by hydrated bentonite. The hydrated bentonite should continue until the next sand pack. A cement/bentonite mixture may also be used above the dry bentonite layer to seal the borehole annulus, consistent with California Department of Water Resources Bulletin 74-90 (California Well Standards) (DWR 1991). Dry and hydrated bentonite layer thicknesses may be adjusted based on probe use. The completed soil gas probes will be left undisturbed for a minimum of 2 hours (depending on the probe installation method used) before sampling to allow the soil gas to equilibrate.

The sample tubing will be purged an appropriate purge volume before sampling (based on results of the purging test described in Section 5.2.2.2 below). The air flow rate during purging and soil gas sampling will be between 100 and 200 milliliters per minute with pressure not exceeding 100 inches of water, in accordance with the 2012 Advisory.

Details of sampling procedures are described in the subcontractor's standard operating procedures (SOP) included as Appendix A.

5.2.2.1 Shut-In Test

Prior to purging or sampling, a shut-in test should be conducted to check for leaks in the above-ground sampling system. To conduct a shut-in test, assemble the above-ground valves, lines and fittings downstream from the top of the probe. Evacuate the system to a minimum measured vacuum of about 100 inches of water using a purge pump. The test is conducted while the sampling canister, if used, is attached with its valve in the closed position. Observe the vacuum gauge connected to the system with a "T"-fitting for at least one minute or longer. If there is any observable loss of vacuum, the fittings are adjusted until the vacuum in the sample train does not noticeably dissipate. After the shut-in test is validated, the sampling train should not be altered. The vacuum gauge should be calibrated and sensitive enough to indicate a water pressure change of 0.5 inches.

5.2.2.2 Leak Test

At each soil gas probe, a leak test will be conducted with a tracer gas such as isobutene or isopropanol placed near the surface seal and all tubing connections to check for potential intrusion of ambient air.

5.2.2.3 Purge Volume Test

The purpose of purging is to remove stagnant air from the sampling system so that representative samples can be collected from the subsurface. A purge volume test is used to establish the optimal purge volume for a site. The step purge volume test is conducted by collecting and analyzing a sample after removing one, three and ten purge volumes. The purge volume test samples should be analyzed with the same analytical method as the site's constituents of concern. The site purge volume is selected from the step purge test results yielding the highest contaminant concentrations. If VOCs are not detected in any of the step purge tests, a default of three purge volumes should be used. One purge volume includes the following:

. The internal volume of the tubing and probe tip.

. The void space of the sand pack around the probe tip.

. The void space of the dry bentonite in the annular space.

Following sampling, the tubing will be removed and the borings will be destroyed by backfilling them with bentonite grout. The surface will be patched with concrete, asphalt, or native soil as appropriate.

5.2.2.4 Probe Equilibration Time

Prior to sampling, at least two hours of time should elapse following installation of a probe to allow the construction materials to cure and allow for the subsurface to equilibrate.

5.2.2.5 Probe Material, Sample Containers, and Sample Analysis

To minimize purge volume, use small diameter (1/8 to 1/4 inch) sampling tubing from the vapor probe tip to the ground surface, made of material which will not react or interact with site contaminants.

The collection of soil gas samples should follow the procedures in Cal/EPA's 2012 Advisory. During sub-slab sampling, avoid air breakthrough from nearby foundation cracks within the slab by using sampling containers with volumes of less than or equal to one liter. Soil gas samples will be collected in a gas-tight syringe or in a glass bulb. Soil gas sample analysis should be performed using U.S. EPA Method 8260B. All methods should meet the site-specific data quality objectives (DQOs) and the analytical method reporting limits should be low enough for risk determination.

5.2.2.6 Sub-slab Sampling

After removal of the floor covering, a small-diameter hole should be drilled through the concrete of the foundation slab. Typically, holes are 1.0 to 1.25 inches in diameter. Either an electric hand drill or concrete corer is used to drill the holes. All sub-slab utilities, such as water, sewer, and electrical, should be located and clearly marked on the slab prior to drilling. Sub-slab holes should be advanced three to four inches into the engineering fill below the slab. All drill cuttings should be removed from the

borehole. A general description of the probe installation and sampling processes are presented above in Sections 5.2.2 (1) and (2) and 5.2.2.1 through 5.2.2.5. Any requirement of the Advisory not specifically described is incorporated by reference to the Advisory Appendix C. Alternate soil gas and sub-slab sampling probes and/or procedures may be employed with the review and approval of ACEH.

5.2.3 Soil Sampling

Soil samples will be collected from the ten borings, location MW4 to MW13, at 1, 2, 3, 4, 5 and every five feet from the surface to 20 feet bgs., for shallow zone and to 40 feet for deep zone. During drilling operations, an organic vapor meter (OVM), such as a photoionization detector (PID), will be used to monitor the presence and relative concentration of organic vapors in the borings and in the soil sample headspace. These organic vapor readings will be recorded on soil boring logs prepared during drilling activities. The drilling company, method of drilling, sampler size and type, total depth of the borehole, any attempts to re-sample due to subsurface obstructions, and the logger's name will be noted on each soil boring log. The following sampling information will be recorded on the soil boring logs: soil boring number and location; sample identification numbers; date and time; sample depth; lithologic description in accordance with the Unified Soils Classification System (USCS) including soil type, particle size and distribution, color, and moisture content; sample recovery; description of any evidence of soil contamination, such as odor or staining, subsurface obstructions and OVM readings.

Following sampling, the soil borings will be destroyed by backfilling them with bentonite grout and the surface will be patched with concrete, asphalt, or native soil as appropriate. Soil samples will be analyzed for VOCs by U.S. EPA Methods 8260B (see Appendix).

5.2.4 Groundwater Sampling

A 3/4-inch PVC bailer will be used to facilitate collection of groundwater samples from the selected depth in each soil boring. New PVC bailer materials will be used at each location. The groundwater samples will be collected using disposable bailers and disposable nylon string.

Each groundwater sample will be transferred to appropriate containers that contain required preservatives. For VOC analysis, the groundwater sample will be transferred to VOA vials, which will be filled until there is no headspace. An electronic water level meter will be used to measure depth to groundwater and the data will be recorded on a field form. Field water quality parameters (pH, temperature, specific electrical conductance, and turbidity) will also be measured and recorded on field forms.

5.2.5 Field Quality Control Samples

Two types of field quality control samples are planned for this investigation. These include:

- Field duplicates (soil, soil gas, and groundwater samples), and
- Trip blanks (soil and groundwater samples).

The field QC sampling procedures are discussed below.

5.2.5.1 Field Duplicates

A field duplicate is a sample that is collected and analyzed in the same manner, and at the same time and location, as a primary sample. Field duplicate samples will be collected and analyzed to evaluate sampling and analytical precision (reproducibility). Agreement between primary and duplicate sample results will indicate good sampling and analytical precision. The precision goal for water results will be plus or minus 30 percent relative percent difference (RPD) compared to the primary results. The precision goal for soil and soil gas field duplicate results will be plus or minus 50 percent RPD compared to the primary results. For soil and soil gas samples, a field duplicate sample will be collect by obtaining a second volume, at the initial sample location, immediately after the initial sample is collected. For groundwater samples, a field duplicate sample will be collected by obtaining the second volume water sample immediately after the initial sample is collected. Field duplicate samples will be collected from one soil sample location, three soil gas sample locations, and one groundwater sample location. The field duplicate samples will be submitted to the laboratory "blind" (i.e., given a fictitious name so that the laboratory will not recognize them as duplicates). The soil gas field duplicates will be selected in the field from a location showing detectable levels of VOCs.

5.2.5.2 Trip Blanks

A trip blank is a sample that is prepared by the analytical laboratory using laboratory grade deionized water and shipped with the sample cooler to the office for delivery to the project site. The trip blank is used to assess the potential for contamination during transport of the sample from the laboratory to the field, through the sampling program and its return to the laboratory. One trip blank will be submitted with each sample cooler containing samples to be analyzed for VOCs.

5.2.6 Field Equipment and Calibration

Field equipment includes water quality meters, air monitoring pumps, organic vapor meters, and other similar equipment. Routine preventative maintenance of field equipment is performed according to manufacturer's recommendations. All field equipment will be examined and serviced as needed before job start-up. Sufficient numbers of back-up equipment and spare parts will be available to minimize down time. In addition, sufficient quantities of field equipment supplies (e.g. soil gas tubing, disposable bailers, sample containers, field materials/consumables) and back-up supplies will be available at the site. Any repairs and maintenance completed on equipment during the investigation will be recorded on the daily field records. Before use each day, field equipment will be calibrated according to the manufacturer's recommendations. The date, method, and results of field equipment calibration will be recorded on a field instrument calibration sheet.

6.0 SAMPLE ANALYSIS, HANDLING, AND CUSTODY

All samples will be handled in accordance with approved procedures specified herein. The U.S. EPA-approved analytical methods will be used to produce definitive-level data for use in the investigation.

Screening-level data will be obtained from field instruments such as PID readings, and from groundwater samples collected from temporary PVC wells. Groundwater sample analytical results will be considered screening-level data due to the method of sample collection, even though U.S. EPA-approved analytical methods will be used. Soil gas samples will be analyzed using an on-site laboratory.

6.1 SAMPLE CONTAINERS AND PRESERVATIVES

The laboratory will provide sample containers before each sampling event. The containers will be pre-cleaned to meet U.S. EPA standards and will not be rinsed in the field before sample collection. Before delivery, the laboratory will add preservatives, as required, to the containers for soil and aqueous samples. All soil and groundwater sample containers will be labeled, placed in re-sealable plastic bags, placed in an ice chest, and delivered to the Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. If any water sample container (other than VOA vials) is not filled completely, the sample volume level will be marked on the outside of the container with indelible ink.

6.2 SAMPLE PACKAGING AND SHIPMENT

A sample label will be affixed to each sample container for proper identification in the field and for tracking in the laboratory. The sample labels will include the following information:

- Job number;
- Sample identification number;
- Sampler's initials;
- Date and time of collection; and
- Preservative, if any.

Following collection and labeling, samples will be immediately placed in a sample cooler for temporary storage. The following protocol will be followed for sample packaging:

- Sample containers will be placed in clear, plastic, leak-resistant bags before placement in the ice chest. Sample sleeve liner caps or container screw caps will be checked for tightness and sealed before placing the sample in the bag.
- Samples to be shipped will be placed in a sturdy cooler lined with a large plastic trash bag before placing samples therein. The bottom of the cooler will be lined with bubble wrap. Glass sample containers will be wrapped in bubble wrap. Empty space in the cooler will be filled with bubble wrap or Styrofoam peanuts to prevent movement and breakage of samples during shipment. Vermiculite may also be placed in the cooler to absorb spills.
- Ice packs will be contained in double leak-resistant plastic bags and placed in the coolers to keep samples at a chilled temperature of 4oC plus or minus 2oC during transport to the analytical laboratory.

When ice is used, the drain plug of the cooler will be secured with glass fiber tape to prevent melting ice from leaking out of the cooler.

- The chain-of-custody form will be placed in a water-resistant plastic bag taped to the inside of the cooler lid.

- Strapping tape (or equivalent) may be placed around each cooler to secure the lid before transport to the laboratory.

- A self-adhesive custody seal will be placed across the front closure of the cooler any time it is not in someone's possession or view before shipping. Just before shipping, custody seals will be affixed to the front, right, and back of the cooler. All custody seals will be signed and dated. A temperature blank will be enclosed in each sample-shipping container when samples requiring preservation by chilling are transported to the laboratory. The temperature blank will consist of a 40-mL vial filled with distilled or potable tap water, clearly marked to indicate its purpose to the laboratory. The temperature blank will be placed next to the investigation samples during packaging. The temperature of the water in the temperature blanks will be recorded upon arrival at the laboratory. The target sample temperature is 4oC, ±2oC. Every effort will be made to transport the samples to the analytical laboratory at the end of each sampling day. However, for sampling days that continue after the laboratory operating hours, the samples will be stored overnight in a secured location (e.g., in the DDEE's office) under appropriate chain-of-custody procedures, and the samples will be shipped to the laboratory the next day. During overnight storage, the cooler(s) will be restocked with new ice to maintain the samples in a chilled state of 4oC, ±2oC. Alternately, samples may be shipped to the laboratory by overnight courier under chainof-custody requirements specified herein.

6.3 SAMPLE DOCUMENTATION

Daily field records will be used to document where, when, how, and from whom any vital project information was obtained. All entries will be complete and accurate enough to permit reconstruction of field activities. Each daily field record will be dated and the time of entry noted in military time. All entries will be legible, written in black ink, and signed by the individual making the entries. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. No entries will be obliterated or rendered unreadable. Entries in the daily field record will include at a minimum the following for each day:

- Site name and address;

- Recorder's name;

- Team members and their responsibilities;

- Time of site arrival/entry on site and time of site departure;

- Other personnel on-site;

- Weather conditions including approximate air temperature precipitation, or high wind conditions;
- A summary of any on-site meetings;
- Deviations from the sampling plan or the site health and safety plan;
- Changes in personnel and responsibilities as well as reasons for the changes;
- Levels of safety protection; and
- Calibration readings for any equipment used and equipment model and serial number.

At a minimum, the following information will be recorded during the collection of each sample:

- Sample identification number;
- Sample location and description;
- Site sketch showing sample location and measured distances to physical reference points;
- Sampler name(s);
- Date and time of sample collection;
- Designation of sample as composite or grab;
- Type of sample (e.g., matrix);
- Type of preservation;
- Type of sampling equipment used;
- Lot numbers of vendor-supplied sample containers or specialty-grade water;
- Field observations and details important to analysis or integrity of samples (e.g., heavy rains, odors, colors);
- Instrument readings (e.g., PID);
- Chain-of-custody form numbers;
- Shipping arrangements (by overnight courier delivery company including air bill number, or laboratory pickup including name of personnel and time of departure); and
- Recipient laboratory(ies).

6.4 CHAIN OF CUSTODY RECORDS

Chain-of-Custody (COC) records are used to document sample collection and shipment to the laboratory for analysis. A COC record will accompany each sample shipment to identify the contents of each

shipment and maintain the custodial integrity of the samples. A sample is considered to be in someone's custody if it is either in someone's physical possession, in view, locked up, or kept in a secured area restricted to authorized personnel. Until received by the laboratory, the custody of the samples will be the responsibility of the sample collector or courier. After placement of each sample in its protective plastic bag, the bag will be sealed. The shipping containers in which samples are stored (usually a sturdy picnic cooler or ice chest) may also be sealed with custody tape any time the containers are not in someone's possession or view and during shipment to the laboratory. These seals will be signed and dated by the sample collector.

6.5 DECONTAMINATION PROCEDURES

All equipment coming into contact with potentially contaminated soil or water will be decontaminated consistently to assure the quality of samples collected. Disposable equipment intended for one time use will not be decontaminated, but will be packaged for appropriate disposal. Before initial use and between sampling locations, reusable sampling equipment or containers will be properly decontaminated. The sampling equipment and devices used will be decontaminated using the following procedures:

- Non-phosphate detergent and tap water wash, using a brush if necessary;
- Tap-water rinse;
- Initial deionized/distilled water rinse;
- Final deionized/distilled water rinse; and
- Set on clean plastic sheeting to air dry.

Equipment will be decontaminated in a pre-designated area on pallets or plastic sheeting, and clean bulky equipment will be stored on plastic sheeting in uncontaminated areas. When not in use, decontaminated sampling equipment will be wrapped in or covered with clean plastic.

6.6 INVESTIGATIVE WASTE MANAGEMENT

In the process of collecting environmental samples, different types of potentially contaminated investigation-derived wastes (IDW) may be generated. These IDW may include the following.

- Used personal protective equipment (PPE);
- Disposable sampling equipment;
- Decontamination fluids;
- Purged groundwater and excess groundwater collected for sample container filling; and
- Soil cuttings.

The U.S. EPA's National Contingency Plan requires that management of IDW generated during such investigations comply with all applicable or relevant and appropriate requirements (ARARs) to the extent practicable. Listed below are the procedures that will be followed for handling any IDW. These procedures have enough flexibility to allow the site investigation team to use its professional judgment for the proper disposal method for each type of IDW generated at each sampling location. Any waste storage containers such as 55-gallon drums will be sealed and labeled (including date) and placed in a secure area of the site.

• Unless there is contact with apparently contaminated material, used PPE and disposable equipment such as acetate liners, will be double bagged and placed in a municipal refuse dumpster. These wastes are not considered hazardous due to the limited amount of site media that may adhere to this solid material and can be sent to any acceptable municipal landfill. Any PPE and disposable equipment that is to be disposed of that can still be reused will be rendered inoperable before disposal in the refuse dumpster. If field personnel are uncertain as to the level of contamination remaining on the PPE or solid material, this material will be contained in sealed 55-gallon drums for eventual disposal based on the results of sample analysis. The associated sample location and date that is the source of the apparently contaminated material will be indicated on the 55-gallon drum to aid in this determination.

• Decontamination fluids that may be generated during these sampling activities include deionized water, residual sample/purge water, and water with non-phosphate detergent. The fluids will be poured into 55-gallon drums and labeled as "decontamination water." Purged groundwater will be poured into 55-gallon drums, labeled as "purge water" with the sample location and date. The drums will be sealed upon completion of the field activities.

• Soil cuttings will be placed into 55-gallon drums that will be labeled with the source material sample locations and sealed. While soil from various borings may be placed in the same container, soil that is apparently contaminated will be sequestered, if possible, and identified by boring location and sample interval. Containers filled with PPE/solid waste, decontamination water, groundwater, and soil will be stored in a secure location pending analytical results. After review of the analytical results, and any additional analyses required for waste handling and disposal, the containers will be transported to an appropriate off-site disposal facility. DDEE will not sign waste manifests;

ACEH will identify the person(s) authorized to sign the manifests.

7.0 HEALTH AND SAFETY PLAN

A site-specific Health and Safety Plan (HSP) was prepared for the field work described in these Workplans. This HASP is already submitted to ACEH website and the Geotracker site. DDEE staff will be required to follow the procedures set forth in the HASP. Subcontractors will have access to a copy of the HASP; however, they are responsible to provide proper safety procedures and monitoring for their own personnel.

8.0 REPORT PREPARATION

A final report will be prepared presenting the results of the investigation. The report will include site background and environmental setting information, field documentation and observations, and summaries of the analytical data obtained for the soil, soil gas, and groundwater samples collected during the investigation. Supporting documentation that may include, but not be limited to, soil boring logs, laboratory reports and chain-of custody records, and data review results will be included as appendices to the report.

Once sampling results are available, the Public Participation Specialist will work with the Project team to develop an appropriate mode of communicating the sampling results and future course of actions with the public. Based on the investigation findings, recommendations will be made, as appropriate, for any additional actions to further assess conditions in the subject area. If further action is recommended, the report will identify remaining data gaps and/or investigative needs/strategies.

9.0 REFERENCES

DTSC. 2011. Sample Locations Addendum, Sampling and Analysis Plan, Chemical Soil Background Study, Santa Susana Field Laboratory, Ventura County, CA. Final. June.

USEPA. 1997. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,

SW-846, Third Edition (as updated by revisions I, II, IIA, IIB, III, IIIA, IIIB, IVA, and IVB). July.

Ami Adini and Associates, Inc. 2013. Preliminary Environmental Assessment Report

Autumnwood Development Amaryllis Court, Wildomar, California 92595. Prepared for

Swanson Law Firm, September 27, 2013.

California Department of Water Resources (DWR), California Groundwater Bulletin 118,

SOIL GAS SUBCONTRACTOR SOP

HEALTH AND SAFETY PLAN

Advisory – Active Soil Gas Investigations (Advisory) [DTSC, 2012] and the Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance) [VIG 2011]

SOIL SAMPLING US EPA 5035

TABLE A – SAMPLING ACTIVITIES SCHEDULE

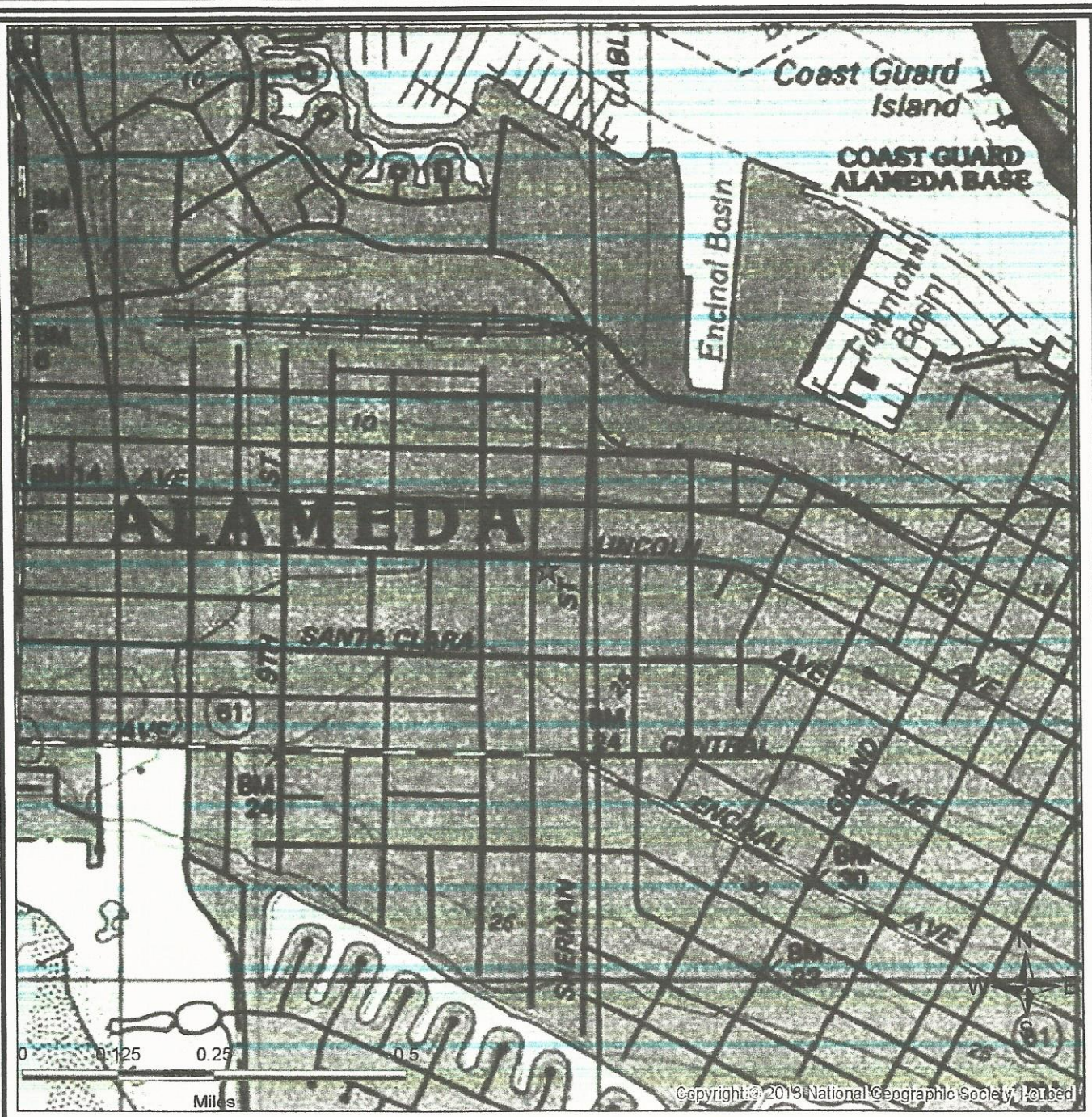
LOCATION	MEDIA	REMEDIATION ACTIVITIES	PHASE	START DATE
MW1-MW3	SHALLOW ZONE GROUNDWATER	SAMPLING	1	1-30-2016
MW4-MW10	SHALLOW ZONE SOIL & GROUNDWATER	DRILLING 7 BORINGS & SAMPLING	1	1-30-2016
INJ1 & INJ2	MACHINE & DRUM STORAGE AREAS	INSITU CHEMICAL TREATMENT	2	2-7-2016
MW11-MW13	DEEP ZONE SOIL & GROUNDWATER	DRILLING 3 BORINGS & SAMPLING	3	2-15-2016
WELLS IDENTIFICATION	WITHIN ¼ MILE RADIUS FROM SITE	IDENTIFY & DETERMINE LOCATION OF WATER SUPPLY	4	2-21-2016
SV1-SV10 & VW7-VW10	SOIL GAS VAPOR	SAMPLING	5	3-21-2016
IA1-IA9	INDOOR & OUTDOOR AIR	SAMPLING AIR QUALITY	6	3-30-2016
INJ1 – INJ2	SOIL & GROUNDWATER	SAMPLING	7	4-7-2016
MW1 – MW13	GROUNDWATER	EVALUATION MONITORING BEGINS	8	5-21-2016

NOTE: Project schedule may be subject to change due to funding and duration for review of submitted reports.

FIGURES

FIGURE 1

SITE LOCATION TOPOGRAPHIC MAP



SITE LOCATION TOPOGRAPHIC MAP

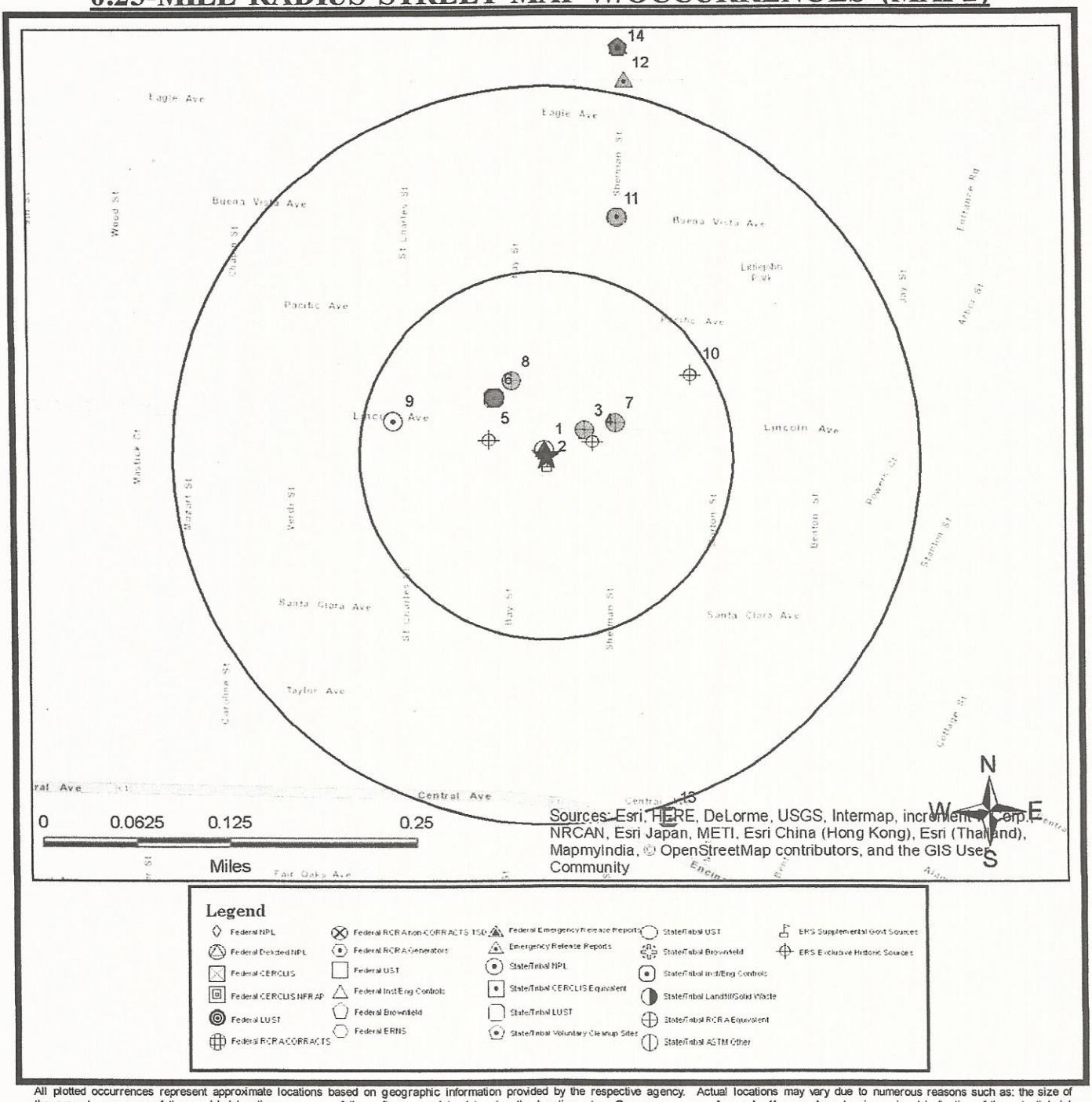
U.S. Geological Survey. Oakland West Quadrangle, 7.5 Minute Series

DDEE	1208 Lincoln Avenue Alameda, CA	FIGURE: JOB: DATE:	1 12/3/2015

FIGURE 2

0 . 25 - MILE RADIUS STREET MAP WITH UNAUTHORIZED CHEMICAL RELEASE OCCURRENCES

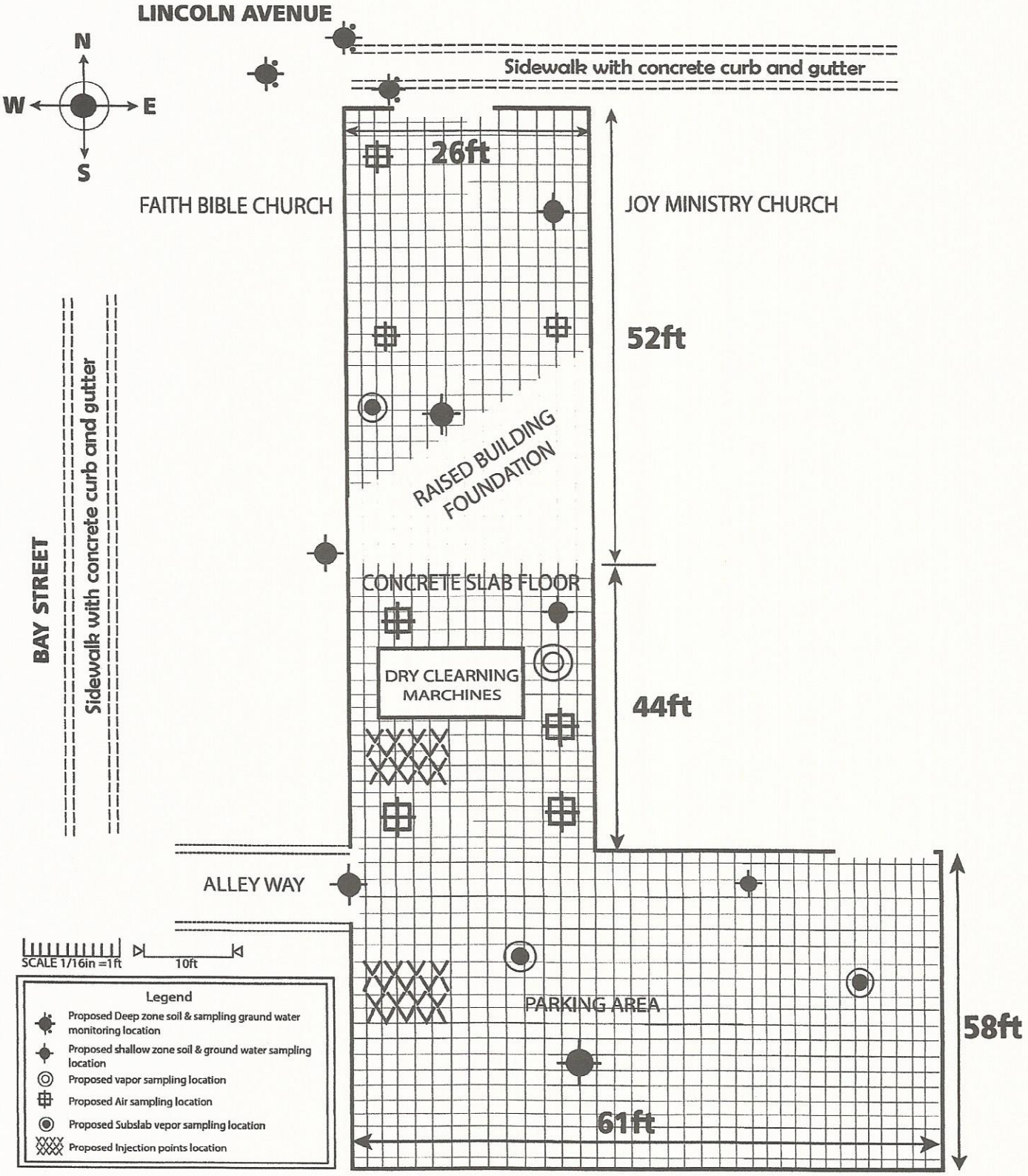
0.25-MILE RADIUS STREET MAP W/OCCURRENCES (MAP2)



All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. **Occurrences are shown in three colors** to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in RED are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in GREEN are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

FIGURE 3A

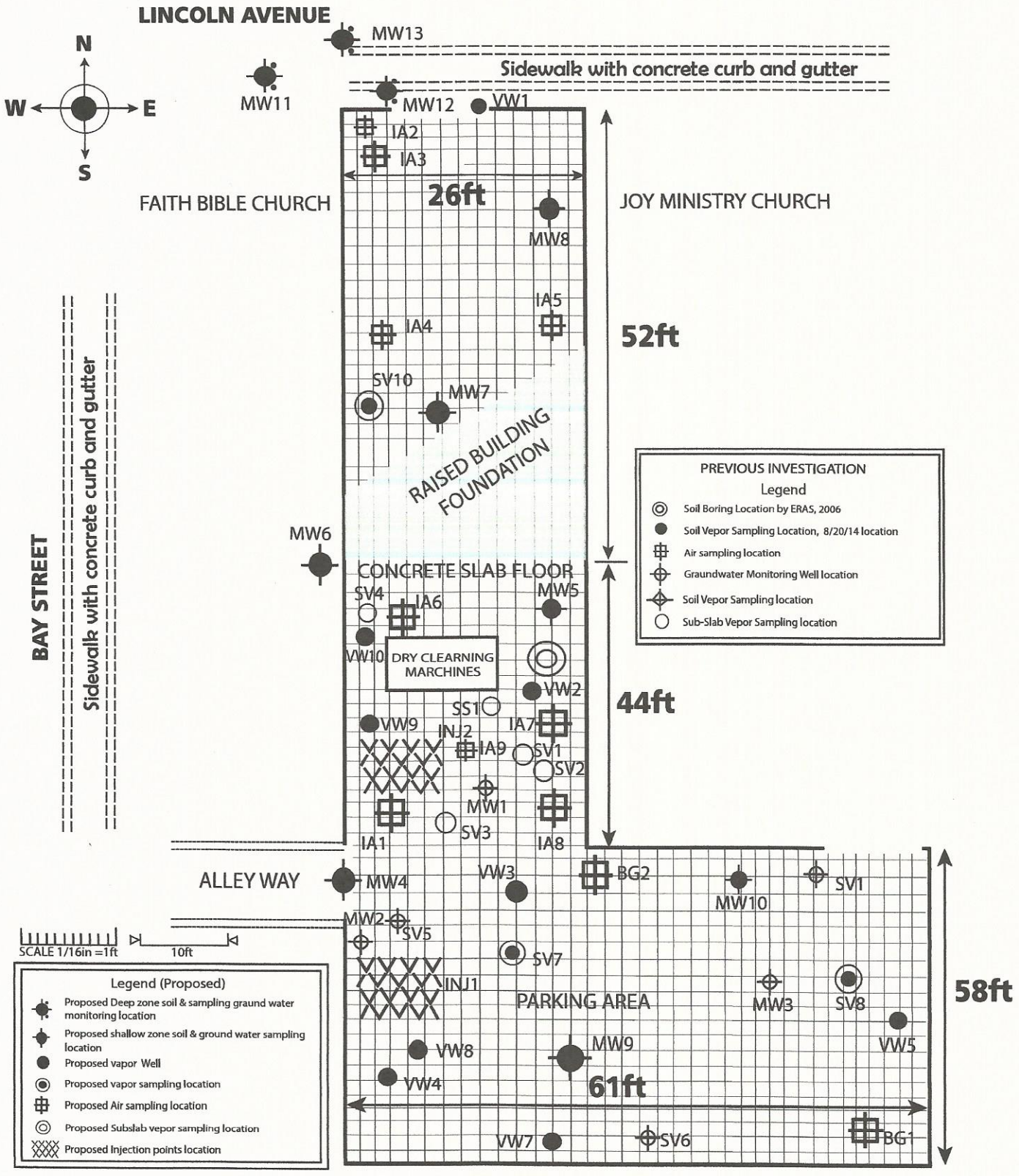
FLOOR PLAN SKETCH SHOWING DDEE's PROPOSED SAMPLING LOCATIONS (2016)



FLOOR PLAN SKETCH SHOWING DDEE's PROPOSED SAMPLING LOCATIONS (2016)
FACILITY NAME: ELEGANT DRY CLEARNING
ADDRESS: 1208 LINCOLN AVENUE, ALAMEDA CA 94501

FIGURE 3B

FLOOR PLAN SKETCH SHOWING SAMPLING LOCATIONS 2014 AND 2016



FLOOR PLAN SKETCH SHOWING SAMPLING LOCATIONS

FACILITY NAME: ELEGANT DRY CLEARNING

ADDRESS: 1208 LINCOLN AVENUE, ALAMEDA CA 94501

APPENDICES

APPENDIX A

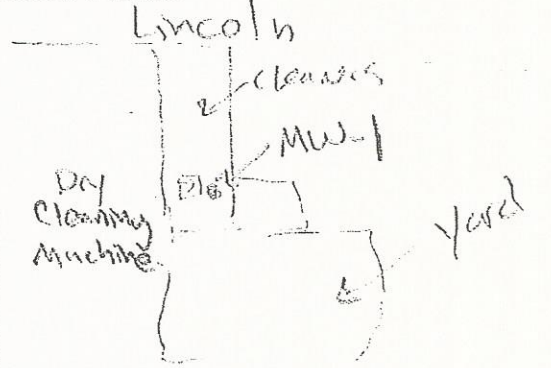
BORING LOGS - 2014

BORING LOGS AND WELL DESIGN 2014

Encon Solutions, Inc.

Field Boring Log Sheet 1 of 2

Location of Boring:



Project: Elegant Cleaners, Alameda		Boring No. MW-1	
		Total Depth: 15'	
Job No. 1410097ESAIII	Logged by: C. Olson		
Drilling Contractor: ECA			
Drill Rig Type: Dolly - Direct Push			
Drillers Name: Brent			
Sampling Methods: Acetate Liner			
Hammer WT. N/A		Drop N/A	
Start Time 10:00		Date	
Completed Time 11:30		Date	
Boring Depth:	15'	Screen	7'-15'
Casing Depth:	15'	Sand 2/12	5'-15'
Water Depth:	~9'	Bentonite	2'-5'
Time:	10:15	Grout	0-2'
Date:	11/12/13		3/4" well 2". Boring
Backfilled Time: —	Date: —	By: —	
Surface Elev: —	Datum: —		
Conditions: —			

Depth (feet)	Type	Blows	Driven (inches)	Received (inches)	Condition	Time		Hydrocarbon Stain	Depth (feet)	
0'	CC-FT		48"	10"		10:10		No	1.0	
										Concrete
										Backfill
2'	SP								3.0	
									2.5'	Bentonite
4'	SP		48"	36"		10:25		No	5.0	
										Sand 2/12
7.0	SM								5'-15'	
			48"	3"				No	9.0	
									10.0	

Fill 0-2"

SP - poorly graded sand, lt. olive brown (2.5Y 5/4), dry, loose

SP - poorly graded, dk yellowish brown (10YR 4/6), dry, med dense, trace silt

SM - silty sand, dk yellowish brown (10YR 4/6), damp, med dense

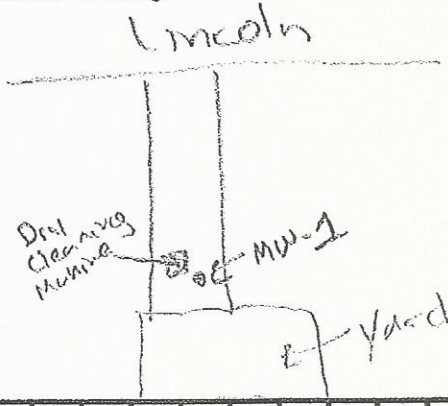
SM - Same as above, wet

SM - Same as above, increasing silt

Encon Solutions, Inc.

Field Boring Log Sheet 1 of 2

Location of Boring:



Project: Elegant Cleaners, Alameda	Boring No. MW-1
	Total Depth: 15'
Job No. 1410097ESAIII	Logged by: C. Olson
Drilling Contractor: ECA	
Drill Rig Type: Dolly - Direct Push	
Drillers Name: Brent	
Sampling Methods: Acetate Liner	
Hammer WT. N/A	Drop N/A
Start Time 10:00	Date
Completed Time 11:30	Date

Boring Depth:	15'	Screen	7'-15'
Casing Depth:	15'	Sand 2/12	5'-15'
Water Depth:	7'	Bentonite	2'-5'
Time:	10:15	Cement	0'-2'
Date:	11/12/13		

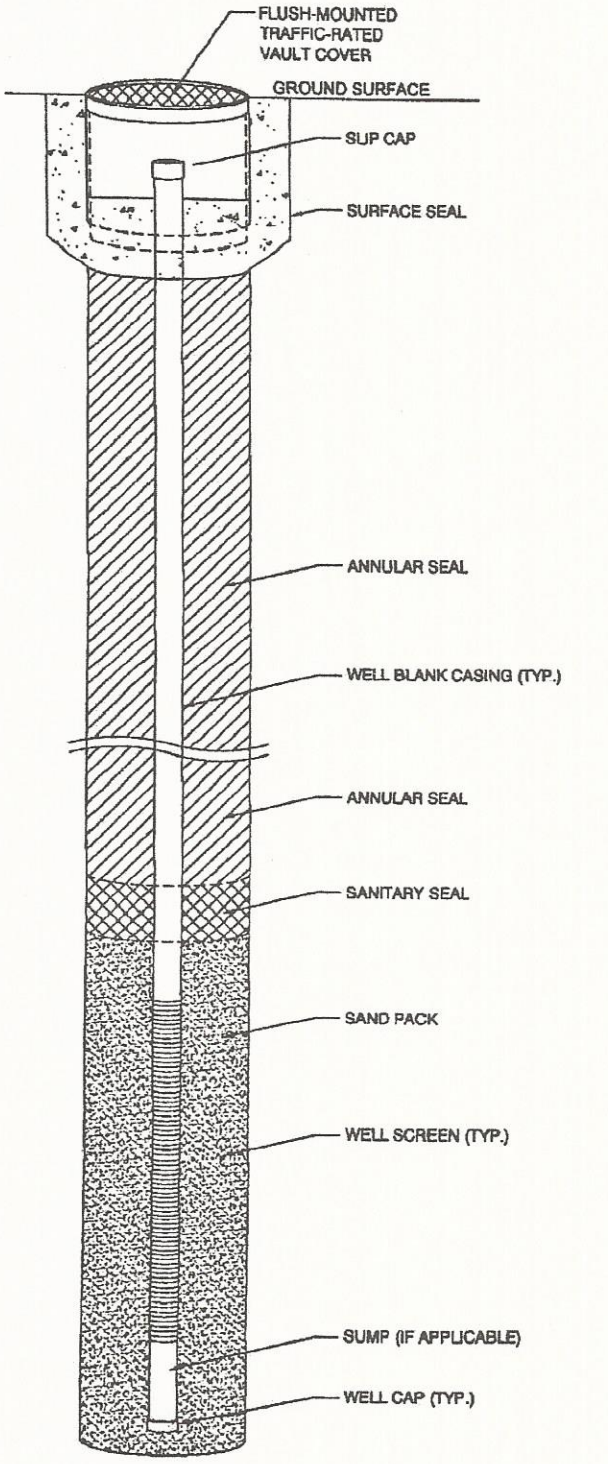
Backfilled Time: — Date: — By: —

Surface Elev: — Datum: —

Conditions: —

Depth (feet)	Type	Blows	Driven (inches)	Received (inches)	Condition	Time		Hydrocarbon Stain	Depth (feet)	
10	SM			33"		1015		No	1.0	SM - Same as above, less silt, very wet
13	SP								3.0	SP - Poorly graded sand, dk yllsh brn (10YR 4/4), med dense, wet
									5.0	End Boring @ 15'
									7.0	
									9.0	
									20.0	

C:\Drawing Files\ENCON Solutions\ Standard Figures\Standard MW W-Traffic Rated Cover - 01/08/2015



SURFACE SEAL INTERVAL	0" - 3"
TYPE OF SURFACE SEAL	Concrete cap
ANNULAR SEAL INTERVAL	3" - 2'
TYPE OF ANNULAR SEAL	neat cement
SANITARY SEAL INTERVAL	2' - 5'
TYPE OF SANITARY SEAL	bentonite
DIAMETER OF WELL CASING	3/4"
TYPE OF WELL CASING	PVC
SAND PACK INTERVAL	5' - 15'
TYPE OF SAND PACK	# 2/12
SCREEN INTERVAL	7' - 15'
DESCRIPTION OF SCREEN	0.010" - slotted
DEPTH OF WELL	15.0'
DIAMETER OF BOREHOLE	2"
DEPTH OF BOREHOLE	15.0'

TOTAL DEPTH OF BOREHOLE 15'

MW-1

SITE ADDRESS: 1208 Lincoln Ave, Alameda CA

FIGURE:

PROJECT: Elegant Cleaners

DATE:

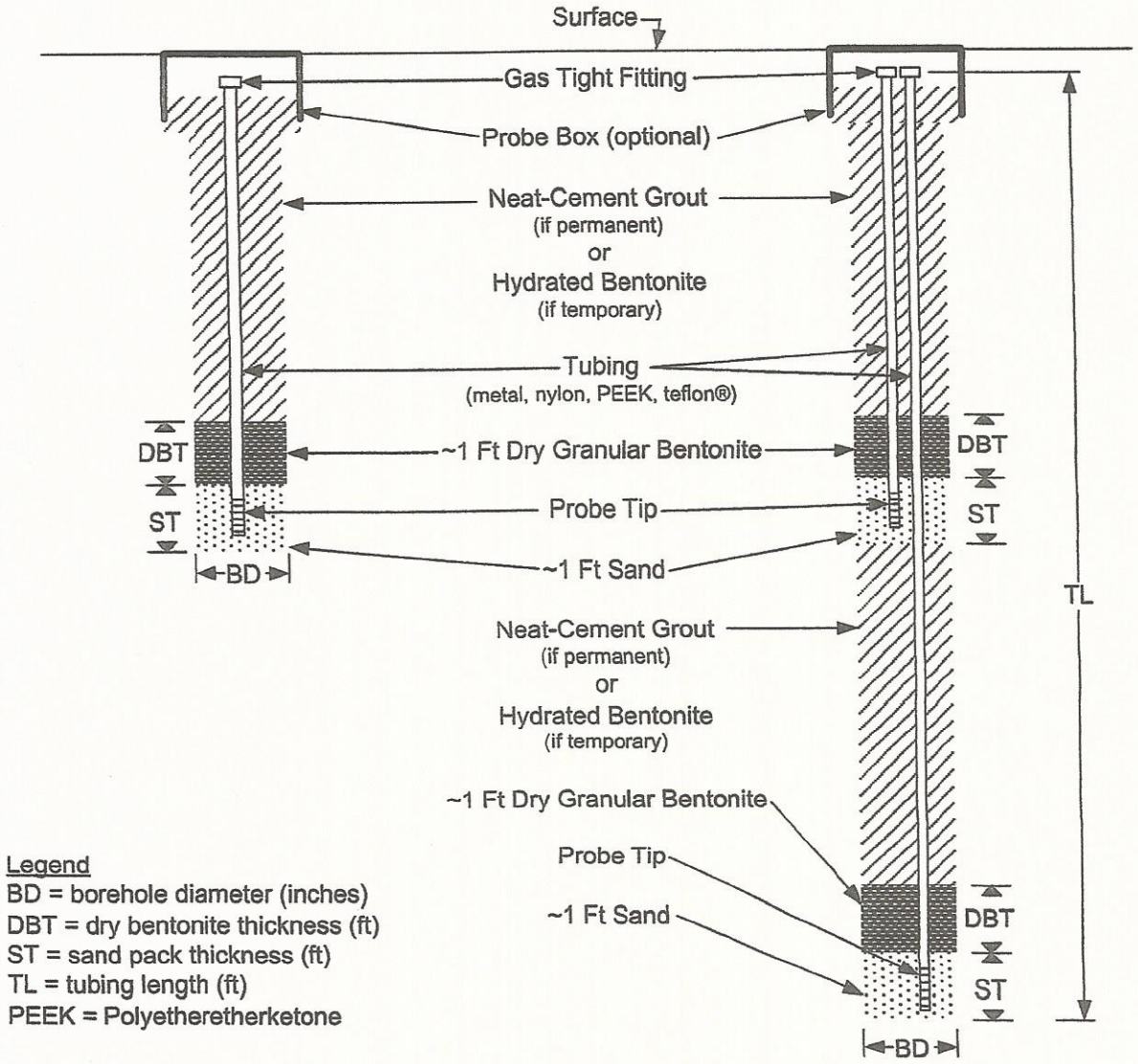
ENCON Solutions, Inc.

APPENDIX B

SOIL GAS PROBE DESIGN

Figure 1

Typical Single and Nested Soil Gas Probe Design

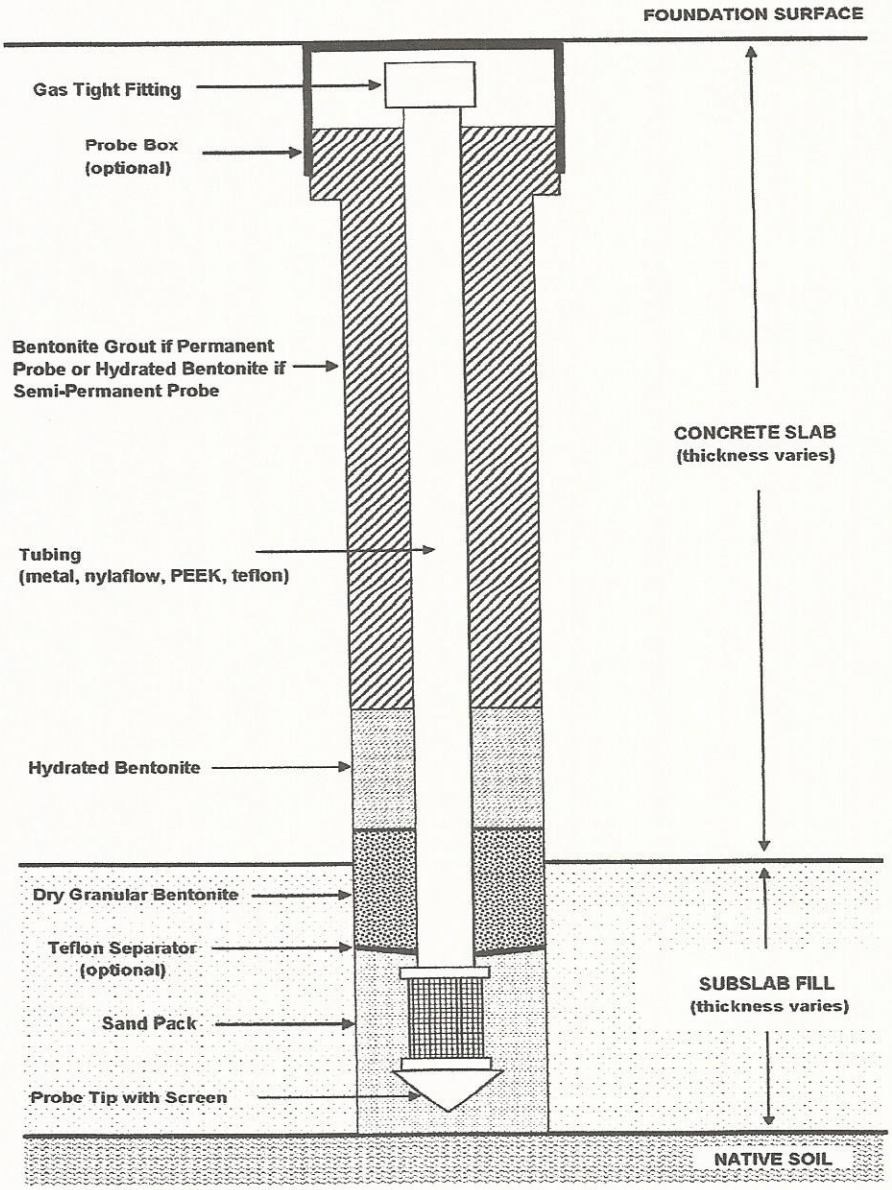


Legend
BD = borehole diameter (inches)
DBT = dry bentonite thickness (ft)
ST = sand pack thickness (ft)
TL = tubing length (ft)
PEEK = Polyetheretherketone

Neat-Cement Grout means a mixture in the proportion of 94 pounds of Portland cement and not more than 6 gallons of water. Bentonite up to 5 percent by weight of cement (4.7 pounds of bentonite per 94 pounds of Portland cement) may be used to reduce shrinkage.

FIGURE 2

Sub-Slab Vapor Probe Typical Diagram



NOT TO SCALE