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WORKPLAN

for

SOIL GAS SAMPLING AND ANALYSIS, RESULTS INTERPRETATION, AND TECHNICAL REPORTING

at

969 SAN PABLO AVENUE, ALBANY, CALIFORNIA
ACEH #RO0000119 / Global ID # T0600101674

prepared for

MR. ROBERT STETSON
KELLY MOORE PAINT COMPANY
PO BOX 3016, SAN CARLOS, CA 94070
RSTETSON@KELLYMOORE.COM

10 OCTOBER 2011

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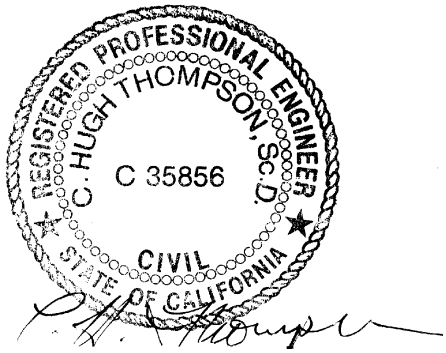
10 OCTOBER 2011



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DISTRIBUTION

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GeoTracker

Project File

1.0 INTRODUCTION

ProTech Consulting & Engineering (ProTech) has prepared this Workplan for the above-referenced site. The Scope-of Work was determined by conversations with you, and your letter of 27 April 2011. The site is located at 969 San Pablo Avenue, in Albany (Figure 1). The project is tracked by **ACEH #RO0000119 / Global ID # T0600101674.**

This Workplan reflects the request of ACEH, in its 27 April 2011 letter, **item #4 - Request for a Soil Gas Survey**. DTSC guidelines (*Interim Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air,* December 15, 2004 [Revised February 7, 2005] and *Advisory – Active Soil Gas Investigation* [Draft] March 3, 2010) have been reviewed as a basis of this planned work.

2.0 SCOPE-OF-WORK

After our teleconferences, site reconnaissance, and Groundwater Monitoring, we have determined that the following Tasks are required to continue toward achieving the overall goals of the project. These are:

1. Workplan preparation and submittal, on behalf of client, to ACEH for review, comment, and approval,
3. Collect Soil-Gas Vapor Samples (SGVS), using a power-auger setup, at six (6) locations as shown on Figure 3 at a depth of 5 feet below grade (fbg),
4. Analyze the SGVS for:
   a. Volatile Organic Compounds (VOCs), by EPA Method TO-15 plus Isopropyl Alcohol (IPA),
5. Review the analytical results and prepare a Report that documents
   a. The Sampling/Analysis,
   b. The Interpretations, and
   c. Makes observations, draws conclusions, and offers recommendations for dealing with the soil and groundwater at this property.

2.1 WORKPLAN PREPARATION

This document represents the **Workplan**, which will be submitted to the ACEH, on behalf of our client, for review, comment, and approval. ProTech will also complete an internal Site Hazard Information Form for the site.

2.2 SAMPLE COLLECTION

Six [6] Soil-Gas Vapor Samples (SGVS) will be collected during this phase of work. Figure 3 illustrates the SGVS point proposed locations, Plate 1 shows the SGVS sampling points as installed.

2.2.1 SOIL-GAS VAPOR SAMPLING

Soil-Gas Vapor Samples (SGVS) will be collected from six SGVS points that are constructed according to the *Draft Advisory from the California Environmental Protection Agency* (CEPA).[1] The depth of SGVS points will be to approximately 5 fbg. The SGVS point will be constructed using the AMS Drive-Point System by coring through the concrete parking lot cover, augering a 1-inch hole down to 0.5 fbg[2], and then driving a sacrificial sampling point with tubing attached to 5 fbg or 10 fbg. Six inches of sand will be placed at the bottom of the point (from 5 to 4.5 fbg) covering the sacrificial tip and the screen. A bentonite seal will be placed above the sand (from 4.5 fbg) through the concrete parking lot[3].

After the SGVS points are constructed a shut-in test[4] will be performed to determine if the tubing is leaking before sampling. After the shut-in test, the leak test compound, isopropyl alcohol (IPA), will be applied to towels that will be wrapped around all points where leaks can occur[5]. This compound is not part of the list being analyzed for contamination, and the laboratory will add this analyte to the list for analysis. For temporary points, three purge volumes of soil vapor will be purged from the SGVS point prior to sampling[6]. The SGVS will be collected in 1-liter

[1] March 2010, Draft Advisory–Active Soil Gas Investigation, California Environmental Protection Agency (CEPA).

[2] The thickness of the floor-slab is 0.333 fbg to 0.5 fbg as confirmed by Phillip Leon, the contractor.

[3] The procedure for collecting sub-slab soil gas samples are the same as for collecting sub-surface soil gas samples except that a slower flow rate and lower vacuum should be utilized. Using a flow rate of less than or equal to 50 milliliters per minute (mL/min) and maintaining a low vacuum of less than 100 inches of water should prevent ambient air breakthrough into samples (McAlary et al., 2009). Methods and procedures for installing sub-slab vapor wells are described in the DTSC Vapor Intrusion Guidance (Cal/EPA, 2005, Page G-1).

[4] Prior to purging or sampling sub-slab soil gas, a shut-in test will conducted to check for leaks in the above ground fittings. The shut-in test consist of assembling the above-ground apparatus (e.g., valves, lines and fittings downstream from the top of the probe), and evacuating the lines to a measured vacuum of about 100 inches of water column (in-H2O), then shutting the vacuum in with closed valves on opposite ends of the sampling train. The vacuum gauge connected to the line via "T"-fitting is observed for at least one minute, and if there is any observable loss of vacuum, the fittings are adjusted as needed until the vacuum in the aboveground portion of the sample train does not noticeably dissipate (McAlary et al., 2009).

[5] Liquid tracer compounds are applied to towels or clean rags and placed around all connections in the sampling train in order to evaluate potential leaks of ambient air into the sampling train. The leak check compound selected is not a suspected site-specific contaminant. Seal integrity is confirmed by analyzing subsequent soil gas samples for the tracer compound. Leak check compounds (i.e., liquid tracer compounds) are included in the method analyte list. The laboratory reports should quantify and annotate all detections of the leak check compound at the reporting limit of the target analytes. If the concentration of the leak check compound is greater than or equal to ten times the reporting limit for the target analyte(s), then corrective action is necessary. If a leak check compound (i.e., liquid tracer compounds) is detected in the sample, the cause of the leak is determined, evaluated, and corrected through retesting. Leak check compound concentrations detected in the soil gas samples are in the laboratory report and are discussed in the site characterization report.

[6] As specified in the Draft Guidance, "A default of three (3) purge volumes should be extracted prior to sampling in the following cases: 1) If VOCs are not detected in any of the step purge tests, 2) If a SUMMA® canister is used for sampling soil gas, 3) For shallow soil gas samples (collected at less than five feet bgs). Include the purge test data in the report to support the purge volume selection. The data set should include the purge volume test as well as the flow rate, vacuum exerted on the formation, and duration of each purge step."

Summa canisters, which were decontaminated at the laboratory following DTSC protocol, at a flow rate of 150 milliliters/minute.

2.3 SAMPLE ANALYSIS

The samples will be delivered to Test America (TA), a California-certified analytical laboratory. The SGVS will be shipped to TA located in Los Angeles. The SGVS will be analyzed by TO-15 for VOCs and the leak test compound, IPA. The holding time for TO-15 is 14 days. The method detection limits (MDLs) and the reporting limits (RLs) are determined by the method(s) used and the regulatory requirements. The reporting limits are shown in Attachment 1.

2.4 DATA REVIEW, INTERPRETATION, REPORTING

ProTech will review the laboratory results and interpret their meaning. After interpretation, we will prepare a Technical Report that documents:

- Field and laboratory tasks, including: purge data,
- Interprets the data collected, and
- Makes observations, and draws conclusions.

3.0 LIMITATION

This Workplan has been prepared by the staff of ProTech under the supervision of a California Registered Professional Engineer whose stamp and signature appear above. ProTech relied upon others, as referenced, to provide background and information used in this Document.

This Workplan has been prepared by ProTech for the exclusive use of Kelly Moore Paint Company (client) and not for use by any other party. Any use by a third party of any of the information contained in this Document shall be at their own risk and shall constitute a release and an agreement to defend and indemnify ProTech from and against any and all liability in connection therewith whether arising out of ProTech's negligence or otherwise.

All interpretations, conclusions, and recommendations are based solely on information gathered during this investigative stage and on no other unspecified information. This Document is prepared as a tool for the client to use in determining the condition of the site. This Document makes no certification, either implied or otherwise, that the site is free from pollution; it simply Documents the findings of any study. Soil sampling is so sample location specific that if pollutants are not found in a sample it does not universally suggest that there are none of these pollutants present at the site. Water sampling, while being less sample-location-specific than soil sampling, is still area-specific and if pollutants are not found in a sample it does not universally suggest that there are none of these pollutants present at the site.

The results and findings contained in this Document are based on certain information from sources outside the control of ProTech. While exercising all reasonable diligence in the acceptance and use of information provided, ProTech does not warrant or guarantee the accuracy of those information sources. The Document was developed specifically for this project (969 San Pablo Avenue, Albany, California) and should not be used for any other site.

FIGURES

Site 12.73 mi

Site 3144 ft

Site 810 ft

ProTech Consulting & Engineering 1208 Main Street, Redwood City, CA 94063 Tele: 650.569.4020 / Fax: 650.569.4023	Job No. 110108 Date 29 September 2011 Drawn by RC Rev WL / Apprvd WL	**Site Location** 696 San Pablo Avenue, Albany, CA for Kelly-Moore Paint Company P.O. Box 3016, San Carlos, CA 94070	Project N Figure 1

ProTech

1208 Main Street, Redwood City, CA 94063
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Job No.	Date	Drawn by	Rev.	Apprvd.
970109	20 May 1997	WL	WL	WL

Project
Site Layout w/Well Locations
696 San Pablo Avenue, Albany, CA
for
Kelly-Moore Paint Company
P.O. Box 3016, San Carlos, CA 94070

N

Figure
2

Legend

- = SGVS Proposed Location
- = Restrooms
- = Sewer/Storm Drain
- = Electrical Line
- = Water Line
- = Gas Line
- = Monitoring Well
- = Storm Drain
- = Sewer Clean Out

ProTech
1208 Main Street, Redwood City, CA 94063
Tel: 650.569.4020 / Fax: 650.569.4023

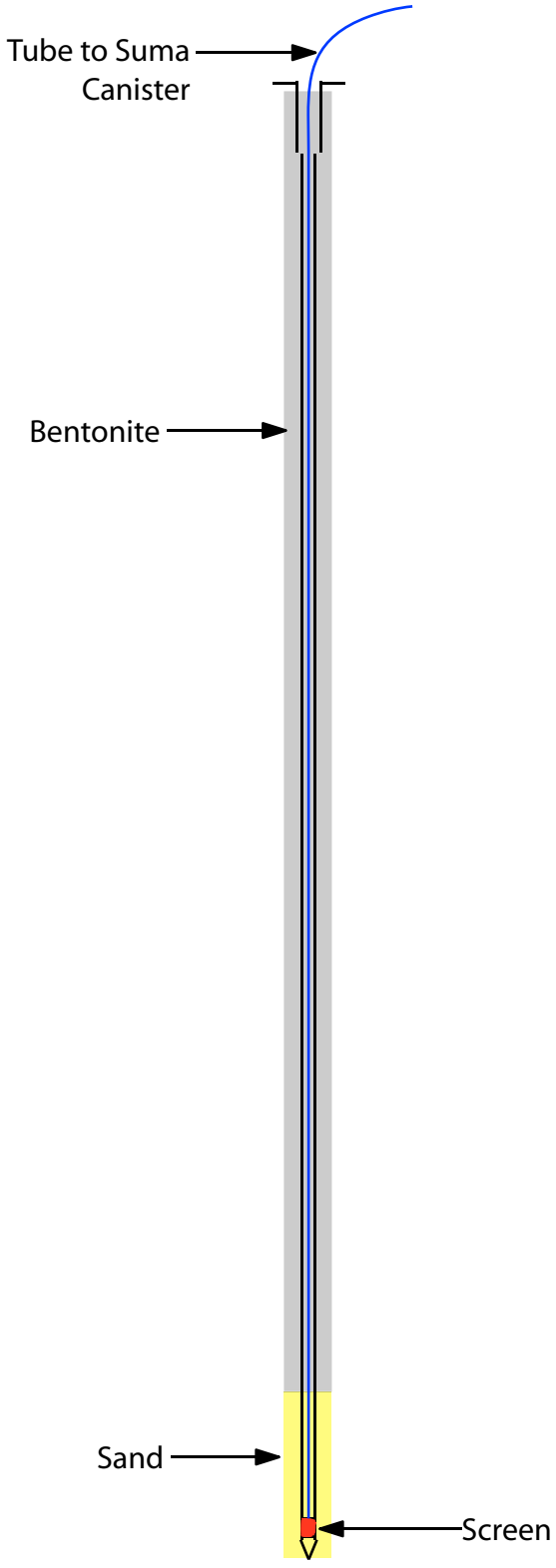
Job No.	110108
Date	8 Aug 2011
Drawn by	RC
Rev	WL
Apprvd	WL

Project
Site Plan with SGVS Point Locations
696 San Pablo Avenue, Albany, CA
for
Kelly-Moore Paint Company
P.O. Box 3016, San Carlos, CA 94070

N

Figure
3

Soil Gas Vapor Sample Cross Section



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ProTech
1208 Main Street, Redwood City, CA 94063
Tel: 650.569.4020 / Fax: 650.569.4023

Job No.	Date	Drawn by	Rev.	Apprvd.
532-OH10	24 Jan 2011	RC	WL	WL

Project
Soil Gas Vapor Installation Cross Section
696 San Pablo Avenue, Albany, CA
for
Kelly-Moore Paint Company
P.O. Box 3016, San Carlos, CA 94070

Plate
1

ATTACHMENT 1

TO15 Med Std	MDL	RL	MDL	RL
	ppbv	ppbv	ug/m3	ug/m3
Acetone	4.0	10	9.50	23.75
Benzene	1.5	3.0	4.79	9.58
Benzyl chloride	2.0	10	10.35	51.77
Bromodichloromethane	1.0	2.0	6.70	13.40
Bromoform	0.50	2.0	5.17	20.67
Bromomethane	2.0	4.0	7.77	15.53
2-Butanone (MEK)	3.0	10	8.85	29.49
Carbon disulfide	4.0	10	12.46	31.14
Carbon tetrachloride	1.0	2.0	6.29	12.58
Chlorobenzene	0.50	2.0	2.30	9.21
Dibromochloromethane	1.0	2.0	8.52	17.04
Chloroethane	1.5	4.0	3.96	10.55
Chloroform	1.0	2.0	4.88	9.77
Chloromethane	2.0	4.0	4.13	8.26
1,2-Dibromoethane (EDB)	1.0	2.0	7.68	15.37
1,2-Dichlorobenzene	0.90	2.0	5.41	12.02
1,3-Dichlorobenzene	0.80	4.0	4.81	24.05
1,4-Dichlorobenzene	1.0	4.0	6.01	24.05
Dichlorodifluoromethane	1.0	3.0	4.95	14.84
1,1-Dichloroethane	1.0	2.0	4.05	8.09
1,2-Dichloroethane	1.5	3.0	6.07	12.14
cis-1,2-Dichloroethene	0.80	2.0	3.17	7.93
trans-1,2-Dichloroethene	1.0	2.0	3.96	7.93
1,1-Dichloroethene	1.0	2.0	3.96	7.93
1,2-Dichloropropane	1.5	3.0	6.93	13.86
cis-1,3-Dichloropropene	1.0	2.0	4.54	9.08
trans-1,3-Dichloropropene	1.0	2.0	4.54	9.08
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	2.0	6.99	13.98
Ethylbenzene	1.0	2.0	4.34	8.68
4-Ethyltoluene	1.0	2.0	4.92	9.83
Hexachlorobutadiene	1.5	4.0	16.00	42.66
2-Hexanone	2.0	10	8.19	40.97
Methylene chloride	1.0	2.0	3.47	6.95
4-Methyl-2-pentanone (MIBK)	2.0	10	8.19	40.97
Styrene	1.0	2.0	4.26	8.52
1,1,2,2-Tetrachloroethane	1.0	2.0	6.87	13.73
Tetrachloroethene	1.0	2.0	6.78	13.56
Toluene	1.0	2.0	3.77	7.54
1,2,4-Trichlorobenzene	2.5	5.0	18.55	37.11
1,1,1-Trichloroethane	1.0	2.0	5.46	10.91
1,1,2-Trichloroethane	1.0	2.0	5.46	10.91
Trichloroethene	1.0	2.0	5.37	10.75
Trichlorofluoromethane	1.0	2.0	5.62	11.24
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	2.0	7.66	15.33
1,2,4-Trimethylbenzene	1.3	3.0	6.39	14.75
1,3,5-Trimethylbenzene	2.0	4.0	9.83	19.66
Vinyl acetate	10	20	35.21	70.42
Vinyl chloride	2.0	4.0	5.11	10.22
m,p-Xylene	2.0	4.0	8.68	17.37
o-Xylene	1.0	2.0	4.34	8.68
Xylenes, total	1.0	2.0	4.34	8.68
surr: 4-Bromofluorobenzene				
surr: 1,2-Dichloroethane-d4				
surr: Toluene-d8				