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By Alameda County Environmental Health 3:30 pm, Mar 24, 2017

Project No. 2016-04
February 22, 2016

Mr. Tyler Wood
Lennar Multifamily Communities
492 9th Street Suite 300
Oakland, California 94607

Subject: **SOIL-GAS SURVEY**
Parking Lot Parcels
1750 and 1810 Webster Streets and 301 19th Street
APNs 008-0625-016; 008-0625-017; 008-0625-018; and 008-0625-002-1
Oakland, California

- References:
- 1) Phase I Environmental Site Assessment at 1711, 1801, 1805, 1811, 1817 through 1839 Harrison Street; 301 19th Street; 1732 through 1736, 1750, and 1801 Webster Street in Oakland, California
By GeoSolve, Inc.
Dated November 6, 2015
 - 2) Phase II Environmental Site Assessment at 1750 Webster Street and 301 19th Street in Oakland, California
By GeoSolve, Inc.
Dated November 7, 2015
 - 3) Phase II Environmental Site Assessment at 1810 Webster Street in Oakland, California
By GeoSolve, Inc.
Dated February 12, 2016

Dear Mr. Wood:

At your request, *GeoSolve, Inc.* had conducted a Soil-Gas Survey for the above referenced properties. The subject property for this Soil-Gas Survey includes 1750 Webster Street, 1810 Webster Street and 301 19th Street in Oakland, California. The subject site consists of four parcels bounded by Webster Street to the north, 19th Street to the east and Harrison Street to the south with Assessor Parcel Numbers (APNs) 008-0625-016; 008-0625-017; 008-0625-018; and 008-0625-002-1. The subject site is vacant and used as parking lots. The site vicinity is shown on Figure 1, Site Vicinity Map.



Background

Based on review of older reports documented in our Phase I ESA (Reference 1), elevated concentrations of total petroleum hydrocarbons reported as gasoline (TPHg) and benzene were detected in groundwater up to 200,000 micrograms per liter ($\mu\text{g/L}$) and 14,000 $\mu\text{g/L}$ on the southern portion of the property along Webster Street. Based on the findings in Reference 1, the elevated concentrations of TPHg, benzene, toluene, ethyl benzene, and total xylenes (BTEX) appear to have originated from 1721 Webster Street, which is situated approximately 300 feet northwest of the subject property and immediately up-gradient.

In November 2015, *GeoSolve, Inc.* advanced one boring on 1750 Webster Street and two borings on 301 19th Street to evaluate the concentrations of petroleum hydrocarbons in subsurface soil and groundwater in our Phase II ESA (Reference 2). Based on the laboratory analytical results of soil samples, concentrations of TPHg, BTEX, or MTBE were not detected in all soil samples analyzed from borings B-1 through B-3 as shown on Table 1, with the exception of total xylenes. Total xylenes was the only chemical constituent detected in soil sample B1-25 at 0.016 mg/Kg, which is significantly below the California Regional Water Quality Control Board – Region 2 (RWQCB) Environmental Screening Level (ESL) of 111 mg/Kg for residential development (Table B, December 2013).

Lead was detected at 170 mg/Kg in soil sample B1-5, which exceeded the residential ESL of 80 mg/Kg and lead was detected below the residential ESL in all other soil samples analyzed from borings B-1 through B-3.

TPHg, BTEX, MTBE and lead were not detected in groundwater samples collected from borings B-2 or B-3. MTBE was not detected in groundwater sample B-1. Lead was detected up to 0.54 micrograms per liter ($\mu\text{g/L}$) in groundwater sample B-1. An elevated concentration of TPHg was detected at 26,000 $\mu\text{g/L}$, which exceeded the residential ESL of 500 $\mu\text{g/L}$ in groundwater sample B-1. Benzene, toluene, ethyl benzene and total xylenes exceeded residential ESLs of 27 $\mu\text{g/L}$, 130 $\mu\text{g/L}$ and 100 $\mu\text{g/L}$, respectively.

The purpose of conducting this Soil-Gas Survey is to evaluate if elevated concentrations of TPHg, BTEX, and/or volatile organic compounds (VOCs) have vaporized from the groundwater and intruded into the shallow soil-gas (vadose zone) beneath the subject site prior to purchasing the land.

SOIL-GAS SUEVEY

Prior to commencement of fieldwork, *GeoSolve, Inc.* visited the subject property, marked six locations with white paint, and contacted underground service alert (USA) 48-hours before drilling activities. In addition, a Site-Specific Health and Safety Plan was prepared for the project, and was kept on site during fieldwork activities.



Fieldwork

Once USA was notified and the underground utilities were marked, a *GeoSolve, Inc.* field geologist observed TEG of Northern California, Inc., a State-licensed drilling contractor (C57-706568) of Rancho Cordova, California, advance six borings (SG-1 through SG-6) to approximately 15 feet below ground surface (bgs) on February 3 and 4, 2016. The locations of borings SG-1 through SG-6 are shown on Figure 2. Three nested soil-gas probes were installed by TEG of Northern California, Inc. at 5-, 10- and 15-foot bgs. The soil-gas sampling probes were installed with one-foot screened intervals from 4- to 5-feet and 9- to 10-ft bgs, and 14- to 15-foot bgs, respectively, as further discussed below. Soil-gas probes SG-1 through SG-6 were allowed to set for two-hours prior to sampling in accordance with the DTSC Soil-Gas Advisory (2012). No soil samples were collected from the borings to ensure soil-gas was minimally disturbed.

Installation of the temporary soil-gas probes was conducted as follows:

- Approximately 6-inches of Monterey #3 sand was placed on the bottom of each borehole at 15 feet bgs;
- A down-hole rod was used to center a permeable vapor tip connected to 0.25-inch diameter Nylaflow tubing on the top of the sand, and an additional 6 inches of Monterey #3 sand was placed over the vapor-tip.
- A 12-inch layer of dry granular bentonite was placed on top of the Monterey #3 sand, and a 3 foot layer of hydrated bentonite, followed by a 6-inch layer of Monterey #3 sand was placed at approximately 10 feet bgs. A down-hole rod was used to center a permeable vapor tip connected to 0.25-inch diameter nylon tubing on the top of the sand, and an additional 6 inches of Monterey #3 sand was placed over the vapor-tip. Another 12-inch layer of dry granular bentonite was placed on top of the Monterey #3 sand. Hydrated bentonite was placed from 8 feet bgs to 5 feet bgs, followed by a 6-inch layer of Monterey #3 sand was placed at approximately 5 feet bgs. A down-hole rod was used to center a permeable vapor tip connected to 0.25-inch diameter nylon tubing on the top of the sand, and an additional 6 inches of Monterey #3 sand was placed over the vapor-tip. Another 12-inch layer of dry granular bentonite was placed on top of the Monterey #3 sand and hydrated bentonite was placed to grade. The hydrated bentonite will be carefully mixed on site using distilled water within 5 minutes of pouring down the borings.
- The Nylaflow tubing was cut at a longer, medium and shorter length on the ground surface in each soil-gas probe location to indicate the 15-foot depth (longer tube), 10-foot depth (medium tube) and the 5-foot depth (shorter tube) location.

Once soil and groundwater samples were collected from each boring, the borings were backfilled with neat cement to grade.



Mobile Laboratory Methods and Analytical Results

On February 3 and 4, 2016, a TEG of Northern California, Inc. field chemist collected soil-gas samples from the probes at least two-hours after vapor-probe installations. A TEG of Northern California, Inc. Mobile Laboratory chemist purged at least 3-tube volumes from each probe and collected a soil-gas sample using a 250-millileter (ml) syringe, which was immediately injected into the intercoupled-plasma mass-spectrometer (IC-MS) and for analyses. TEG of Northern California, Inc. Mobile Laboratory is a State-certified hazardous waste sampling laboratory (Certification No. 1671) based in Rancho Cordova, California.

Soil-gas samples SG1-5, SG1-10, SG1-15, SG2-5, SG2-10, SG2-15, SG3-5, SG3-10, SG3-15, SG4-5, SG4-10, SG4-15, SG5-5, SG5-10, SG5-15, SG6-5, SG6-10, and SG6-15 were immediately analyzed on site within the TEG of Northern California, Inc. Mobile Laboratory for VOCs using Environmental Protection Agency (EPA) Method SW8260B. Duplicate soil-gas samples SG1-15 and SG5-15 were also analyzed for VOCs for quality assurance/quality control (QA/QC) purposes.

A summary of laboratory analyses are shown on Table 1, Laboratory Analytical Results of Soil-Gas Samples and a copy of the TEG of Northern California, Inc. Laboratory Analytical Report and Chain-of-Custody Documents are attached to Appendix A.

TABLE 1
LABORATORY ANALYTICAL RESULTS OF SOIL-GAS SAMPLES
1750 and 1810 Webster Streets and 301 19th Street
Oakland, California
February 3 and 4, 2016

Sample ID	Sample Depth (feet)	TPHg ($\mu\text{g}/\text{m}^3$)	Benzene ($\mu\text{g}/\text{m}^3$)	Toluene ($\mu\text{g}/\text{m}^3$)	Ethyl Benzene ($\mu\text{g}/\text{m}^3$)	Total Xylenes ($\mu\text{g}/\text{m}^3$)	PCE ($\mu\text{g}/\text{m}^3$)	TCE ($\mu\text{g}/\text{m}^3$)
SG1-5	5	<10,000	<80	<200	<100	<200	<100	<100
SG1-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG1-15	15	<10,000	<80	<200	<100	<200	<100	<100
SG1-15D	15	<10,000	<80	<200	<100	<200	<100	<100
SG2-5	5	<10,000	<80	<200	<100	<200	<100	<100
SG2-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG2-15	15	<10,000	<80	<200	<100	<200	<100	<100
SG3-5	5	<10,000	<80	<200	<100	<200	<100	<100
SG3-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG3-15	15	<10,000	<80	<200	<100	<200	<100	<100
SG4-5	5	<10,000	<80	<200	<100	<200	<100	<100
SG4-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG4-15	15	<10,000	<80	<200	<100	<200	<100	<100
SG5-5	5	<10,000	120	<200	<100	<200	<100	<100
SG5-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG5-15	15	<10,000	<80	<200	<100	<200	150	<100
SG5-15D	15	<10,000	<80	<200	<100	<200	160	<100
SG6-5	5	<10,000	<80	<200	<100	<200	<100	<100
SG6-10	10	<10,000	<80	<200	<100	<200	<100	<100
SG6-15	15	<10,000	<80	<200	<100	<200	<100	<100



Sample ID	Sample Depth (feet)	TPHg ($\mu\text{g}/\text{m}^3$)	Benzene ($\mu\text{g}/\text{m}^3$)	Toluene ($\mu\text{g}/\text{m}^3$)	Ethyl Benzene ($\mu\text{g}/\text{m}^3$)	Total Xylenes ($\mu\text{g}/\text{m}^3$)	PCE ($\mu\text{g}/\text{m}^3$)	TCE ($\mu\text{g}/\text{m}^3$)
ESLs	---	30,000	42	16,000	490	52,000	210	3,000

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

PCE = Tetrachloroethylene.

TCE = Trichloroethylene.

ESLs = Environmental Screening Levels (RWQCB, December 2013 – Table E).

SG1-1D = Duplicate soil-gas sample.

Discussion

Based on the laboratory analytical results of the soil-gas samples collected from vapor-probes SG-1 through SG-6, no detectable concentrations of VOCs were reported in most soil-gas samples collected from the vadose zone. A low concentration of tetrachloroethylene (PCE) was detected in soil-gas samples SG5-15 and duplicate soil-gas sample SG5-15D at 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 160 $\mu\text{g}/\text{m}^3$, respectively. A moderate concentration of benzene was detected in soil-gas sample SG5-5 at 120 $\mu\text{g}/\text{m}^3$. PCE was detected below the California Environmental Screening Level (ESL) of 210 $\mu\text{g}/\text{m}^3$ for residential development in soil-gas (December 2013 – Table E). Benzene was detected slightly above the ESL of 42 $\mu\text{g}/\text{m}^3$ in soil-gas sample SG5-5. The most likely source of the benzene is from a surface drain near SG-5, in which storm water could migrate down to the shallow vadose zone. The source of the low concentration of PCE detected in samples SG5-15 and SG5-15D is not known, but most likely from an off-site source.

Conclusions

Based on the field and laboratory analytical results discussed in this Soil-Gas Survey Letter Report, *GeoSolve, Inc.* concludes the following:

- No detectable concentrations of TPHg, MTBE, toluene, ethyl benzene, total xylenes or TCE in all soil-gas samples collected from beneath the site.
- PCE was only detected in soil-gas samples SG5-15 and SG5-15D (duplicate sample), which was detected below the ESL for residential development (RWQCB, December 2013 – Table E). Benzene was only detected in soil-gas sample SG5-5 at 120 $\mu\text{g}/\text{m}^3$, which slightly exceeded the ESL for residential development of 42 $\mu\text{g}/\text{m}^3$ (RWQCB, December 2013 – Table E).
- Soil-gas vapor intrusion from the groundwater to the shallow vadose zone is not occurring at the subject site. No elevated concentrations of TPHg are vaporizing from the groundwater into the soil-gas beneath the subject site.



Recommendations

Based on the conclusions presented in this Soil-Gas Letter Report, *GeoSolve, Inc.* recommends no further environmental sampling for soil-gas is necessary at the subject site. Mitigation of the petroleum-hydrocarbons in groundwater beneath the subject site is still recommended. The proposed project will be an enclosed structure on the property, which will include ground-floor retail and residential uses above retail. The residential use will be separated by retail development and a garage on the first floor. Alameda County Health Care Services Agency (ACHCSA) placed a deed restriction on the subject property. The deed restriction required a risk assessment to evaluate the "indoor exposure pathway." The applicant has met the conditions of the deed restriction by conducting a soil-gas survey in advance of their meeting with the ACHSA. The soil-gas survey determined the chemical vapor levels within the soil-gas were below the minimum threshold for a change of use at this site.

If you have any questions or need further information regarding this Soil-Gas Survey Letter Report, please call us at (925) 963-1198.

Sincerely,
GeoSolve, Inc.

Robert D. Campbell, M.S., P.G., C.E.G., Q.S.D.
Principal Engineering Geologist

Attachments: Figure 1, Site Vicinity Map

Figure 2, Site Plan

Appendix A – TEG of Northern California, Inc. Laboratory Analytical Report and Chain-of-Custody Documents



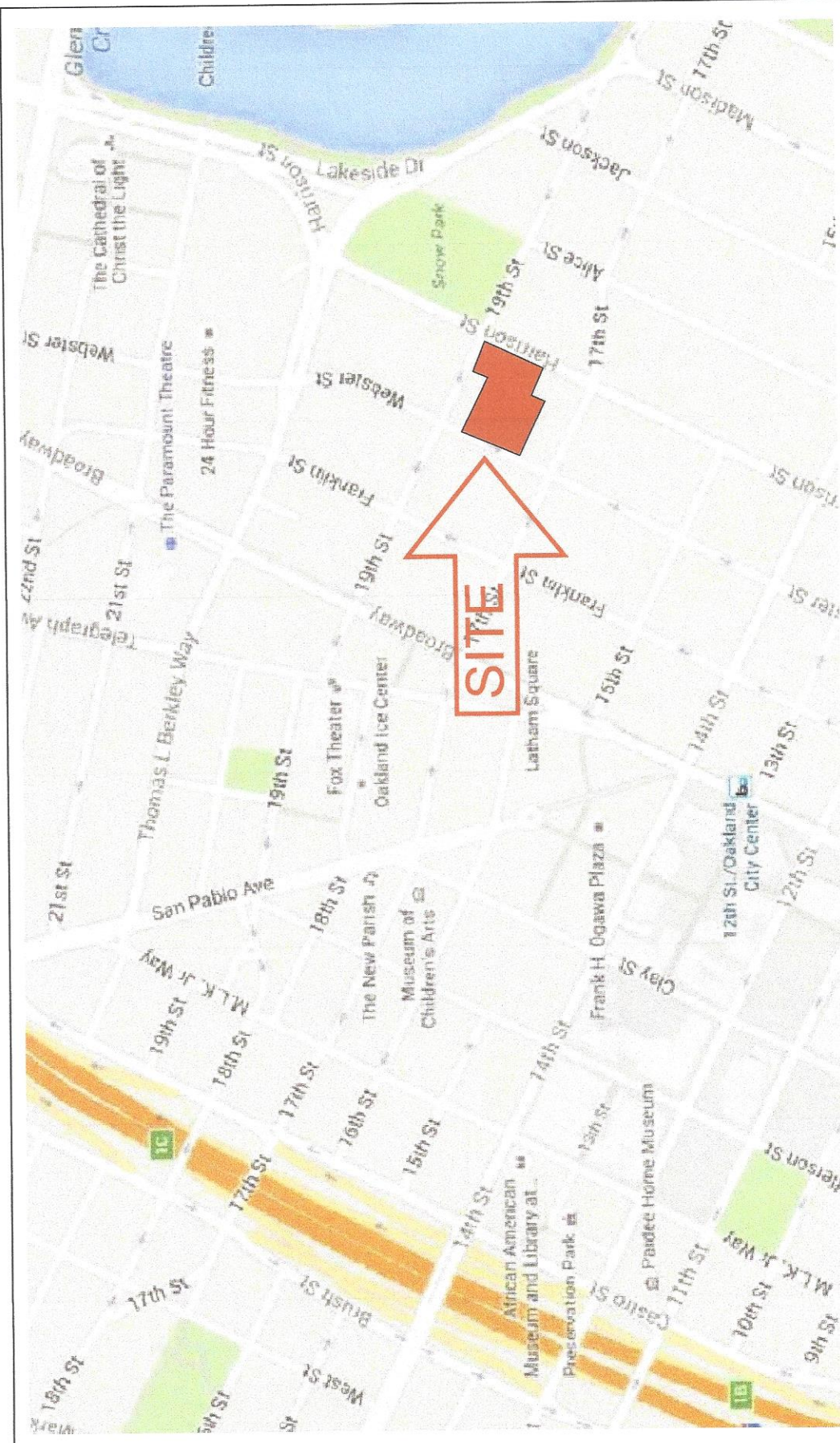


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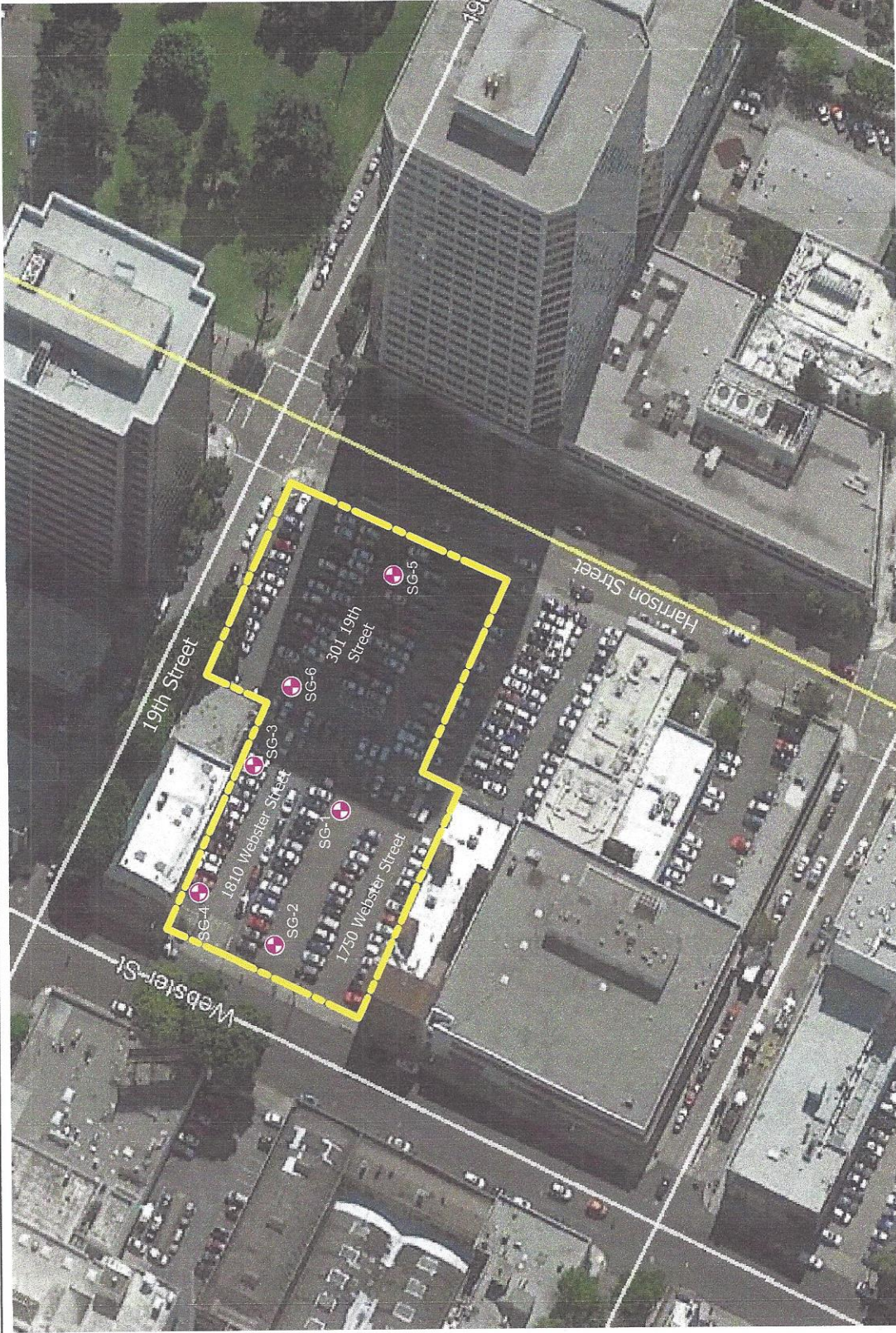
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VICINITY MAP

Project No.	2016-04	Drawn by:	GC
Scale:	NTS	Date:	02/2016

LENNAR MULTIFAMILY COMMUNITIES
 SOIL-GAS SURVEY
 1750 and 1810 WEBSTER STREET and 301 19th STREET
 OAKLAND, CALIFORNIA

GeoSolve, Inc.
Geoscience solutions rather than Status-Quo
 Address: 1807 Santa Rita Rd., Suite D-165
 Pleasanton, California 94566



LEGEND

--- Property Line

SG-1

Soil-Gas Vapor Probe Location



Source: Google Earth, 2015



GeoSolve, Inc.
Geoscience solutions rather than Sletius-Quo
Address: 1807 Santa Rita Rd, Suite D-165
Pleasanton, California 94566

SITE PLAN

LENNAR MULTIFAMILY COMMUNITIES
SOIL-GAS SURVEY
1750 and 1810 WEBSTER STREET and 301 19TH STREET
OAKLAND, CALIFORNIA

Figure No.

2

Project No.	2016-04	Drawn by:	GC
Scale:	AS SHOWN	Date:	02/2016

APPENDIX A

**TEG OF NORTHERN CALIFORNIA, INC. LABORATORY ANALYTICAL RESULTS
AND CHAIN-OF-CUSTODY DOCUMENTS**





17 February 2016

Mr. Robert Campbell
GeoSolve, Inc.
1807 Santa Rita Road, Suite D-165
Pleasanton, CA 94566

SUBJECT: DATA REPORT - GeoSolve, Inc. Project #2016-04
Lennar Oakland / 1810 Webster Street, Oakland, California

TEG Project # 60203E

Mr. Campbell:

Please find enclosed a data report for the samples analyzed from the above referenced project for GeoSolve, Inc. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 20 analyses on 20 soil vapor samples.

-- 20 analyses on soil vapors for volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

TEG appreciates the opportunity to have provided analytical services to GeoSolve, Inc. on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California



GeoSolve, Inc. Project # 2016-04
 Lennar Oakland
 1810 Webster Street
 Oakland, California

TEG Project #60203E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		Probe Blank	Probe Blank	SG1-5	SG1-10	SG1-15	SG1-15 dup
SAMPLE DEPTH (feet):				5.0	10.0	15.0	15.0
PURGE VOLUME:				3	3	3	3
COLLECTION DATE:		2/03/16	2/04/16	2/03/16	2/03/16	2/03/16	2/03/16
COLLECTION TIME:		09:33	08:17	10:08	10:50	11:20	11:20
DILUTION FACTOR:		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd
Benzene	80	nd	nd	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
TPH (gasoline range)	10000	nd	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	102%	102%	100%	100%	100%
Surrogate Recovery (Toluene-d8)		91%	92%	94%	89%	91%	93%
Surrogate Recovery (1,4-BFB)		86%	83%	85%	85%	86%	88%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson



GeoSolve, Inc. Project # 2016-04
 Lennar Oakland
 1810 Webster Street
 Oakland, California

TEG Project #60203E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		SG2-5	SG2-10	SG2-15	SG3-5	SG3-10	SG3-15
SAMPLE DEPTH (feet):		5.0	10.0	15.0	5.0	10.0	15.0
PURGE VOLUME:		3	3	3	3	3	3
COLLECTION DATE:		2/03/16	2/03/16	2/03/16	2/03/16	2/03/16	2/03/16
COLLECTION TIME:		12:09	12:27	12:50	13:20	13:43	14:03
DILUTION FACTOR:		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd
Benzene	80	nd	nd	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
TPH (gasoline range)	10000	nd	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		100%	101%	99%	101%	99%	99%
Surrogate Recovery (Toluene-d8)		87%	92%	92%	93%	88%	92%
Surrogate Recovery (1,4-BFB)		88%	87%	89%	86%	87%	87%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson



GeoSolve, Inc. Project # 2016-04
 Lennar Oakland
 1810 Webster Street
 Oakland, California

TEG Project #60203E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		SG4-5	SG4-10	SG4-15	SG5-5	SG5-10	SG5-15
SAMPLE DEPTH (feet):		5.0	10.0	15.0	5.0	10.0	15.0
PURGE VOLUME:		3	3	3	3	3	3
COLLECTION DATE:		2/03/16	2/03/16	2/03/16	2/04/16	2/04/16	2/04/16
COLLECTION TIME:		14:27	14:44	15:05	09:11	09:38	10:02
DILUTION FACTOR:		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd
Benzene	80	nd	nd	nd	120	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	150
Ethylbenzene	100	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
TPH (gasoline range)	10000	nd	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	103%	102%	102%	104%	109%
Surrogate Recovery (Toluene-d8)		89%	85%	93%	92%	91%	90%
Surrogate Recovery (1,4-BFB)		86%	86%	87%	84%	86%	88%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson



GeoSolve, Inc. Project # 2016-04
 Lennar Oakland
 1810 Webster Street
 Oakland, California

TEG Project #60203E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:	SG5-15	SG6-5	SG6-10	SG6-15
	dup			
SAMPLE DEPTH (feet):	15.0	5.0	10.0	15.0
PURGE VOLUME:	3	3	3	3
COLLECTION DATE:	2/04/16	2/04/16	2/04/16	2/04/16
COLLECTION TIME:	10:02	10:42	10:59	11:19
DILUTION FACTOR:	1	1	1	1
	RL			
Dichlorodifluoromethane	100	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd
Chloroethane	100	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd
Methylene Chloride	100	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd
Chloroform	100	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd
Benzene	80	nd	nd	nd
Trichloroethene	100	nd	nd	nd
Toluene	200	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd
Tetrachloroethene	100	160	nd	nd
Ethylbenzene	100	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd
m,p-Xylene	200	nd	nd	nd
o-Xylene	100	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd
TPH (gasoline range)	10000	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd
Surrogate Recovery (DBFM)		101%	104%	105%
Surrogate Recovery (Toluene-d8)		93%	88%	86%
Surrogate Recovery (1,4-BFB)		83%	91%	86%

'RL' Indicates reporting limit at a dilution factor of 1
 'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
 Analyses performed by: Mr. Leif Jonsson



GeoSolve, Inc. Project # 2016-04
Lennar Oakland
1810 Webster Street
Oakland, California

TEG Project #60203E

CALIBRATION DATA - Calibration Check Compounds

	Vinyl Chloride	1,1 DCE	Chloroform	1,2 DCP	Toluene	Ethylbenzene
Midpoint	10.0	10.0	10.0	10.0	10.0	10.0

Continuing Calibration - Midpoint

2/03/16	10.5 105%	9.5 95%	8.1 81%	9.6 96%	9.2 92%	9.2 92%
2/04/16	10.8 108%	10.0 100%	8.9 89%	10.8 108%	9.9 99%	9.7 97%