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GEOSCIENCE & ENGINEERING CONSULTING

August 3, 2015

Mr. Mark Detterman
Alameda County Health Care Services
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Perjury Statement for the Indoor Air Survey Sampling Event 2 Letter of Findings—
1475 and 1483 67th Street, Emeryville, California.

Dear Mr. Detterman:

Stellar Environmental Solutions, Inc. (Stellar Environmental), on behalf of the Corder Family Emeryville Properties, LP, is providing this cover to the letter report of findings on the “Indoor Air Survey Sampling Event 2 Letter of Findings—1475 and 1483 67th Street, Emeryville, California” dated July 8, 2015, to enable the report to meet the requirements to upload the report to the Geotracker site of the Responsible Party (RP) site upgradient of the impacted Corder properties. The RP site responsible for the impact to the Corder property is known as the McGrath Site (Alameda County Fuel Leak Case #RO0000063; Global ID T0600102099).

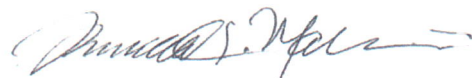
We declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of our knowledge. Please call us at (510) 644-3123, if you have any questions.

Sincerely,



Ms. Erin M. Corder-Schaefer

Manager of Corder Family Management Company, LLC, General Partner of Corder Family Emeryville Properties, LP.



Richard S. Makdisi, P.G
Principal Geochemist and President

November 26, 2014

Ms. Erin M. Corder-Schaefer
Corder Family Emeryville Properties, LP
2156 Corte Dorado Espuela
Alpine, CA 91901

Subject: Indoor Air Survey Letter of Findings—1475 and 1483 67th Street, Emeryville, California.

Dear Ms. Corder-Schaefer:

This letter report summarizes the findings associated with the indoor air survey for your above mentioned properties.

INTRODUCTION AND BACKGROUND

On June 25 and 26, 2014, AllWest Environmental conducted an indoor air survey of the former McGrath Steel office and warehouse complex located at 6655/ Hollis Street/1471 67th Street in Emeryville, California as part of an overall environmental assessment of that site as it relates to former underground fuel storage tanks (USTs) under the 67th Street sidewalk that were removed in 1996. Leakage from that UST system resulted in fuel hydrocarbon contamination of soil and groundwater beneath 67th Street and possibly the buildings on the south side of 67th Street. The AllWest indoor air survey is described in the July 21, 2014 AllWest document, “*Indoor air Quality Monitoring Report, Former McGrath Steel, 6655 Hollis and 1471 67th Street, Emeryville, California (Alameda County Fuel Leak Case #RO0000063)*”. However, it should be noted that the AllWest report completed a 24-hour indoor air test that is typically used for evaluating indoor air impacts to residential building versus the 8-hour indoor air test called for in regulatory guidance to evaluate commercial spaces. The locations of the five indoor air samples were all located within the McGrath Steel property. Regulatory oversight of this case is being provided by Mr. Mark Detterman of Alameda County Environmental Health Services (ACEHS).

Benzene concentrations in four of the five indoor air samples exceeded the Regional Water Quality Control Board-San Francisco Bay Region (Water Board) indoor air commercial

Environmental Screening Levels (ESLs) for benzene of 0.42 $\mu\text{g}/\text{m}^3$. Benzene did not exceed its applicable ESL in the sample collected along the north wall of the warehouse building, adjacent to the former UST source area locations, or in the outdoor ambient air sample. According to the AllWest report, because of uniform concentrations in indoor and outdoor air samples, and although benzene concentrations was lowest in the sample location closest to the original UST source area, it was AllWest's opinion that benzene, carbon tetrachloride and several other detected VOCs were atmospheric contaminants and did not originate from the UST source area.

Based on a review of the AllWest indoor air quality report and of subsurface investigations conducted at the McGrath site to date by Weiss Associates (1998-2005) and AllWest (2013-2014), Stellar Environmental recommended indoor air sampling of the buildings adjacent to the 1471 67th Street McGrath warehouse as the logical next step to address the issue of whether the known hydrocarbon plume from the former McGrath Steel site is impacting the indoor air in adjacent buildings at 1475 and 1483 67th Street.

The 1475 67th Street building adjoins the McGrath warehouse to the east, and is a 15,000 square foot industrial building constructed in the 1940's. The building is occupied by Metalco, a metal anodizing business. 1483 67th Street adjoins the Metalco building and is a 13,000 square foot industrial structure occupied by Architectural Metal Works, which is a metal working shop for the building industry. Figure 1 presents the general site location. Figure 2 is a site map of the property and surrounding sites.

The specific goals of this Stellar Environmental study were to:

- Follow the California Department of Toxic Substance Control (DTSC) guidance for conducting indoor air sampling in commercial buildings;
- Collect four indoor air samples and one outdoor ambient air sample during normal office working hours (8:00 am to 4:00 pm);
- Analyze the indoor air quality samples for established contaminants in the subsurface using EPA Method TO-15 for Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes and naphthalene for which there are existing indoor air regulatory ESLs and
- Compare the sampling results to 2013 RWQCB indoor air guidance ESLs for commercial property.

INDOOR AIR SAMPLING

Air Sampling Location Rationale

Based on the soil and groundwater sampling results from the previous Weiss Associates and AllWest subsurface work at the McGrath site and extending to the west down 67th Street, four indoor air sampling locations were chosen; three locations (IA-1, IA-2 and IA-3) were located inside the 1475 67th Street building occupied by Metalco, with one location (IA-4) located in the 1483 67th Street building occupied by Architectural Metal Works. These four locations were chosen based on depictions of benzene concentrations in groundwater and on the calculated groundwater gradient that indicates a southwest flow direction (AllWest, 2013) towards the 1475/1483 67th Street buildings. One “control” or ambient air sample (OA-1) was placed outside the 1475 67th Street building in a secure location on an overhang over the front door. Figure 3 depicts the sample locations.

Indoor Air Sampling Protocol

Mr. Steve Bittman, of Stellar Environmental completed the sampling setup at 8:00 am on November 14, 2014 and retrieved the sampling apparatus at 4:00 pm the same day, after checking the sampling canisters during the day to make sure they were operating properly. Photodocumentation of the sampling event is attached.

The indoor air sampling program generally followed the DTSC guidance entitled: the *Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC, August, 2011). The protocol used, included:

- Samples were collected for analysis using Environmental Protection Agency (EPA) method TO-15 [used for integrated (greater than a few minutes) sampling events], which includes the contaminants of concern: benzene, toluene, ethylbenzene, and total xylenes. In addition, TPHg and Naphthalene were included as analytes. These gasoline related compounds with a higher relative vapor pressure than diesel fuel, the other McGrath site contaminant, and are more likely to find their way into indoor air space from beneath the surface.
- The indoor and outdoor air samples were collected over an 8-hour period using 6-liter Summa® canister with a calibrated flow controller set at 11.5 milliliters per minute with the sample intake positioned approximately 3-5 feet above the building floor; and
- The samples were collected during the average period when the building would typically be occupied from 8:00 am until 4:00 pm.

The five air samples were maintained at ambient temperature, out of direct sunlight and transported by courier to McCampbell Analytical Laboratory of Pittsburg, California, a laboratory certified by the State of California Environmental Laboratory Accreditation Program (ELAP) for the analytical method utilized in this investigation.

REGULATORY CONSIDERATIONS

In December 2004, the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of the California Environmental Protection Agency (CAL EPA) established their own risk equivalent to the Water Boards Environmental Screening Levels (ESLs), which are called California Human Health Screening Levels (CHHSLs). The Water Board also established their equivalents of the CHHSL, the Environmental Screening Levels (ESL's) were most recently updated in December 2013. The concentrations from this survey are compared to the Water Board 2013 Environmental Screening Levels (ESL) guidance as that has superseded the DTSC California Human Health Screening Levels (CHHSLs), which are no longer being updated. The CHHSL and ESLs have very similar values. In addition, the California Occupational Safety and Health Administration (CAL OSHA) has also established Permissible Exposure Limits (PELs) that reflect the maximum permitted 8-hour average concentration limit of an airborne contaminant associated with a given industry. The PELs are to be applied to occupational exposure (such as exposure to dry cleaner chemicals for workers at dry cleaners or petroleum exposure for workers at a petroleum service station) and are not applicable in this case. The CAL OSHA standards, while more conservative, are similar to the federal OSHA standards. Both the Cal OSHA standards and federal standards are law versus guidance and are significantly less conservative than the Cal EPA Water Board ESL's or DTSC used CHHSL values.

Water Board ESLs and Cal EPA CHHSLs

The Water Board ESL's were revised in December 2013 and now include an ESL for indoor air for gasoline grade petroleum hydrocarbons (TPG-gasoline) and their benzene, toluene, ethylbenzene and xylenes (BTEX) components.

It is important to note that neither CHHSLs nor ESLs, were conceived as a cleanup criteria nor should they be used to determine when impacts should be reported to a regulatory agency. Rather, the ESLs are Tier 1 conservative screening criteria used to evaluate sites for potential human health or environmental exposure concerns where releases of hazardous materials to soils or groundwater have occurred.

INDOOR AIR SAMPLING ANALYTICAL RESULTS AND DISCUSSION

The indoor air samples IA-1 through IA-4 all contained concentrations of benzene above the “commercial property” ESL of $0.42 \mu\text{g}/\text{m}^3$, ranging from $1.1 \mu\text{g}/\text{m}^3$ to $9.5 \mu\text{g}/\text{m}^3$. This compares with the lower $0.54\text{-}0.79 \mu\text{g}/\text{m}^3$ benzene range reported by the AllWest study. The outdoor control sample OA-1 contained $1.3 \mu\text{g}/\text{m}^3$ benzene. Three out of four of the indoor air samples exceeded the $100 \mu\text{g}/\text{m}^3$ commercial ESL for TPH as gasoline with concentrations ranging from $61 \mu\text{g}/\text{m}^3$ to $360 \mu\text{g}/\text{m}^3$. The outdoor sample contained $140 \mu\text{g}/\text{m}^3$ TPHg. One sample exceeded the naphthalene ESL of $0.36 \mu\text{g}/\text{m}^3$ at a concentration of $0.88 \mu\text{g}/\text{m}^3$, with the outdoor control sample containing $0.17 \mu\text{g}/\text{m}^3$ naphthalene. Detections of toluene, ethylbenzene and xylenes did not exceed their respective ESLs in any of the samples.

The indoor air sample with the highest concentrations of the constituents analyzed for was sample IA-4 located in the front office of 1483 67th Street. Sample IA-3 located in the office area of 1475 67th Street contained the lowest concentrations.

It is accepted practice to subtract the outdoor control sample concentrations from the indoor concentrations, resulting in a “corrected” value. Subtracting the outdoor benzene result from the four indoor sample benzene concentrations, in effect “cancels out” the results for IA-2 and IA-3, leaving samples IA-1 and IA-4 with corrected concentrations of $1.7 \mu\text{g}/\text{m}^3$ and $8.2 \mu\text{g}/\text{m}^3$ which still exceeds the benzene commercial ESL of $0.42 \mu\text{g}/\text{m}^3$. When this correction is applied to TPHg, the result is that one sample, (IA-4) exceeds the $100 \mu\text{g}/\text{m}^3$ commercial ESL for TPHg with a value of $220 \mu\text{g}/\text{m}^3$. IA-4 also contained a corrected concentration of naphthalene at $0.71 \mu\text{g}/\text{m}^3$ which exceeds the $0.36 \mu\text{g}/\text{m}^3$ ESL.

Using the DTSC risk calculation sheet for benzene (modified to account for ambient air), the total risk is calculated to be $1.2\text{E-}5$ (DTSC does not have risk factor for TPH-gasoline or naphthalene). Therefore, based on the DTSC guidance, the recommendation is that indoor air sampling event frequency should be semi-annually (every six months) until the next sampling event establishes a $10\text{E-}8$ or less in which case the monitoring can be reduced to every two years.

Table 1 shows the concentrations of indoor air contaminants detected during the 8-hour sampling event of November 14, 2014. Table 1 also shows the ESLs indoor air standards for the detected contaminants. The DTSC vapor intrusion risk calculation model, laboratory analytical results and chain-of-custody record are attached.

CONCLUSIONS AND RECOMMENDATIONS

Based on the indoor air results, there is some risk of exposure from benzene, naphthalene and TPH-gasoline vapor intrusion to occupants of the office areas in both buildings, based on their respective concentrations being above the regulatory ESLs. Benzene is the risk driver. In general, once ESLs are exceeded, the need for a type of additional investigative and corrective actions are generally driven by the potential risk associated with the contamination, with input by the regulatory agency providing oversight, which in this case is the ACEHS.

Indoor air risk can be mitigated by the increasing air exchange rates so that the air inside the sales offices areas of the buildings is flushed more frequently. The effectiveness of this can be gauged by air monitoring under the recommended increased air exchange conditions. Longer term risk can be reduced by remediation of the hydrocarbon groundwater plume that is the source of the benzene and TPHg vapor intrusion.

Based on the findings of this and the previous investigations, Stellar Environmental recommends conducting another indoor air sampling event, as recommended by DTSC guidance, within 6 months, by May 2015. Also recommended is the installation of six investigation bores to collect grab groundwater data in the 1475 and 1483 67th Street spaces to delineate the plume better. This letter of findings also recommended to be submitted to ACEHS.

We trust this review assists you in evaluating the salient environmental issues associated with the subject site. Please call the undersigned directly at (510) 644-3123 if you have any questions regarding this report of findings.

Sincerely,



Steve Bittman,
Project Manager



Richard S. Makdisi, R.G., R.E.A.
Principal Geochemist & President



Table 1
Indoor Air Sample Analytical Results –November 14, 2014
Eight Hour Test
1475 and 1483 67th Street, Emeryville, California

Analyte	Indoor Air Sample- NE Corner 1475 67 th Street Building	Indoor Air Sample- Central 1475 67 th Street Building	Indoor Air Sample- Office in NW Corner 1475 67 th Street Building	Indoor Air Sample- Office in 1483 67 th Street Building	Outdoor Air (Ambient) Sample- in Front of 1475 67 th Street Building	Commercial ESL
	IA-1	IA-2	IA-3	IA-4	OA-1	
Benzene	3.0	1.2	1.1	9.5	1.3	0.42
Toluene	16	4.2	8.2	17	2.5	1,300
Ethyl Benzene	3.2	0.64	0.58	4.3	0.65	4.9
Total Xylenes	16	3.3	3.0	21	3.4	440
Total TPHg	240	150	61	360	140	100
Naphthalene	0.18	0.15	0.19	0.88	0.17	0.36

Notes:

All values in $\mu\text{g}/\text{m}^3$

Bold type designatd exceeding guidance value

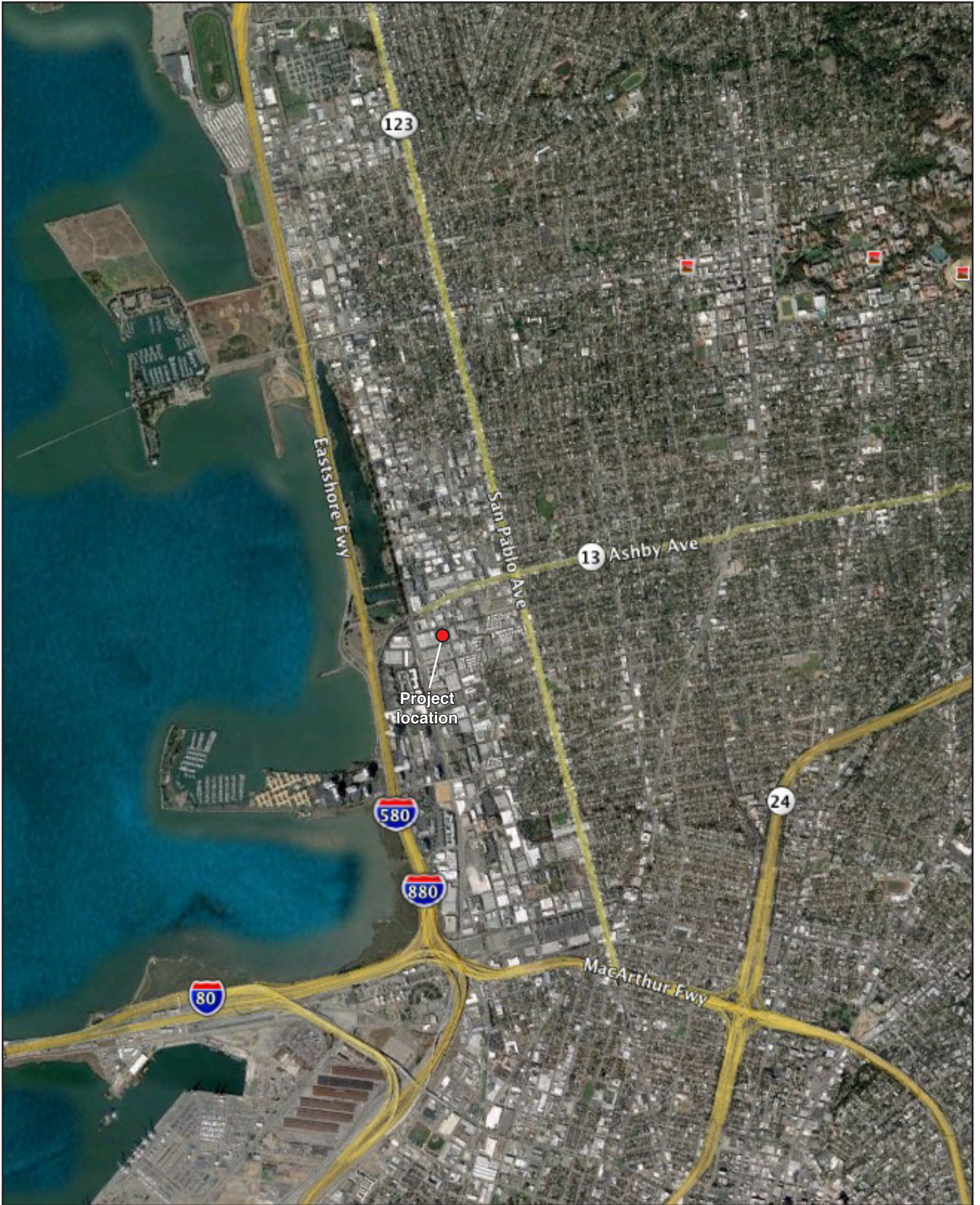
Cal/OSHA PEL = California Occupational Safety and Health Administration Permissible Exposure Limits.

ESL = Water Board Environmental Screening Level for commercial properties (December 2013).

NA= There is no number available for this contaminant.

All concentrations are reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Samples denoted with < are below the laboratory detection limit. All limits are the lowest possible detection limit possible by the laboratory. Samples were collected in the breathing zone between 3.5 and 5.feet above the top of the floor.

FIGURES



SITE LOCATION MAP

1475 and 1483 67th St.
Emeryville, CA

By: MJC

NOVEMBER 2014

Figure 1





2014-56-03



SITE PLAN AND SURROUNDING SITES

1475 and 1483 67th St.
Emeryville, CA

By: MJC

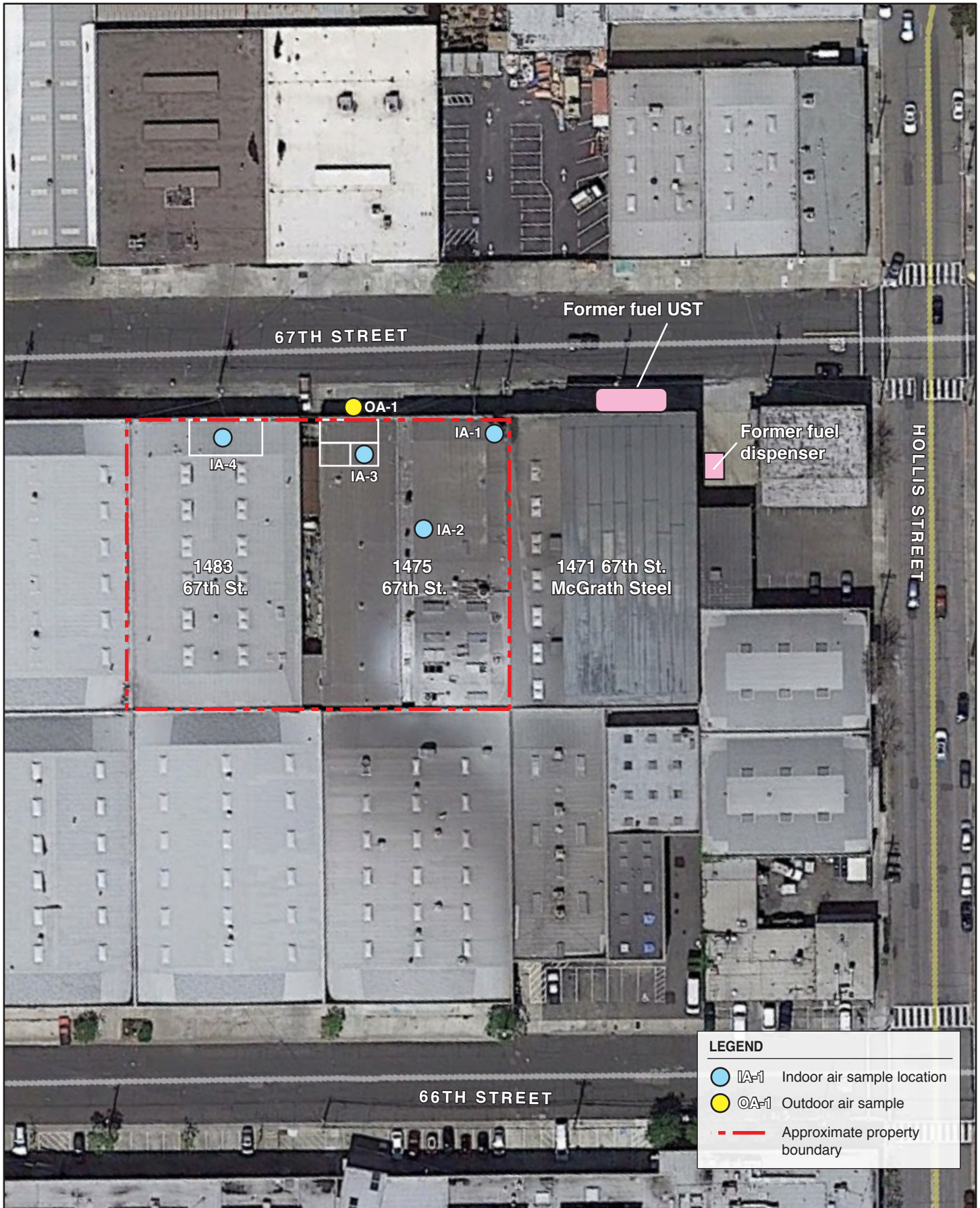
NOVEMBER 2014

Figure 2

LEGEND

- - - - - Approximate property boundary



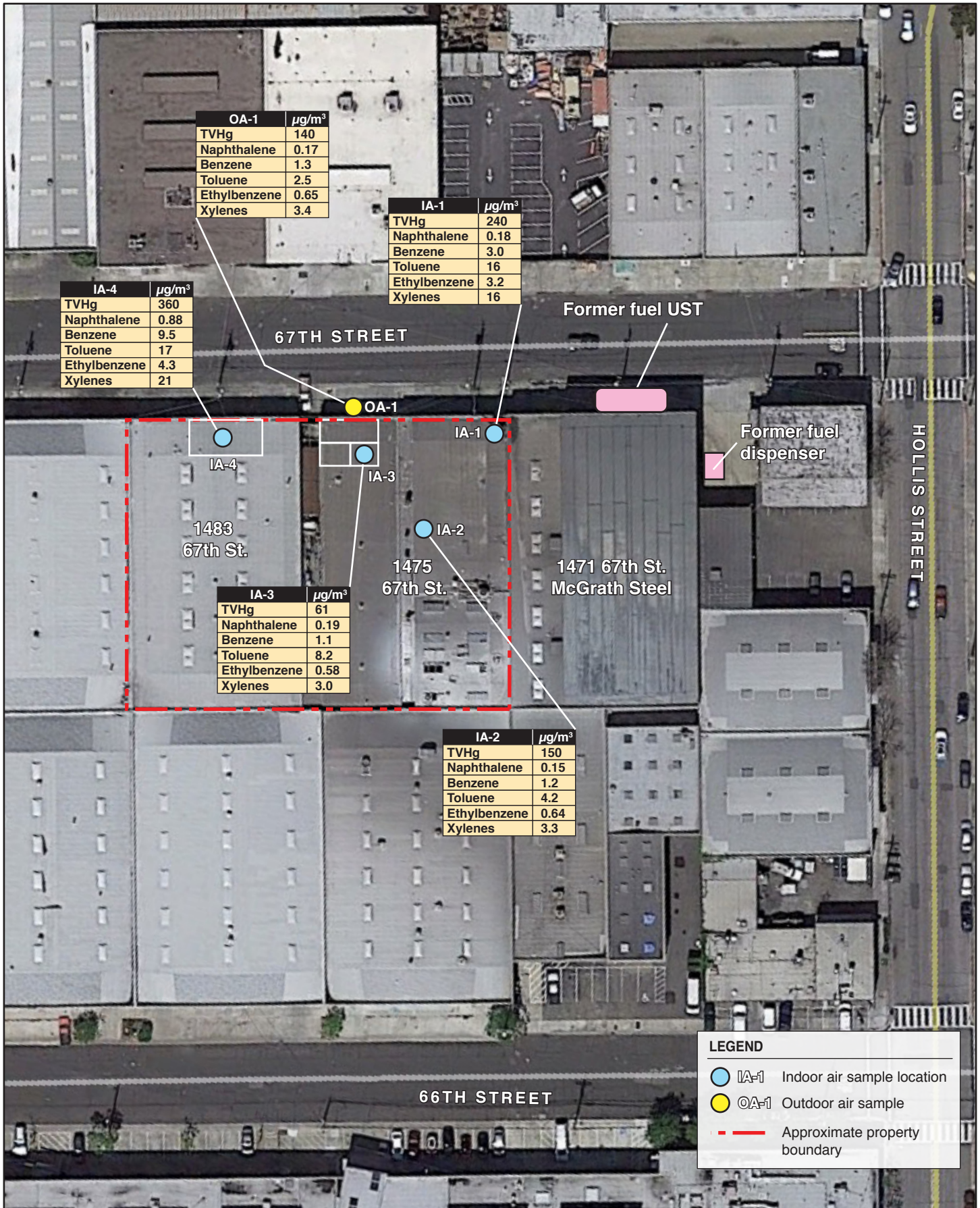


LEGEND

- IA-1 Indoor air sample location
- OA-1 Outdoor air sample
- - - Approximate property boundary

	SITE PLAN AND INDOOR AIR SAMPLE LOCATIONS			
	1475 and 1483 67th St. Emeryville, CA	By: MJC	NOVEMBER 2014	

2014-56-02



2014-56-04



INDOOR AIR SAMPLE ANALYTICAL RESULTS

1475 and 1483 67th St.
Emeryville, CA

By: MJC

NOVEMBER 2014

Figure 4



PHOTODOCUMENTATION



Subject: Indoor air sampling location (IA-1) in NE corner 1475 67th Street

Site: 1475/1483 67th Street, Emeryville, California

Date Taken: November 14, 2014

Project No.: SES 2014-56

Photographer: S. Bittman

Photo No.: 01



Subject: Indoor ambient air sampling location (IA-2) near 1475 67th Street building center

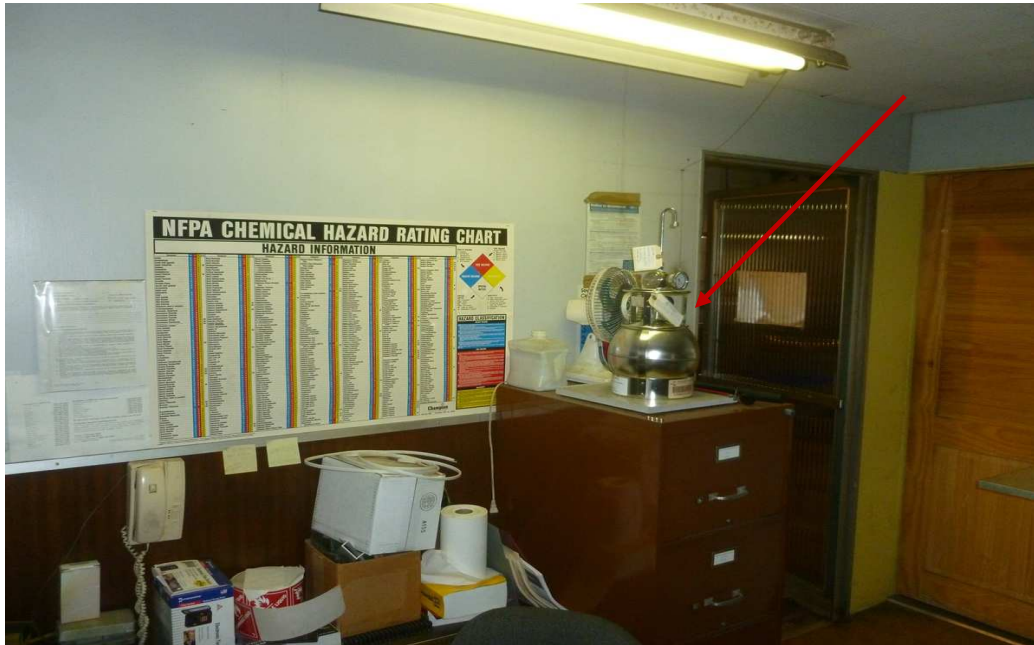
Site: 1475/1483 67th Street, Emeryville, California

Date Taken: November 14, 2014

Project No.: SES 2014-56

Photographer: S. Bittman

Photo No.: 02



Subject: Indoor air sampling location (IA-3) in sales office near 67th Street.

Site: 1475/1483 67th Street, Emeryville, California

Date Taken: November 14, 2014

Project No.: SES 2014-56

Photographer: S. Bittman

Photo No.: 03



Subject: Indoor air sampling location (IA-4) in 1483 67th Street sales office by 67th Street.

Site: 1475/1483 67th Street,, Emeryville, California

Date Taken: November 14, 2014

Project No.: SES 2014-56

Photographer: S. Bittman

Photo No.: 04



Subject: Outdoor air sampling location (OA-1) above front door at 1475 67th Street

Site: 1475/1483 67th Street, Emeryville, California

Date Taken: November 14, 2014

Project No.: SES 2014-56

Photographer: S. Bittman

Photo No.: 05

STELLAR ENVIRONMENTAL SOLUTIONS, INC.

**LABORATORY ANALYTICAL RESULTS, CHAIN
OF CUSTODY, AND DTSC RISK MODEL**

Work Sheet: Risk Equation for Indoor Air Inhalation Exposure

Excess Cancer Risk

The equation below is used to calculate the theoretical excess cancer risk from inhalation exposure to volatile chemicals (*Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air; DTSC, Dec 15, 2004*)

6400 Christie Avenue, Emeryville, California										
$\text{Risk, 6400 Christie} = \frac{(\text{Exposure Conc.}) \times (\text{Duration of Exposure (70 yr. avg. life time)}) \times [\text{Unit Risk (per DTSC)}]}{(365 \text{ d/yr})}$							$= \frac{(\text{Conc.}) \times (\text{EFa}) \times (\text{UoF})}{(\text{Atc}) \times (365 \text{ d/yr})}$			<i>as written in "Interim Final Guidance..."</i>
Where		ATc	Averaging time for carcinogens = 70 yr							
		EFa	Exposure frequency = (hour/day) * (day/year) * (Exposure duration in years)							
		UoF	Unit risk factor = increase in risk per ug/m3 chemical inhaled for 24 hr/day 365 day/yr							
DATA INPUT: Enter measured air concentrations in the Conc. cells (ug/m3).										
Chemical			Exposure				Unit Risk Factors		Risk	
CAS No.	Chem	Conc. in air (ug/m3)	Work hour/day (Avg.)	Work day/year (Avg.)	Years at site (Avg.)	Unit Risk (DTSC Table)	ATc (year)			
71432	Benzene	8.2	8	250	15	2.9E-05	70	1.2E-05		
TOTAL RISK*								1.2E-05		
<p>* The total risk is equal to sum of the individual risks of the individual chemicals.</p> <p>Based on 8-hour indoor air sample collected November 14, 2014 by Stellar Environmental</p>										

Resulting Actions

The TOTAL RISK* will be used to evaluate future actions.

Total Risk *	Immediate Action	Future Action
10E-05 or above	Inform Tenant	Mitigate Soil Vapor with SVE
below 10E-05 to 10E-06	Sampling, 2 times per yr	Track results
below 10E-06 to 10E-07	Sampling in 1 year	Track results
below 10E-07 to 10E-8	Sampling in 1 year	if 2 consecutive results are in this range, sampling frequency to be every 2 years
below 10E-08	no action required	no future sampling

* The Risk calculated using this spread sheet is a conservative value since the average employee is unlikely to work for 15 years with the indoor air being at the level it currently is.