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November 13, 2017

Soil, Groundwater, and Soil Vapor Investigation and Updated CSM Report

Property Identification:
3635 13th Avenue
Oakland, California 94606

AEI Project No. 338841
ACHCSA Case No. RO0000159

Prepared for:
Mr. Kia Sumner
1069 Oak Hills Road
Lafayette, California 94549

Prepared by:
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November 13, 2017

Ms. Karel Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Transmittal, Soil, Groundwater, and Soil Vapor Investigation and Updated CSM Report
3635 13th Avenue, Oakland, California 94610
Toxics Case No. RO0000159

Dear Ms. Detterman:

Enclosed is the *Soil, Groundwater, and Soil Vapor Investigation and Updated CSM Report* prepared at your request for activities at the subject site.

I declare under penalty of perjury, that the information and/or recommendations contained in the attached report for the above-referenced site are true and correct to the best of my knowledge.

If you have any questions or need additional information, please do not hesitate to contact Mr. Trent Weise of AEI Consultants at (925) 746-6000.

Sincerely,

Mr. Kia Sumner

Enclosures

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This document was prepared by, or under the direction, of the undersigned:

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Project Engineer

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Principal Engineer

1. INTRODUCTION

On behalf of Mr. Kia Sumner, AEI Consultants (AEI) has prepared this *Soil and Soil Vapor Investigation Report and Updated Site Conceptual Model* for the property at 3635 13th Avenue, Oakland, California ("the Site"). The Site is located in an urban mixed-use area of the City of Oakland. The Site is currently vacant and is zoned for residential use. Figure 1 presents the Site location and Figure 2 presents the Site map.

This report describes the investigation activities conducted between May and October 2017, that were performed in general accordance with the December 12, 2016 *Work Plan, Additional Site Investigation* ("the Work Plan") submitted to Alameda County Environmental Health (ACDEH). The Work Plan was approved by the ACDEH in an email dated January 11, 2017. The investigation was designed to close the data gaps identified, including:

- Collect additional down-gradient groundwater samples to define the length of the benzene plume in groundwater.
- Collect an additional round of soil gas samples from the existing soil gas probes at the Site.
- Collect two additional soil samples in the vicinity of SG-3 to confirm that the direct contact and outdoor air exposure routes are protected and collect additional soil samples in the vicinity of the former waste-oil underground storage tank (UST) for analysis of polyaromatic hydrocarbons (PAHs).

The investigations performed, as discussed below, closed the remaining data gaps in the characterization of the nature and extent of residual petroleum hydrocarbons in the subsurface at and in the vicinity of the Site. Samples collected from one soil vapor probe continue to yield elevated concentrations of benzene in soil gas. AEI recommends completing the Corrective Action Plan, first drafted in September 2015, to address the residual elevated benzene observed in soil vapor. These activities are presented below, following a brief project background.

2. BACKGROUND

The Site is located on the western corner of Excelsior and Thirteenth Avenues in an urban and primarily residential area of the City of Oakland. The Site is currently vacant pending the planned construction of a single-family home. The Site was formerly occupied by a gasoline service station, which ceased operation in 1992. In December 1992, one 250-gallon waste oil underground storage tank (UST), one 500-gallon gasoline UST, and one 1,000-gallon gasoline UST were removed from the Site. Investigation and remediation activities have been performed at the Site to address petroleum hydrocarbons released from the former USTs at the Site.

In September 1993, AEI excavated and disposed of approximately 360 cubic yards of petroleum hydrocarbon impacted soil from the vicinity of the former waste oil UST to an approximate depth of 18 feet below ground surface (bgs). Soil was removed until no further odor or stained soil was apparent. The excavation extent is shown on Figure 2.

To assess the lateral and vertical extent of petroleum hydrocarbons in soil and groundwater, a total of 23 soil borings were advanced and seven groundwater monitoring wells have been installed at the Site, MW-1 through MW-7. Semi-annual groundwater monitoring has been performed with the groundwater monitoring wells since their installation. Figure 2 presents the Site plan, including the soil boring and monitoring well locations.

On September 18, 2015, AEI submitted a *draft Feasibility Study/Corrective Action Plan* (FS/CAP) to ACDEH. The draft FS/CAP presented a Site Conceptual Model, identified data gaps for further investigation, and recommended additional soil excavation as the final remedial solution to address residual petroleum hydrocarbons at the Site. During an October 20, 2015 meeting between ACDEH, Mr. Kia Sumner, and AEI, ACDEH requested submittal of a Data Gap Work Plan separately to facilitate additional soil and soil vapor data collection prior to finalization of the FS/CAP. AEI submitted the *Work Plan, Additional Investigation* dated March 15, 2016, which was conditionally approved by ACDEH in a letter dated June 6, 2016.

On August 23, 2016, AEI submitted *Soil and Soil Vapor Investigation Report and Updated Site Conceptual Model* to ACDEH, the report summaries the investigation activities completed. On October 12, 2016, A call was held between Mr. Kia Sumner, ACEH, the Water Board, and AEI (collectively the Joint Execution Team [JET]) to discuss the report submitted on August 23, 2016. During the call, ACDEH requested to perform the following additional investigation:

- Collecting a groundwater sample down gradient of monitoring well MW-7 to further define the lateral extent of petroleum hydrocarbons in groundwater. This additional data will allow for the completion of the conceptual site model (CSM) and define the length of the benzene plume in groundwater.
- Collecting an additional round of soil gas samples from the existing soil gas probes at the Site to: 1) confirm the results of the initial sampling and whether there is communication with the atmosphere during sampling, and 2) provide temporal soil gas concentration data.
- Collect two additional soil samples in the vicinity of SG-3 to confirm that the direct contact and outdoor air exposure routes are protected and collect additional soil samples in the vicinity of the former waste-oil underground storage tank (UST) for analysis of polyaromatic hydrocarbons (PAHs).

December 12, 2016, AEI submitted the Work Plan to ACDEH. The Work Plan summarized the following investigation tasks listed above and was approved by ACDEH on January 11, 2017.

3. INVESTIGATION ACTIVITIES

The following activities were performed in general accordance with the Work Plan:

3.1 Health and Safety Plan

The Site-specific health and safety plan was updated for this scope of work, reviewed by onsite personnel, and kept onsite for the duration of the field work.

3.2 Preliminary Field Activities

A drilling permit was obtained from Alameda County Public Works Agency for this investigation. In addition, encroachment and obstruction permits were also obtained from the City of Oakland, Department of Public Works. Copies of the permits are provided in Appendix A. The public underground utility locating service USA North was notified to identify public utilities in the work area. Private utility locating was conducted by 1st Call Utility Locating of Richmond, California to identify underground utilities at the Site that may conflict with the proposed soil borings.

3.3 Soil Vapor Sampling

On May 30, 2017, AEI attempted to collect soil gas samples from each of the soil vapor probe locations in general accordance with the *Advisory – Active Soil Gas Investigation* ("the Advisory"),

dated July 2015, issued by the California Department of Toxic Substances Control (DTSC) and San Francisco California Regional Water Quality Control Board (RWQCB).

Prior to collecting the samples:

- A shut-in test was performed by placing a vacuum on the above-grade sampling train and vacuum canisters. The vacuum was observed for approximately ten minutes and verified to not change, which would be indicative of a potential leak in the sampling apparatus.
- A leak test was performed, utilizing a shroud and helium as the leak check compound.
- Vapor in the sampling lines and approximately three volumes of the sand pack and dried bentonite were purged.

Soil vapor samples were collected through a laboratory-supplied, certified clean, regulator at approximately 150 milliliters per minute. After approximately five minutes (depending on the down-hole vacuum), or -5 in Hg vacuum in the canister, each canister was closed and removed from the sampling line and the final canister vacuum was recorded. The vacuum canister sample was sealed with a vapor tight cap, appropriately labeled, and entered onto a chain of custody manifest for delivery to Eurofins Air Toxics in Folsom, California.

A total of six soil vapor samples (SG-1 through SG-6) were collected on May 30, 2017. Two soil vapor probes (SG-7 and SG-8) were not sampled due to water observed during purging. Sample SG-9 was also not collected due to insufficient vacuum in the summa canister. Soil vapor probe SG-9 was resampled on June 9, 2017. On September 13, 2017, AEI checked for the presence of water in soil vapor probes SG-7 and SG-8, noting that no water was observed, soil vapor sampling was scheduled. On October 12, 2017, soil vapor samples were collected from soil vapor probes SG-7 and SG-8.

Each collected soil vapor sample was analyzed for:

- TPH-g, BTEX compounds, and MTBE using US EPA Testing Method TO-15.
- TPH-d and naphthalene using US EPA Testing Method TO-17.
- Oxygen (O_2), carbon dioxide (CO_2), methane, and the leak check compound helium using ASTM D1946.

3.4 Soil and Groundwater Sampling

On September 13, 2017, AEI contracted State of California-licensed (C-57) drilling contractor Environmental Control Associates of Aptos, California to advance three soil borings, originally listed as SB-14B, SB-16, and SB-17 on the Work Plan. The proposed SB-16 and SB-17 locations were renamed to SB-24 and SB-25, respectively, since the SB-16 and SB-17 identifiers have been used previously. The soil boring locations were selected as follows:

- Soil boring SB-14B was advanced next to the former SB-14 location on the 13th Avenue to a depth of 24 feet below ground surface (bgs) to characterize the lateral extent of petroleum hydrocarbons in groundwater.

- Soil boring SB-24 was advanced adjacent to soil gas probe SG-5 to a depth of 5 feet bgs to evaluate direct contact and outdoor air exposure to chemicals in soil. Soil samples were collected at 2 and 4 feet bgs.

- Soil boring SB-25 was advanced to a depth of 5 feet bgs within the vicinity of the former waste oil tank to evaluate direct contact and outdoor air exposure to chemicals in soil. Soil samples were collected at 2 and 4 feet bgs.

A total of six soil samples was collected. Collected soil samples were sealed, labeled, and transported on ice under proper chain of custody protocol to California Department of Health Services (DHS) certified analytical laboratory McCampbell Analytical of Pittsburg, California for the following analyses:

- Total petroleum hydrocarbons as motor oil (TPHmo), diesel (TPHd), and TPH as gasoline (TPHg) using US EPA Testing Method 8015M, with silica gel clean-up
- BTEX, MTBE, and Naphthalene using US EPA Testing Method 8260B
- Polynuclear Aromatic Hydrocarbons (PAHs), using US EPA Testing Method 8270C
- Lead using US EPA Testing Method 6020

One groundwater sample was collected from soil boring SB-14B. The collected groundwater sample was analyzed for (consistent with the current groundwater monitoring program):

- TPHmo and TPHd using US EPA Testing Method 8015B, with silica gel clean-up.
- Volatile organic compounds (VOCs), fuel oxygenates, and TPHg using US EPA Testing Method 8260B.

3.5 Waste Disposal

Both soil cuttings and cleaning fluids generated during the drilling are stored onsite in a sealed, labeled, department of transportation (DOT) approved 55-gallon drum scheduled for disposal in November 17, 2017 as a non-hazardous waste by Catalyst Environmental, Inc. of San Carlos, California.

4. SUMMARY OF RESULTS

This section presents the results of the investigation activities performed.

4.1 Soil Sample Analytical Results

Table 1 presents a summary of compounds detected in soil, groundwater, and soil vapor. Table 2 presents a summary of current and historical results for select compounds detected in soil. The laboratory analytical reports are included as Appendix C. Soil sample locations in relation to the proposed development are depicted on Figure 2. The results can be summarized as follows:

- TPH-g was detected in 1 of the 4 soil samples collected and analyzed, observed at a concentration of 1.2 mg/kg.
- TPH-d was detected in 1 of the 4 soil samples collected and analyzed, observed at a concentration of 1.0 mg/kg.
- TPH-mo, benzene, toluene, ethylbenzene, total xylenes, MTBE, nor PAHs were detected at or above their respective laboratory method detection limit in the soil samples collect and analyzed.

- Lead was detected in each of the 4 soil samples collected and analyzed at concentrations ranging between 2.3 to 3.4 mg/kg.

To assess whether the compounds detected in soil represent a potential human health risk to future users of the Site, AEI compared the concentrations detected to Environmental Screening Levels (ESLs) developed by the California Regional Water Quality Control Board, San Francisco Bay Region, updated in February 2016. Table S-1 provides screening levels for soil that is protective of residential use of the Site. A comparison of the compounds detected in soil and their respective ESL are presented on Table 2. None of the compounds detected in soil samples collected during this recent investigation exceeded the identified ESL for the residential use.

4.2 Groundwater Analytical Results

Table 3 presents a summary of current and historical results for select compounds detected in groundwater. The laboratory analytical reports are included as Appendix C. The location of soil boring SB-14B is shown on Figure 2. Figure 3 presents the most recent benzene plume map. The results can be summarized as follows:

- TPH-g was detected at a concentration of 3,700 micrograms per liter (µg/L).
- TPH-d was detected at a concentration of 9,300 µg /L.
- Benzene, toluene, ethylbenzene, total xylenes, MTBE, nor TBA were detected at or above their respective laboratory method detection limit in the soil samples collect and analyzed.

To assess whether the compounds detected in groundwater represent a potential human health risk to future users to the Site, AEI compared the concentrations detected with the *Low-Threat Underground Storage Tank Case Closure Policy* (LTCP), effective August 17, 2012. Based on the recent semi-annual groundwater sampling events (May 2016, November 2016, and May 2017), and groundwater sample collected from SB-14B, benzene plume remains stabilized and lateral extent of petroleum hydrocarbons in groundwater is defined. In addition, AEI also conducted a well and sensitive receptor survey with Alameda County Public Work Agency (ACPWA) and Department of Water Resources (DWR) in August 2016. Based on the data collected from the Site, it meets the requirements of Groundwater-Specific Criteria (1) per LTCP, including:

- Benzene plume is approximately 82.5 feet in length, which is less than 100 feet as required.
- Free product has not been observed at the Site.
- The nearest existing water supply well is approximately 3,325 feet from the Site, which is greater than 250 feet from the defined plume boundary.

Therefore, no remedial action to address petroleum hydrocarbons in groundwater is warranted at this time.

4.3 Soil Vapor Sample Results

The intent of the additional round of soil vapor sampling was to confirm the results of the initial sampling from 2016 and provide temporal soil gas concentration data across the Site. Compounds detected in soil vapor are summarized in Table 1. Table 4 presents a summary of current and historical results for select compounds detected in soil vapor. The laboratory analytical reports are included as Appendix C. Soil gas sample locations in relation to the proposed development are depicted on Figure 4. The results can be summarized as follows:

- TPH-g was detected in soil vapor samples collected from SG-1-5, SG-2-5, SG-3-5, SG-5, and SG-6 at concentrations ranging from 610 to 13,000,000 micrograms per cubic meter (µg/m^3).

- Benzene was detected in soil vapor samples collected from SG-3-5 and SG-9 at concentrations of 34,000 µg/m^3 and 4.4 µg/m^3, respectively.
- Toluene was only detected in the soil vapor sample collected from SG-8 at concentration of 9.7 µg/m^3.
- Ethylbenzene was only detected in the soil vapor sample collected from SG-3-5 at a concentration of 1,800 µg/m^3.
- MTBE, total xylenes, naphthalene, and methane were not detected in soil vapor samples at or above their respective laboratory method reporting limits.
- Helium was detected in soil vapor samples collected from SG-6 at 0.38% and SG-9 at 0.39%, both detections were below the allowable 5% of the helium concentration within the shroud during sample collection.

To assess whether the compounds detected in soil vapor represent a potential human health risk to future users of the Site, AEI compared the concentrations detected to ESLs. Table SG-1 provides screening levels for soil gas that is protective of residential indoor air quality. A comparison of the compounds detected in soil gas and their respective ESLs are presented on Table 4.

Overall, soil vapor concentrations appeared to be consistent with the data collected from the June 2016 sampling event with the exceptions of SG-1-5 and SG-3-5. TPH-g, TPH-d, benzene, and ethylbenzene concentrations from SG-3-5 collected on May 20, 2017 yielded significantly higher concentrations than the SG-3-5 sample collected on June 20, 2016. It also appeared that the oxygen concentration has decreased from 15% to 2.4%, carbon dioxide concentration has increased from 5.7% to 14%, and methane has increase from <0.00022% to 1.3%. As expected, the elevated concentration of benzene coincides with a lower concentration of oxygen, which suggests that aerobic degradation of benzene was limited by the reduced oxygen concentration. Besides SB-3-5, the remaining soil vapor monitoring points did not yield petroleum hydrocarbons at concentrations exceeded the identified ESL for the protection of residential indoor air quality. Based upon this, residual petroleum hydrocarbons present in soil vapor at the Site do not represent a risk to human health to residential users of the Site, nor to users of the surrounding properties, with the exception of SG-3-5.

One goal of the soil gas sampling was to assess whether petroleum hydrocarbon-impacted soil vapor may be a risk to the apartment complex adjacent to the Site to the southwest. Since benzene was not detected in the soil gas samples collected from soil gas probes SG-4 and SG-5, located near the property line with the adjacent apartment complex, and benzene was not observed in the groundwater sample collected from MW-1, in the immediate vicinity of SG-5, benzene in groundwater does not pose a significant threat for vapor intrusion for the adjacent property. This result is consistent with the investigation results from June 2016.

5. UPDATED SITE CONCEPTUAL MODEL

The Site conceptual model (SCM) has been updated with the most recent soil, soil gas, and groundwater monitoring data and is included as Table 5. Though the SCM remains primarily unchanged, updates to the SCM include:

- Average depth to water was defined based on historical drilling observation and recent groundwater monitoring activities.

- Additional well and sensitive receptor survey was conducted with Alameda County Public Work Agency (ACPWA) and Department of Water Resources (DWR) from August 2016.

No further data gaps exist at the Site.

6. CONCLUSIONS AND RECOMMENDATIONS

The investigations performed, as discussed above, closed the remaining data gaps in the characterization of the nature and extent of residual petroleum hydrocarbons in the subsurface at and in the vicinity of the Site, including:

- The groundwater sample collected from soil boring SB-14B, located down-gradient of monitoring well MW-7 confirmed the lateral extent of petroleum hydrocarbons in groundwater, allowing the CSM to be completed. Benzene was not detected at or above the laboratory method detection limit in the groundwater sample collected from SB-14B.
- An additional round of soil gas samples was collected from the existing soil gas probes at the Site that provided the following: 1) there is not significant communication with the atmosphere during previous sampling events, and 2) provides temporal soil gas concentration data. Elevated concentrations of petroleum hydrocarbons were observed in the soil gas sample collected from SB-3-5, at similar concentrations to those observed in February 2013, which appear to be dependent on the oxygen concentration.
- The four additional shallow soil samples collected confirm that the direct contact and outdoor air exposure routes are protected and that no PAHs were detected in soil samples collected in the vicinity of the former waste oil UST.

AEI recommends the following:

- In accordance with the letter – *Conditional Work Plan Approval and Technical Repot Request for Fuel Leak Case No. RO0000159 and Geotracker Global ID T0600100274, Mobil, 3635 13th Avenue, Oakland, CA* dated June 6, 2016 that on-going groundwater monitoring be stopped with the final groundwater monitoring event as the second semi-annual groundwater monitoring sampling in November 2017 and the groundwater monitoring wells be destroyed.
- To address the elevated benzene concentrations observed in soil vapor samples collected from SG-3, AEI recommends completing the Corrective Action Plan process, first drafted in September 2015. A limited remedial excavation is the likely most effective remedial option, and would remove the soil in the vicinity of SG-3 and MW-7 to reduce benzene concentrations in soil vapor.

7. REFERENCES

The regulatory record for this Site can be found on the State of California GeoTracker Website at https://geotracker.waterboards.ca.gov/esi/view_submittals.asp?global_id=T0600100274

California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB). 2016. *User's Guide: Derivation and Application of Environmental Screening Levels – Interim Final*. February. http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Users%20Guide_22Feb16.pdf

California Department of Toxic Substances Control (DTSC). 2015. *Advisory – Active Soil Gas Investigation*. July. http://www.dtsc.ca.gov/SiteCleanup/upload/VI_ActiveSoilGasAdvisory_FINAL_043012.pdf

TABLES

AEI Consultants

Table 1
Summary of Compounds Detected in Soil, Groundwater, and Soil Vapor
3635 13th Avenue, Oakland, California

Sample Location	Date	Analyte	Result	Units
Soil				
SB-24-2	9/13/2017	TPH-g	1.2	mg/kg
		TPH-d	1.0	mg/kg
		Lead	2.9	mg/kg
		TPH-mo, BTEX, MTBE, and PAHs were not detected at or above the laboratory method detection limit.		
SB-24-4	9/13/2017	Lead	3.4	mg/kg
		TPH-d, TPH-mo, TPH-g, BTEX, MTBE, and PAHs were not detected at or above the laboratory method detection limit.		
SB-25-2	9/13/2017	Lead	2.4	mg/kg
		TPH-d, TPH-mo, TPH-g, BTEX, MTBE, and PAHs were not detected at or above the laboratory method detection limit.		
SB-25-4	9/13/2017	Lead	2.3	mg/kg
		TPH-d, TPH-mo, TPH-g, BTEX, MTBE, and PAHs were not detected at or above the laboratory method detection limit.		
Groundwater				
SB-14B-GW	9/13/2017	n-Butyl benzene	8.0	µg/L
		sec-Butyl benzene	6.0	µg/L
		Isopropylbenzene	5.1	µg/L
		n-Propyl benzene	11	µg/L
		TPH-g	3,700	µg/L
		TPH-d	9,300	µg/L
Soil Vapor				
SG-1-5	05/30/17	TPH-g	26,000	µg/m^3
		Oxygen	2.5	%
		Methane	0.038	%
		Carbon Dioxide	5.7	%
SG-2-5	05/30/17	TPH-g	610	µg/m^3
		Oxygen	4.9	%
		Methane	0.0011	%
		Carbon Dioxide	4.9	%
SG-3-5	05/30/17	TPH-g	13,000,000	µg/m^3
		TPH-d	92,000	µg/m^3
		Benzene	34,000	µg/m^3
		Ethylbenzene	1,800	µg/m^3
		Oxygen	2.4	%
		Methane	1.3	%
		Carbon Dioxide	14	%
SG-4	05/30/17	Oxygen	18	%
		Carbon Dioxide	2.2	%
SG-5	05/30/17	TPH-g	900	µg/m^3
		Oxygen	20	%
		Carbon Dioxide	0.93	%

Table 1
Summary of Compounds Detected in Soil, Groundwater, and Soil Vapor
3635 13th Avenue, Oakland, California

Sample Location	Date	Analyte	Result	Units
Soil Vapor (Cont.)				
SG-6	05/30/17	TPH-g	940	µg/m^3
		Oxygen	14	%
		Methane	0.00029	%
		Carbon Dioxide	5.3	%
		Helium	0.38	%
SG-7	10/12/17	TPH-d	22,000	µg/m^3
		Oxygen	20	%
		Carbon Dioxide	1.3	%
SG-8	10/12/17	Toluene	9.7	µg/m^3
		Oxygen	18	%
		Carbon Dioxide	2.9	%
SG-9	06/09/17	Benzene	4.4	µg/m^3
		Oxygen	16	%
		Carbon Dioxide	5.6	%
		Helium	0.39	%

Abbreviations:

mg/kg = milligram per kilogram

mg/L=milligrams per liter

µg/m^3 = micrograms per cubic meter

TPH-g = Total Petroleum Hydrocarbons as gasoline

TPH-d = Total Petroleum Hydrocarbons as diesel

Table 2
Summary of Soil Sample Data
3635 13th Avenue, Oakland, California

Location ID	Date	Depth (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
Comparison Values: Tier 1 ESL			100	230	5,100	0.044	2.9	1.4	2.3	0.023	0.075	0.033	80
T1-N	12/15/1992	7	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	--
T1-S	12/15/1992	6	27	--	--	**5.5**	**5.7**	**8.8**	**34**	--	--	--	--
T2-N	12/15/1992	7	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	--
T2-S	12/15/1992	7	1.0	--	--	<5.0	**5.0**	**8.0**	**15**	--	--	--	--
W/OB	12/15/1992	5.5	**290**	--	--	**140**	**730**	**820**	**2,800**	--	--	--	--
T1-STKP	12/15/1992	--	5.1	--	--	<5.0	<5.0	**5.6**	**30**	--	--	--	--
T2-STKP	12/15/1992	--	28	--	--	**5.2**	**7.7**	**8.9**	**39**	--	--	--	--
W/O-STKP	12/15/1992	--	24	--	--	**8.4**	**46**	**25**	**37**	--	--	--	--
EB-19	9/13/1993	19	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	6.9
SWE	9/13/1993	NM	**400**	--	2,100	**1,000**	**1,500**	**1,600**	**5,100**	--	--	--	6.2
SWN	9/13/1993	NM	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	9.1
SWS	9/13/1993	NM	9.4	--	--	**24**	**36**	**38**	**120**	--	--	--	4.7
SWW	9/13/1993	NM	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	8.4
HLN	9/13/1993	NM	--	--	--	--	--	--	--	--	--	--	--
HLS	9/13/1993	NM	--	--	--	--	--	--	--	--	--	--	--
STKP (1-4)	9/13/1993	NM	6	--	--	**15**	**23**	**24**	**77**	--	--	--	8.7
STKP (5-8)	9/13/1993	NM	19	--	--	**48**	**71**	**76**	**240**	--	--	--	6.7
STKP (9-12)	9/13/1993	NM	27	--	--	**68**	**100**	**110**	**340**	--	--	--	15
STKP (13-16)	9/13/1993	NM	17	--	--	**43**	**64**	**68**	**220**	--	--	--	12
SB1-10	8/97-1/98	10	8.2	15	--	**0.17**	0.031	0.097	0.069	<2.0	--	--	--
SB2-10	8/97-1/98	10	1.3	<1.0	--	**0.061**	0.016	0.03	0.014	<0.05	--	--	--
SB3	8/97-1/98	5	1.6	--	--	**0.048**	0.044	0.016	0.046	<0.05	--	--	--
		10	**590**	160	--	**8.6**	**15**	**10**	**48**	<6.0	--	--	--
		15	**1,000**	--	--	**8.3**	**8.8**	**15**	**52**	<10	--	--	--
		20	<1.0	--	--	0.006	0.009	<0.005	0.017	<0.05	--	--	--
		25	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB4-10	8/97-1/98	10	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--

Table 2
Summary of Soil Sample Data
3635 13th Avenue, Oakland, California

Location ID	Date	Depth (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
Comparison Values: Tier 1 ESL			100	230	5,100	0.044	2.9	1.4	2.3	0.023	0.075	0.033	80
SB5-15	8/97-1/98	15	2.0	4.9	--	**0.08**	<0.005	0.045	0.012	<0.05	--	--	--
SB6-15	8/97-1/98	15	2.2	<1.0	--	**0.058**	0.008	0.007	0.073	<0.05	--	--	--
SB7-15	8/97-1/98	15	7.9	2.3	--	<0.005	0.016	<0.005	0.073	<0.05	--	--	--
SB8-10	8/97-1/98	10	33	11	--	**0.25**	0.089	0.30	0.29	<0.23	--	--	--
SB9-10	8/97-1/98	10	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB-10	8/21/2003	12	100	38	--	**0.39**	<0.10	0.88	1.4	<1.0	--	--	--
		19	66	6.3	--	<0.005	0.075	0.047	0.13	<0.05	--	--	--
SB-11	8/21/2003	8	1.8	1.1	--	**0.10**	0.012	<0.005	<0.005	<0.05	--	--	--
		12	1.3	2.1	--	**0.05**	<0.005	<0.005	<0.005	<0.05	--	--	--
		19	150	27	--	**0.13**	0.11	0.25	0.18	<0.50	--	--	--
SB-12	10/9/2003	12	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
		18	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB-13	10/10/2003	20	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB-14	10/10/2003	16	74	98	--	<0.050	<0.005	<0.050	0.12	<0.50	--	--	--
		23	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB-15	10/10/2003	15	**660**	100	--	<0.20	**5.6**	1.3	1.9	<2.0	--	--	--
		19	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SB-16	4/23/2007	10	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/23/2007	16	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/23/2007	20	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/23/2007	24	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
SB-17	4/23/2007	10	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/23/2007	15	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/23/2007	20	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0052	<0.05	--	--
SB-18	4/23/2007	10	27	17	--	**0.068**	<0.005	0.018	<0.005	<0.005	<0.05	--	--
	4/23/2007	15	2.7	<1.0	--	**0.078**	<0.005	0.014	<0.005	<0.005	<0.05	--	--
	4/23/2007	19	<1.0	<1.0	--	0.013	<0.005	<0.005	<0.005	0.022	0.052	--	--
	4/23/2007	25	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.011	<0.05	--	--
SB-19	4/20/2007	9	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/20/2007	15	12	9.8	--	**0.085**	<0.010	0.26	0.020	<0.010	<0.10	--	--
	4/20/2007	20	**160**	40	--	**0.12**	<0.010	0.28	0.082	0.061	<0.10	--	--
SB-20	4/20/2007	14	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0085	<0.05	--	--
	4/20/2007	18	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.0095	<0.05	--	--
	4/20/2007	25	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/20/2007	30	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--

Table 2
Summary of Soil Sample Data
3635 13th Avenue, Oakland, California

Location ID	Date	Depth (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
Comparison Values:													
Tier 1 ESL			100	230	5,100	0.044	2.9	1.4	2.3	0.023	0.075	0.033	80
SB-21	4/20/2007	6	<1.0	4.7	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/20/2007	10	**1,300**	**300**	--	<0.20	<0.20	**5.2**	1.0	<0.20	<2.0	--	--
	4/20/2007	15	3.8	<1.0	--	**0.56**	<0.025	0.086	0.056	<0.025	<0.025	--	--
	4/20/2007	26	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
	4/20/2007	35	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	--	--
SB-22	4/20/2007	11	**4,900**	**1,400**	--	**78**	**280**	**150**	**830**	<10	<100	--	--
	4/20/2007	16	**200**	1.20	--	**1.4**	0.28	0.27	1.2	<0.10	<1.0	--	--
	4/20/2007	20	4.4	<1.0	--	**1.5**	<0.10	<0.10	<0.10	<0.10	<1.0	--	--
SB-23	4/20/2007	7.0	<1.0	**210**	--	<0.20	<0.20	**4.8**	**11**	<0.20	<2.0	--	--
	4/20/2007	11	**1,800**	**350**	--	**3.4**	**1.2**	**11**	**56**	<0.50	<5.0	--	--
	4/20/2007	15	**520**	**210**	--	**7.3**	**6.5**	**10**	**53**	<0.50	<5.0	--	--
	4/20/2007	21	6.9	31	--	**1.2**	<0.10	0.12	<0.10	<0.10	<1.0	--	--
SB-24	9/13/2017	2	1.2	1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	2.9
	9/13/2017	4	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	3.4
SB-25	9/13/2017	2	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	2.4
	9/13/2017	4	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	2.3
SG-1-10	11/3/2008	10	<1.0	<1.0	<5.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SG-2-10	11/3/2008	10	<1.0	<1.0	<5.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
SG-3-10	11/3/2008	10	**1,700**	**1,200**	<100	**3.1**	<1.0	**17**	**44**	<10	--	--	--
EW-12	9/21/2013	12	<1.0	--	--	<5.0	<5.0	<5.0	<5.0	--	--	--	--
STKP (1-4)	9/21/2013	NM	39	--	--	**10**	**15**	**19**	**63**	--	--	--	--
STKP (5-8)	9/21/2013	NM	25	--	--	**6.5**	**9.6**	**12**	**40**	--	--	--	--
SG-4	6/22/2016	2	<1.0	2.2	6.2	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	26
	6/22/2016	4	<1.0	1.4	25	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	4.0
	6/22/2016	6	<1.0	2.1	21	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	15
	6/22/2016	8	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	2.9
	6/22/2016	9.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	7.0
SG-5	6/22/2016	2	<1.0	<1.0	15	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	3.5
	6/22/2016	4	<1.0	14	1,300	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	17
	6/22/2016	6	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	3.3
	6/22/2016	8	<1.0	51	800	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	7.8
	6/22/2016	9.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	2.8
SG-6	6/22/2016	2	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	12
	6/22/2016	4	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	9.2
	6/22/2016	6	<1.0	<1.0	9.4	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	6.5
	6/22/2016	8	<1.0	1.2	16	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	10
	6/22/2016	9.5	<1.0	<1.0	20	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	9.8

Table 2
Summary of Soil Sample Data
3635 13th Avenue, Oakland, California

Location ID	Date	Depth (feet bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	Naphthalene (mg/kg)	Lead (mg/kg)
Comparison Values:													
Tier 1 ESL			100	230	5,100	0.044	2.9	1.4	2.3	0.023	0.075	0.033	80
SG-7	6/22/2016	2	<1.0	<1.0	6.4	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	6.2
	6/22/2016	4	<1.0	<1.0	11	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	7.5
	6/22/2016	6	<1.0	<1.0	5.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	8.4
	6/22/2016	8	<1.0	<1.0	9.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	6.8
	6/22/2016	9.5	41	11	32	<0.0050	<0.0050	0.029	<0.0050	<0.0050	--	<0.0050	8.1
SG-8	6/22/2016	2	<1.0	11	190	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	31
	6/22/2016	4	<1.0	<1.0	23	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	21
	6/22/2016	6	<1.0	<1.0	5.2	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	7.4
	6/22/2016	8	16	3.9	11	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	11
	6/22/2016	9.5	47	2.0	<5.0	<0.010	<0.010	<0.010	<0.010	<0.010	--	<0.010	7.3
SG-9	6/22/2016	2	<1.0	<1.0	7.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	9.8
	6/22/2016	4	<1.0	2.4	150	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	8.0
	6/22/2016	6	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	6.8
	6/22/2016	8	<1.0	<1.0	13	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	13
	6/22/2016	9.5	<1.0	<1.0	<5.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	6.0

Notes:

mg/kg	milligrams per kilogram
bgs	Below ground surface
MTBE	Methyl tertiary butyl ether
TPH-g	Total Petroleum Hydrocarbons as gasoline
TPH-d	Total Petroleum Hydrocarbons as diesel
TPH-mo	Total Petroleum Hydrocarbons as motor oil
TBA	Tert butyl alcohol
PAH	Polyaromatic hydrocarbons
--	Not Analyzed
NM	Not Measured
<	Less than
<MRL	Value less than method detection limit and comparison values
Bold	Value exceeds applicable screening level

Comparison Values:

Tier 1 ESL — San Francisco Bay Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs), Summary of Soil ESLs, February 2016

Table 3
Summary of Grab Groundwater Sample Data
3635 13th Avenue, Oakland, California

Sample ID	Date	TPH-g (µg/L)	TPH-d (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TBA (µg/L)	Other Fuel Additives (µg/L)
SB1	8/97-1/98	63,000	27,000	<200	2,600	1,100	1,700	3,600	-	-
SB3	8/97-1/98	11,000	790	<100	1,700	840	330	1,100	-	-
SB5	8/97-1/98	12,000	28,000	<330	200	14	280	28	-	-
SB6	8/97-1/98	2,200	-	<28	330	4.7	49	14	-	-
SB7	8/97-1/98	36,000	200,000	<1100	2,200	550	850	1,700	-	-
SB8	8/97-1/98	6,200	1,200	<92	430	22	150	170	-	-
SB9	8/97-1/98	160	210	22	6.2	8.1	4.2	17	-	-
SB-10W	8/21/2003	3,500	1,400	<25	110	2.9	120	410	-	-
SB-11W	8/21/2003	3,800	2,400	<50	140	9.5	23	23	-	-
SB-12 W	10/9/2003	680	420	<5.0	<0.5	2.3	<0.5	3.5	-	-
SB-13 W	10/10/2003	270	1,200	<5.0	<0.5	<0.5	<0.5	2.0	-	-
SB-15 W	10/10/2003	1,600	1,900	<5.0	<0.5	3.0	25.0	8.8	-	-
SB-14B W	9/13/2017	3,700	9,300	<5.0	<5.0	<5.0	<5.0	<5.0	<20	-
SB-16-W	4/23/2007	<50	<50	1.5	0.96	<0.5	<0.5	0.51	<5.0	<MDL
SB-17-W	4/23/2007	66	<50	17	1.8	<0.5	<0.5	<0.5	<5.0	<MDL
SB-18-W	4/23/2007	650	200	120	51	<5.0	8.3	8.7	<5.0	<MDL
SB-19-W	4/23/2007	19,000	2,100	<100	4,200	890	940	3,400	<5.0	<MDL
SB-20-W	4/20/2007	120	760	81	<1.7	<1.7	<1.7	<1.7	81	<MDL
SB-21-W	4/20/2007	28,000	32,000	<50	830	230	840	1,800	<50	<MDL
SB-22-W	4/20/2007	15,000	4,100	90	1,300	470	160	700	<500	<MDL
SB-23-W	4/20/2007	210,000	490,000	94	1,300	430	2,100	6,700	<500	<MDL

µg/L - micrograms per liter
MDL - method detection limit with no sample dilution
- = sample not analyzed by this method
TPH-g - Total Petroleum Hydrocarbons as gasoline
TPH-d - Total Petroleum Hydrocarbons as diesel
MTBE - methyl tertiary butyl ether
EB ethylbenzene
TBA = t-butyl alcohol
< - less than
*Method 8260 performed for BTEX and Fuel Additives for samples collected on and after 4/20/07

Table 4
Summary of Soil Vapor Sample Data
3635 13th Avenue, Oakland, California

Sample Location	Date	Depth (feet bgs)	TPH-g (µg/m³)	TPH-d (µg/m³)	MTBE (µg/m³)	Benzene (µg/m³)	Toluene (µg/m³)	Ethylbenzene (µg/m³)	Total Xylenes (µg/m³)	Naphthalene (µg/m³)	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Helium Shround (%)	Helium Detection (%)
SG-1-5	02/15/13	5	<1,800	--	<7.3	<6.5	<7.7	<8.8	<27	--	--	--	--	--	--
	06/30/16	5	<520	<5,000	<4.6	<4.1	<4.8	<5.5	<5.5	<5.0	15	5.2	<0.00026	26.7	<0.13
	05/30/17	5	26,000	<17,000	<21	<4.8	<5.6	<6.5	<6.5	<17	2.5	5.7	0.038	23.0	<0.11
SG-1-10	02/15/13	10	4,600	--	13	<6.5	<7.7	<8.8	<27	--	--	--	--	--	--
	06/30/16	10	Not sampled, soil vapor well saturated with groundwater.												
	05/30/17	10	Not sampled, soil vapor well saturated with groundwater.												
SG-2-5	02/15/13	5	<1,800	--	<7.3	<6.5	<7.7	<8.8	<27	--	--	--	--	--	--
	06/30/16	5	<560	<5,000	<4.9	<4.4	<5.2	<5.9	<5.9	<5.0	13	5.3	0.00065	23.6	<0.14
	05/30/17	5	610	<17,000	<16	<3.6	<4.3	<5.0	<5.0	<17	4.9	4.9	0.0011	28.6	<0.11
SG-2-10	02/15/13	10	<1,800	--	<7.3	<6.5	<7.7	<8.8	<27	--	--	--	--	--	--
	06/30/16	10	Not sampled, soil vapor well saturated with groundwater.												
	05/30/17	10	Not sampled, soil vapor well saturated with groundwater.												
SG-3-5	02/15/13	5	**6,400,000**	--	<2,000	**6,400**	<2,000	<2,000	<2,000	--	--	--	--	--	--
	06/30/16	5	<440	<5,000	9.4	7.1	20	<4.7	5.1	<5.0	15	5.7	<0.00022	14.8	<0.11
	05/30/17	5	**13,000,000**	**92,000**	<850	**34,000**	<880	**1,800**	<1,000	<17	2.4	14	1.3	25.6	<0.12
SG-3-10	02/15/13	10	Not sampled, soil vapor well saturated with groundwater.												
	06/30/16	10	Not sampled, soil vapor well saturated with groundwater.												
	05/30/17	10	Not sampled, soil vapor well saturated with groundwater.												
SG-4	06/30/16	5	<530	<5,000	5.7	<4.2	12	<5.7	<5.7	<5.0	19	2.0	<0.00026	15.4	<0.13
	05/30/17	5	<480	<17,000	<17	<3.8	<4.5	<5.1	<5.1	<17	18	2.2	--	27.3	<0.12
SG-5	06/30/16	5	<560	<5,000	<4.9	<4.4	<5.1	<5.9	<5.9	<5.0	19	1.1	<0.00027	26.2	<0.14
	05/30/17	5	900	<17,000	<19	<4.1	<4.9	<5.6	<5.6	<17	20	0.93	--	19.8	<0.13
SG-6	06/30/16	5	2,200	<5,000	9.1	<3.9	36	6.3	25	<5.0	17	3.6	<0.00024	21.3	0.13
	05/30/17	5	940	<17,000	<18	<3.9	<4.6	<5.3	<5.3	<17	14	5.3	0.00029	21.0	0.38
SG-7	06/30/16	5	<540	<5,000	<4.7	<4.2	29	15	101	<5.0	17	3.9	<0.00026	25.7	<0.13
	10/12/17	5	<460	22,000	<16	<3.6	<4.2	<4.9	<4.9	<17	20	1.3	<0.00022	5.5	<0.11
SG-8	06/30/16	5	780	<5,000	<4.9	10	150	24	93	<5.0	17	3.8	<0.00027	20.1	<0.14
	10/12/17	5	<430	<17,000	<15	<3.4	9.7	<4.6	<4.6	<17	18	2.9	<0.0021	6.5	<0.11
SG-9	06/30/16	5	780	<5,000	5.4	17	170	34	158	<5.0	19	1.2	<0.00027	38.5	<0.13
	06/09/17	5	<530	<17,000	<19	4.4	<4.9	<5.7	<5.7	<17	16	5.6	<0.00029	28.1	0.39
Comparison Values:															
Tier 1 ESL			50,000	68,000	5,400	48	160,000	560	52,000	41	--	--	--	--	--

Notes:

µg/m³	micrograms per cubic meter
bgs	below ground surface
TPH-g	Total Petroleum Hydrocarbons as gasoline
TPH-d	Total Petroleum Hydrocarbons as diesel
MTBE	Methyl tert butyl ether
--	No established comparison value
%	Percent volume of targeted analyte
Bold	Value exceeds applicable screening level

Comparison Values:

Tier 1 ESL San Francisco Bay Regional Water Quality Control Board (RWQCB) Tier 1 Environmental Screening Levels (ESLs), Summary of Vapor ESLs, February 2016

Table 5
Conceptual Site Model - Updated November 2017
Kia Sumner
3635 13th Avenue
Oakland, CA

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address Data Gap
Geology & Hydrogeology	Regional	The site is located in Oakland near by Highway 580. The near surface sediments of the area are mapped as Alluvial gravel, sand and clay (Qoa) deposits (Oakland East, CA 1997). According to information obtained from the U.S Geological Survey (USGS), the site is located at approximately 190 feet above mean sea level (amsl) with the local topography sloping gently to the southwest	Figure 1	None	n/a
	Site	**Geology:** Based on the logs of soil borings drilled at the site by AEI, sediments across the site are fairly consistent; consisting primarily of clay, silty clay, and sand content to a depth of at least 23 feet bgs, the maximum depth explored. Logs of borings for remediation wells installed in September 2007 and soil boring in April 2007 were consistent with prior observations. **Hydrology:** During the drilling conducted by AEI in April 2007, groundwater was first observed in the temporary direct push borings at depths of approximately 12.4 (SB-23) to 19.0 (SB-20 & SB-22) feet bgs and stabilized at between approximately 16.8 to 19.5 feet bgs. The depth to water in the groundwater monitoring wells has ranged from 4.43 (MW-1, February 7, 1996) to 20.78 (MW-4, November 4, 2014) feet bgs since the wells were installed. With the expection of monitoring events on 02/07/96, 01/24/02, and 01/09/08, depth to groundwater is typically greater than 10 feet. Based on the recent groundwater monitoring conducted at the site, groundwater flows consistently in southwesterly direction at an approximate hydraulic gradient of 0.056 to 0.12 ft/ft.	Figure 2 & 3	None	n/a
Surface Water Bodies		The nearest surface water body is Central reservoir located approximately 2200 feet to the southeast.	Figure 1	None	n/a
Nearby Wells		In 2004, AEI conducted a receptor survey within 2,000-foot radius of the property and located 5 sites with groundwater wells. 4 sites were associated with a petroleum release with monitoring wells on site. The fifth is owned by East Bay Municipal Utilities District (EBMUD) and is a cathodic well that located approximately 1,000-feet southwest of the site. None of the wells are being used to supply drinking water. **Update:** In September 2016, AEI completed the sensitive receptor survey with both Alameda County Public Work Agency (ACPWA) and Department of Water Resources (DWR). Below is a summary of the search results: From ACPWA - Irrigation well (1), water supply well (0), industrial well (0), dewatering well (0), cathodic protection well (7), monitoring wells (30), destoryed well (7). From DWR - Irrigation well (9) and water supply well (6), each were greater than 1,500-feet from the site, industrial well (1), dewatering well (0), cathodic protection well (8), monitoring wells (34), destoryed well (2).	Site Conceptual Model (Updated Noverber 2017)	None	n/a
Potential Source and Release	On Site	**Former USTs:** One 1,000-gallon and one 500-gallon former fuel tanks, plus one 250-gallon waste oil tank was removed from the property in December 1992. Low concentration of petroleum hydrocarbons were detected in soil beneath the 500-gallon gasoline tank, but hydrocarbons ranging from gasoline to oil and grease were detected beneath the 250-gallon waste oil tank. Gasoline compounds were also detected beneath the south end of the two gasoline tanks. The tanks are considered to be the primary contaminant sources at the site.	Remedial Investigation and Interim Corrective Action Plan (July 19, 2004)	None	n/a

Table 5
Conceptual Site Model - Updated November 2017
Kia Sumner
3635 13th Avenue
Oakland, CA

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address Data Gap
Release Occurrence	Fuel UST	The release of TPH-g, BTEX, and other gasoline constituents originated from the former 500 and 1,000 gallon gasoline USTs removed in 1992 near the northeastern side of the property. The exact cause of the release is not known, though typically such releases occur from failures of the UST itself or the associated piping and pump system.	Remedial Investigation and Interim Corrective Action Plan (July 19, 2004)	None	n/a
	Waste-Oil UST	In September 1993, AEI removed and disposed of approximately 360 cubic yards of contaminated soil from near the former waste oil UST. At the time of tank removal, the waste oil tank was reported as being heavily pitted and having numerous holes. Sidewall samples collected from this excavation indicated that only minor contaminant concentrations remained in the soil. The former 250-gallon waste oil UST was concluded to not pose a significant threat to the groundwater.	Contaminated Soil Over-Excavation Final Report November 18, 1993); Table 2.	None	n/a
Chemicals of potential concern (COPCs)		The primary chemicals of potential concern are gasoline and gasoline constituents [TPH-g, benzene, and BTEX] from the gasoline UST release. Naphthalene in soil gas has been analyzed from the June 2016 and May 2017 sampling events, the results were consistent and naphthalene was not detected from samples in both sampling events. Both benzene and MTBE were detected during recent groundwater sampling events but the detected concentrations were below the Low Risk Closure Policy values. Benzene was detected in soil vapor sample SG-3 at 5 feet bgs. The chemicals of potential concern (COPCs) includes TPH-g, d, mo, the five wear metals (cadmium, chromium, nickel, lead, and zinc), semivolatile organic compounds (SVOCs), and polychlorinated biphenyl (PCBs). During the most recent site investgation, BTEX and Napthalene in soil and soil vapor were below the Low Risk Closure Policy values and have been removed as COPCs.	Figure 3 (groundwater); Figure 4 (soil vapor) Table 2 (soil); Table 4 (soil vapor).	None	n/a
Nature and Extent of Impacts	Impacts in Soil	Gasoline impacted soil was confirmed on the east side of the property between former fuel tanks and former waste-oil tank. Minor benzene detection was discovered from the soil investigation on 13th Avenue. It appears that the gasoline constituents travelled vertically from its source (the UST) then spread laterally along the groundwater surface. Vertically, the top of the impacted zone begins at approximately 10 feet bgs and ends approximately 21 feet bgs. Table 2 shows the historical soil boring investigation data.	Table 2	None	n/a
	Impacts in Groundwater	The dissolved phase gasoline-range plume is also confirmed on the east side of the property between former fuel tanks and former waste-oil tank. Benzene was found in monitoring wells MW-6, MW-2, MW-4, MW-5, and MW-7. MW-1 has shown low benzene concentration in the past sampling events. Additional groundwater sample, SB-14B, was collected southeast of MW-7 on September 13, 2017 that defined the benzene plume. Benzene was not detected in the grab groundwater sample collected from SB-14B, which is consistent with the current plume map. The length of the benzene plume is less than 100-feet in length and meets LTCP Groundwater-Specific Criteria (1). Naphthalene was not detected in soil or soil gas samples collected and analyzed, therefore naphthalene is likely not present in groundwater beneath the Site.	Table 3; Figure 3; Semiannual Groundwater Monitoring and Sampling report, 1st Half 2017.	None	n/a
	Impacts in Vapor Phase	Soil gas sampling performed in May, June, and October 2017. did not yeild petroelum hydrocarbons at concentrations above ESLs for the protection of residential indoor air.	Figure 4; Table 4 (soil vapor).	None	n/a

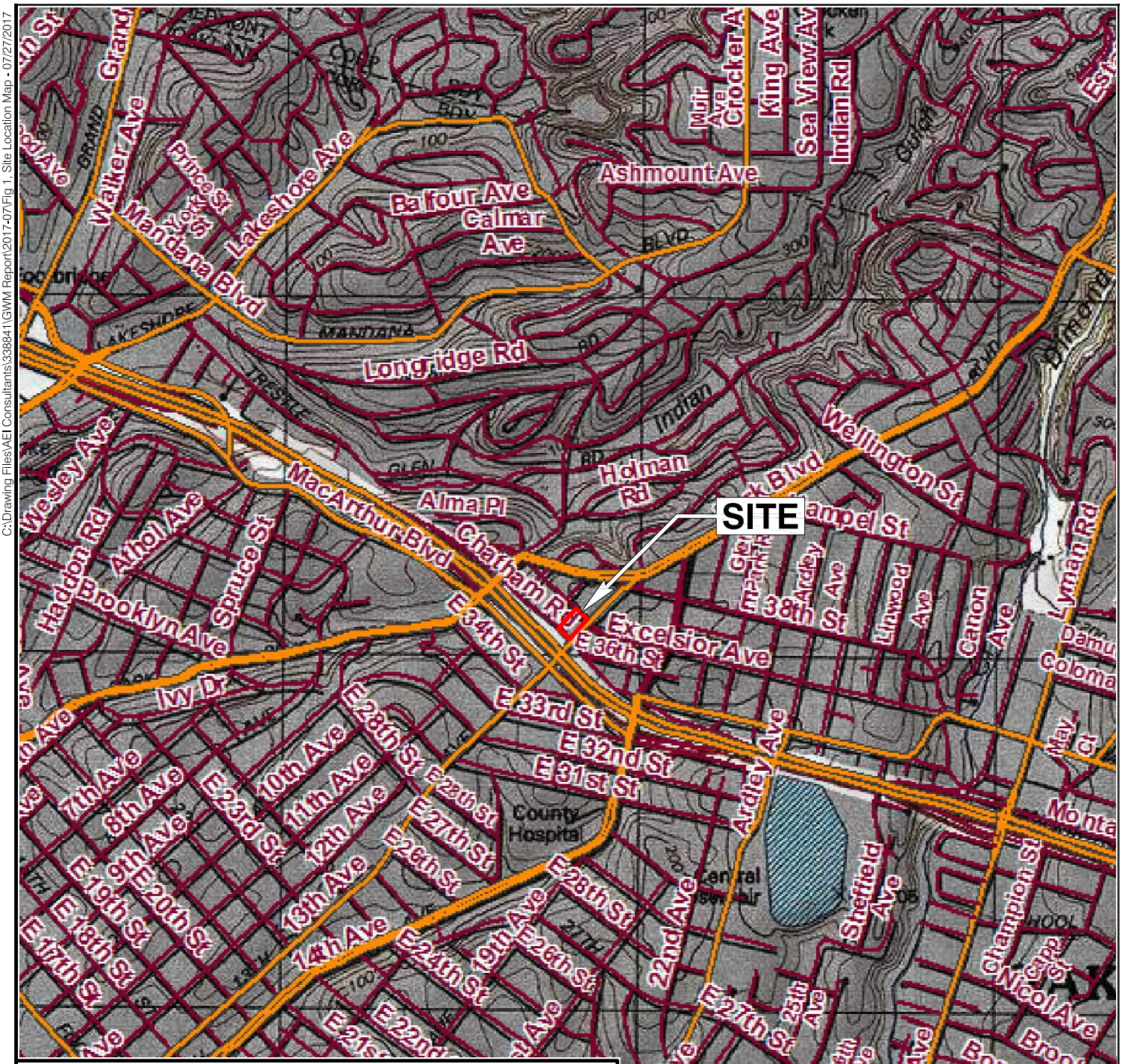
Table 5
Conceptual Site Model - Updated November 2017
Kia Sumner
3635 13th Avenue
Oakland, CA

SCM Element	SCM Sub-Element	Description	Figures & Tables Reference	Data Gap	How to Address Data Gap
Potential Receptors & Risks	On Site	Potable water is and will be provided by municipal sources for the foreseeable future, therefore direct contact with groundwater is not considered. Potential receptors at the site could include: -future construction workers via direct contact with soil or groundwater. A Site Management Plan which addresses how to deal with the potential contact of hydrocarbons or VOCs will be implemented during future construction activities at the site.	n/a	None	n/a
	Off Site	Well and sensitive receptor survey was completed with ACPWA and DWR in August 2016. Please refer to "Nearby Wells" for well survey result	n/a	None	n/a

FIGURES

AEI Consultants

C:\Drawing Files\AEI Consultants\338841\GWM Report\2017-07\Fig 1. Site Location Map - 07/27/2017

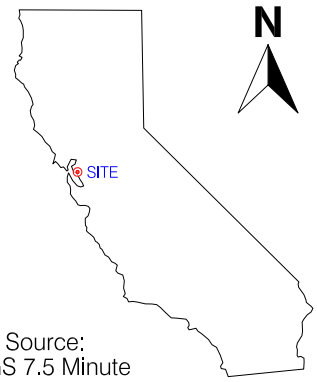


LEGEND

0 0.25 0.50 APPROXIMATE SCALE IN MILES

Site Location

REFERENCE LOCATION



Map Source:
USGS 7.5 Minute
Topographic Quadrangle Map,
Oakland East, CA - 1997

AEI Consultants

2500 Camino Diablo, Walnut Creek, California

SITE LOCATION MAP

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 1
Project No. 338841

C:\Drawing Files\AEI Consultants\338841\Soil, GW & SG Investigation And Updated CSM Report\Fig 2, Site Map - 10/24/2017

ADJACENT
RESIDENTIAL APARTMENT

ADJACENT
RESIDENTIAL BUILDING

EXCELSIOR AVENUE

SIDEWALK

FORMER 250 GALLON
WASTE OIL UST

SWN
HLN
HLS
EWE
SWW
SWS
EB19
EW12
SB-25
SB-24
SG-4
SG-5
SG-6
MW-1
SB-9
SG-2
SB-7
SG-1
SB-16
SB-4
MW-3
MW-4
(SB-18)
SG-9
FORMER DISPENSER ISLAND
SB-19
SB-1
SB-20
SB-17
SG-7
FORMER 1,000 GALLON UST
SG-8
SB-2
MW-5
(SB-22)
SB-3
MW-6
(SB-21)
SG-3
MW-7
MW-2
SIDEWALK
FORMER 500 GALLON UST
SB-12
SB-11
SB-8
SB-6
SB-10
SB-5
13th AVENUE
STOP
SB-15
SB-14B
SB-14
SB-13
SIDEWALK
SIDEWALK
OAKLAND FIRE DEPARTMENT
ENGINE No. 16
EXCELSIOR AVENUE
EXCELSIOR AVENUE

N

LEGEND

- SB-24 — Soil Boring Location (September 13, 2017)
- MW-1 — Groundwater Monitoring Well Location
- SB-1 — Soil Boring Location (April 2007)
- SB-1 — Soil Boring Location (August 21 and October 9-10 2003)
- SB-1 — Soil Boring Location (November-1997 and January 1998)
- SG-1 — Soil Gas Probe Location
- SWS — Soil Sample Collected From Soil Excavation
- Approximate Excavation Limits
- Proposed Building Location
- x — Fence

Note:
Base Map Sources:
Google Earth, Image Date 3/11/2017

0 15 30
APPROXIMATE SCALE
IN FEET

AEI Consultants
2500 Camino Diablo
Walnut Creek, California

SITE MAP

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 2
Project No. 338841

C:\Drawing Files\AEI Consultants\338841\Soil, GW & SG Investigation And Updated CSM Report\Fig 3, Benzene Concentration In GW - 11/10/2017

ADJACENT
RESIDENTIAL APARTMENT

ADJACENT
RESIDENTIAL BUILDING

SIDEWALK

EXCELSIOR AVENUE

FORMER 250 GALLON
WASTE OIL UST

FORMER DISPENSER ISLAND

FORMER 1,000 GALLON UST

FORMER 500 GALLON UST

SWN
HLN
HLS
SWW
SWS
SB-25
EWE
EB19
EW12
SB-24
SG-4
SG-5
SG-6
SG-1
SG-2
SG-3
SG-7
SG-8
SG-9
MW-1 <0.5
MW-2 360
MW-3 <0.50
MW-4 (SB-18) 530
MW-5 (SB-22) 210
MW-6 (SB-21) 41
MW-7 1,700
SB-1 2,600
SB-2
SB-3 1,700
SB-4
SB-5 200
SB-6 330
SB-7 <0.5
SB-8 430
SB-9 6.2
SB-10 110
SB-11 140
SB-12 <0.5
SB-13 <0.5
SB-14 NS
SB-14B <5.0
SB-15 <0.5
SB-16 0.96
SB-17 1.8
SB-19 4,200
SB-20 <1.7

1,000
100
10

13th AVENUE

SIDEWALK

SIDEWALK

SIDEWALK

STOP

OAKLAND FIRE DEPARTMENT
ENGINE No. 16

EXCELSIOR AVENUE

EXCELSIOR AVENUE

N

LEGEND

- SB-24 — Soil Boring Location (September 13, 2017)
- MW-1 — Groundwater Monitoring Well Location
- SB-1 — Soil Boring Location (April 2007)
- SB-1 — Soil Boring Location (August 21 and October 9-10 2003)
- SB-1 — Soil Boring Location (November-1997 and January 1998)
- SG-1 — Soil Gas Probe Location
- SWS — Soil Sample Collected From Soil Excavation
- Approximate Excavation Limits
- Proposed Building Location
- x — Fence
- 1,000 — Benzene Isoconcentration (µg/L)

Note:
NS - Not Sampled
µg/L - micrograms per liter

Data for MW-1 through MW-7 was collected during May 2017 Groundwater Monitoring Event

Base Map Sources:
Google Earth, Image Date 3/11/2017

0 15 30
APPROXIMATE SCALE
IN FEET

AEI Consultants

2500 Camino Diablo
Walnut Creek, California

BENZENE CONCENTRATION IN GROUNDWATER

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 3
Project No. 338841

C:\Drawing Files\AEI Consultants\338841\Soil, GW & SG Investigation And Updated CSM Report\Fig 4, Benzene Concentration In SG - 11/10/2017

ADJACENT
RESIDENTIAL APARTMENT

ADJACENT
RESIDENTIAL BUILDING

EXCELSIOR AVENUE

SIDEWALK

FORMER 250 GALLON
WASTE OIL UST

SWN
HLN
HLS
SWW
SWS
EWE
EW12
EB19
SB-25
SB-24
SG-4 <3.8
SG-5 <4.1
MW-1
SG-3 34,000
MW-7
SB-9
SG-2 <3.6
SB-7
SG-1 <4.8
MW-4 (SB-18)
SB-16
SB-4
MW-3
SG-9 4.4
FORMER DISPENSER ISLAND
SB-19
SB-1
SB-20
SG-6 <3.9
SB-17
SG-7 <3.6
FORMER 1,000 GALLON UST
SG-8 <3.4
MW-5 (SB-22)
SB-3
SB-2
MW-6 (SB-21)
MW-2
FORMER 500 GALLON UST

SIDEWALK

SB-12
SB-11
SB-8
SB-6
SB-10
SB-5

13th AVENUE

STOP

SB-15
SB-14B
SB-14
SB-13

SIDEWALK

SIDEWALK

OAKLAND FIRE DEPARTMENT
ENGINE No. 16

EXCELSIOR AVENUE

EXCELSIOR AVENUE

LEGEND

- SB-24 — Soil Boring Location (September 13, 2017)
- MW-1 — Groundwater Monitoring Well Location
- SB-1 — Soil Boring Location (April 2007)
- SB-1 — Soil Boring Location (August 21 and October 9-10 2003)
- SB-1 — Soil Boring Location (November-1997 and January 1998)
- SG-1 — Soil Gas Probe Location
- SWS — Soil Sample Collected From Soil Excavation
- Former Soil Excavation (September 1993)
- Proposed Additional Excavation Limits
- Proposed Building Location
- Fence

Note:
Soil Vapor Concentration in $\mu g/m^3$

$\mu g/m^3$ - micrograms per cubic meter

Base Map Sources:
Google Earth, Image Date 3/11/2017

0 15 30
APPROXIMATE SCALE
IN FEET

AEI Consultants

2500 Camino Diablo
Walnut Creek, California

BENZENE CONCENTRATION IN SOIL VAPOR

Kia Sumner
3635 13th Avenue
Oakland, California

FIGURE 4
Project No. 338841

APPENDIX A
Permits

AEI Consultants

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/29/2017 By jamesy

Permit Numbers: W2017-0681
Permits Valid from 09/12/2017 to 09/12/2017

Application Id:	1504023874046	**City of Project Site:** Oakland
Site Location:	3635 13th Avenue, Oakland	
Project Start Date:	09/12/2017	**Completion Date:** 09/12/2017
Assigned Inspector:	Contact Marcelino Vialpando at (510) 670-5760 or Marcelino@acpwa.org	
Applicant:	AEI Consultants - William Banker-Hix 2500 Camino Diablo, Walnut Creek, CA 94595	**Phone:** 925-746-6050
Property Owner:	Kia Sumner 1069 Oak Hill Road, Lafayette, CA 94549	**Phone:** 510-719-7002
Client:	Kia Sumner 1069 Oak Hill Road, Lafayette, CA 94549	**Phone:** 510-719-7002
Contact:	William Banker-Hix	**Phone:** 925-746-6050 **Cell:** 925-746-6050

	Total Due:	$265.00
Receipt Number: WR2017-0410	**Total Amount Paid:**	$265.00
Payer Name : William B Hix	Paid By: VISA	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 3 Boreholes
Driller: Environmental Control Associates - Lic #: 695970 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2017-0681	08/29/2017	12/11/2017	3	2.25 in.	15.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

- SL and X permits valid 90 days
- CGS permit valid 30 days

CHECK REVERSE

3635 13TH AVE

3635 13TH AVE

CITY OF OAKLAND

CITY OF OAKLAND DEPT OF PUBLIC WORKS 4th FLOOR

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

To schedule inspection
Email: pwa_inspections@oaklandnet.com or call 510-238-3651

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1700986 OPW - Excavation

Filed Date: 9/8/2017

Job Site: 3635 13TH AVE

For SL; X; and CGS permits see **SPECIAL NOTE** below

Schedule inspection by calling: 510-238-3444

Parcel No: 023 048000500

District:

Project Description: Soil boring(s) on ___. No impact on traffic lane or sidewalk allowed. Ensure that environmental controls are in place to prevent dust/debris/waste water from contaminating environment. If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance. Comply with all terms of City of Oakland Public Works Standards, Street Excavation Rules, Revised March 2015 and City Council Ordinance No. 13300 C.M.S. Five day prior notice required for work lasting five days or less in business/commercial districts; 72 hour notice in residential districts. Ten day prior notice required for work lasting six days or more in all districts. Call PWA INSPECTION prior to start: 510-238-3651. email PWA_inspections@oaklandnet.com. Contact:

Related Permits:

	Name	Applicant	Address	Phone	License #
Owner:	SUMNER KIA		1069 OAK HILLS RD LAFAYETTE, CA		
Contractor:	ENVIRONMENTAL CONTROL ASSOCIATES	X	OAKLAND, CA	(831) 662-8178	
Contractor:	ENVIRONMENTAL CONTROL ASSOCIATES		3011 TWIN PALMS DRIVE APTOS, CA	(831) 662-8178	695970

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

TOTAL FEES TO BE PAID AT FILING: $681.98

Application Fee	$70.00	Excavation - Private Party Type	$357.00	Recrd Mangmnt & Tech Enhancement Fee	$62.98
Transportation Service	$192.00				

SPECIAL NOTE

- SL, X, and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days
- CGS permit valid 30 days

JOB SITE

[redacted]

CITY OF OAKLAND

- SL and X permits valid 90 days
- CGS permit valid 30 days

CHECK REVERSE

Permit No: X1700986 **Parcel No:** 023 048000500 **Job Site:** 3635 13TH AVE

DEPT OF PUBLIC WORKS 4th FLOOR

Plans Checked By _____ Date [redacted]

Permit Issued By _____ Date _____

Finalized By _____ Date _____

To schedule inspection
Email: pwa_inspections@oaklandnet.com or call 510-238-3651

[redacted]

For SL; X; and CGS permits see **SPECIAL NOTE** below

ADDRESS

APPLICATION

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days
- CGS permit valid 30 days

JOB SITE

CITY OF OAKLAND

- SL and X permits valid 90 days
- CGS permit valid 30 days

CHECK REVERSE

Permit No: X1700986 **Parcel No:** 023 048000500 **Job Site:** 3635 13TH AVE

DEPT OF PUBLIC WORKS 4th FLOOR

LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

To schedule inspection
Email: pwa_inspections@oaklandnet.com or call 510-238-3651

CONSTRUCTION LENDING AGENCY DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Section 8172, Civil Code).

Lender's Name _____

Branch Designation _____

Lender's Address _____

WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☐ I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

RRP ACKNOWLEDGMENT

EPA's Lead Renovation, Repair and Painting Rule (RRP Rule) requires that firms performing renovation, repair, and painting projects that disturb lead-based paint in homes, child care facilities and pre-schools built before 1978 have their firm certified by EPA or use certified renovators who are trained by EPA-approved training providers and follow lead-safe work practices. As the contractor preparing to do work on a Pre-1978 building, I have read the explanation of the RRP Rule and will ensure that any paint disturbing work will be done by or supervised by an RRP certified individual(s). Failure to follow this rule may result in enforcement action by the EPA. For additional information on complying with lead safety requirements, contact the Alameda County Healthy Homes Department at (510) 567-8280 or 1-800-253-2372 or visit http://www.achhd.org.

HAZARDOUS MATERIALS DECLARATION

For SL; X; and CGS permits see **SPECIAL NOTE** below

I hereby affirm that the intended occupancy ☐ WILL ☐ WILL NOT use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document; that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name _____

Signature _____

☐ Contractor, or ☐ Contractor's Agent Date

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.

APPLICATION ADDRESS

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days
- CGS permit valid 30 days

JOB SITE

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

- SL and X permits valid 90 days
- CGS permit valid 30 days

CHECK REVERSE

3635 13TH AVE

CITY OF OAKLAND

CITY OF OAKLAND

DEPT OF PUBLIC WORKS 4th FLOOR

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

To schedule inspection
Email: pwa_inspections@oaklandnet.com or call 510-238-3651

3635 13TH AVE

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
[redacted]

Permit No:	OB1701375	Obstruction
Job Site:	3635 13TH AVE	
Parcel No:	023 048000500	
District:		

For SL; X; and CGS permits see **SPECIAL NOTE** below

Filed Date: 9/11/2017

~~Schedule Inspection by calling: 510-238-3444~~

Project Description: Reserve 3 NON-METERED parking space(s) in front of parcel only for dumpster, construction vehicle, moving van or storage pod. Post No-parking signs 72 hours prior in residential areas. No impact on traffic lane or sidewalk allowed. No-parking signs picked up by applicant after payment, 4TH FLOOR. To Have Illegally Parked Vehicle Ticketed Call 510-777-3333. Applicant arranges towing. Comply with terms set forth in CVC Section 22651 (m). For Towed Vehicle: Call 510-238-3021.
Contact: 925-746-6022

Related Permits:

	Name	Applicant	Address	Phone	License #
Owner:	SUMNER KIA		1069 OAK HILLS RD LAFAYETTE, CA		
Owner-Agent:	Wayne Hung	X	OAKLAND, CA	925-746-6022	

ADDRESS

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 09/13/2017
End Date: 09/13/2017

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area):
Length Of Obstruction (Unmetered Area): 50

TOTAL FEES TO BE PAID AT FILING: $119.34

Application Fee	~~$70.00~~	Recrd Mangmnt & Tech Enhancement Fee	$15.34	Short Term Permits	$34.00

Plans Checked By _____ Date _____ Permit Issued By CH Date 9-11-17

Finalized By _____ Date _____

APPLICATION

#7760035-72-OB1701375-Visa Card 119.34

SPECIAL NOTE

- SL; X; and CGS permits: prior to start, email pwa_inspections@oaklandnet.com or call 510-238-3651
- SL and X permits valid 90 days • CGS permit valid 30 days

APPENDIX B
Boring Logs

AEI Consultants

BORING NUMBER SB-14B

AEI Consultants

Environmental & Engineering Services

CLIENT Kia Sumner **PROJECT NAME** Kia

PROJECT NUMBER 338841 **PROJECT LOCATION** 3635 13th Avenue, Oakland, California

DATE STARTED 9/13/17 **COMPLETED** 9/13/17 **GROUND ELEVATION** _____ **HOLE SIZE** 2.25 inches

DRILLING CONTRACTOR Environmental Control Associates, Inc. **GROUND WATER LEVELS:**

DRILLING METHOD Direct-Push **AT TIME OF DRILLING** 19.50 ft

LOGGED BY W. Hung **CHECKED BY** T. Weise **AT END OF DRILLING** 18.51 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.3 Asphalt	
					Silty Clay (CL), dark yellowish brown (10YR 3/4), good plasticity, slight moist.	
			0.0		5.0	
5					Silty Sand (SM), dark yellowish brown (10YR 4/6), slight moist.	
			0.0			
10					11.0	
					Clay (CL), light yellowish brown (2.5YR 6/4), good plasticity, slight moist.	
			0.0			
			1.0		14.0	
			15000 OVER		14.5 Clay (CL), very dark grayish green (10YR-5GY 5/2), moist.	
15	SB-14B-15				Silty sand (SM), very dark grayish green (10YR-5GY 3/2), moist.	
			15000 OVER			
	SB-14B-19					
20					20.0	
			12.9		Clay (CL), yellowish brown (10YR 5/4), poor plasticity, moist.	
					22.0	
					Clay (CL), light yellowish brown (2.5YR 5/3), good plasticity, moist.	
					24.0	
			0.0		Bottom of borehole at 24.0 feet.	

AEI Consultants
Environmental & Engineering Services

AEI Consultants

BORING NUMBER SB-24

CLIENT Kia Sumner
PROJECT NAME Kia
PROJECT NUMBER 338841
PROJECT LOCATION 3635 13th Avenue, Oakland, California
DATE STARTED 9/13/17 **COMPLETED** 9/13/17
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING ---
LOGGED BY W. Hung **CHECKED BY** T. Weise
AT END OF DRILLING ---
NOTES
AFTER DRILLING NO GROUNDWATER ENCOUNTERED

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.1 TOPSOIL, GRASS SILT (ML), brown (7.5YR 5/3), dry, with trace gravel @ 2', dry.	
	SB-24-2		0.0			
	SB-24-4		0.0			
5					5.0	

Bottom of borehole at 5.0 feet.

AEI Consultants
Environmental & Engineering Services

AEI Consultants

BORING NUMBER SB-25

CLIENT Kia Sumner
PROJECT NAME Kia
PROJECT NUMBER 338841
PROJECT LOCATION 3635 13th Avenue, Oakland, California
DATE STARTED 9/13/17 **COMPLETED** 9/13/17
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING ---
LOGGED BY W. Hung **CHECKED BY** T. Weise
AT END OF DRILLING ---
NOTES
AFTER DRILLING NO GROUNDWATER ENCOUNTERED

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.1 TOPSOIL, GRASS Silt (ML), dark yellowish brown (10YR 3/6) with trace gravel, dry.	
	SB-25-2		0.0			
	SB-25-4		0.0			
5					5.0	

Bottom of borehole at 5.0 feet.

APPENDIX C

Laboratory Analytical Reports and Chain-of-Custody Documentation

AEI Consultants

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6/8/2017

Jordan Vida
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1706025

Dear Jordan Vida

The following report includes the data for the above referenced project for sample(s) received on 6/1/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1706025

Work Order Summary

CLIENT:	Jordan Vida AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	132175
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	06/01/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/08/2017		

FRACTION #	NAME	TEST
01A	SG-1-5	Modified TO-17 VI
02A	SG-2-5	Modified TO-17 VI
03A	SG-3-5	Modified TO-17 VI
04A	SG-4	Modified TO-17 VI
05A	SG-5	Modified TO-17 VI
06A	SG-6	Modified TO-17 VI
07A	Lab Blank	Modified TO-17 VI
08A	CCV	Modified TO-17 VI
09A	LCS	Modified TO-17 VI
09AA	LCSD	Modified TO-17 VI

CERTIFIED BY: Heidi Hayes DATE: 06/08/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
AEI Consultants, Inc.
Workorder# 1706025

Six TO-17 VI Tube samples were received on June 01, 2017. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A sampling volume of 0.06 L was used to convert ng to ug/m3 for the associated Lab Blank.

The reported CCV and LCS for each daily batch may be derived from more than one analytical file.

The TPH pattern in sample SG-3-5 did not resemble that of diesel fuel. The hydrocarbons were distributed in the lighter carbon range of diesel.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: SG-1-5

Lab ID#: 1706025-01A

No Detections Were Found.

Client Sample ID: SG-2-5

Lab ID#: 1706025-02A

No Detections Were Found.

Client Sample ID: SG-3-5

Lab ID#: 1706025-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range C10-C22)	1000	17000	5500	92000

Client Sample ID: SG-4

Lab ID#: 1706025-04A

No Detections Were Found.

Client Sample ID: SG-5

Lab ID#: 1706025-05A

No Detections Were Found.

Client Sample ID: SG-6

Lab ID#: 1706025-06A

No Detections Were Found.

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Client Sample ID: SG-1-5

Lab ID#: 1706025-01A

EPA METHOD TO-17

File Name:	**6060512**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 10:15:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 03:50 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	118	50-150

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Client Sample ID: SG-2-5

Lab ID#: 1706025-02A

EPA METHOD TO-17

File Name:	**6060513**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 11:37:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 04:30 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	96	50-150

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Client Sample ID: SG-3-5

Lab ID#: 1706025-03A

EPA METHOD TO-17

File Name:	**6060514**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 12:31:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 05:10 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	5500	92000

Air Sample Volume(L): 0.0600

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	93	50-150

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Client Sample ID: SG-4
Lab ID#: 1706025-04A
EPA METHOD TO-17

File Name:	**6060515**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 1:36:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 05:50 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	107	50-150

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Client Sample ID: SG-5
Lab ID#: 1706025-05A
EPA METHOD TO-17

File Name:	**6060516**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 2:13:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 06:30 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: SG-6
Lab ID#: 1706025-06A
EPA METHOD TO-17

File Name:	**6060517**	**Date of Extraction: NA**	**Date of Collection: 5/30/17 3:03:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 07:10 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	104	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1706025-07A

EPA METHOD TO-17

File Name:	**6060509**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 01:17 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	108	50-150

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Client Sample ID: CCV
Lab ID#: 1706025-08A
EPA METHOD TO-17

File Name:	**6060503**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 09:13 AM**

Compound	%Recovery
Naphthalene	108
TPH (Diesel Range C10-C22)	80

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	82	50-150

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Client Sample ID: LCS
Lab ID#: 1706025-09A
EPA METHOD TO-17

File Name:	**6060504**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 09:53 AM**

Compound	%Recovery	Method Limits
Naphthalene	122	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	130	50-150

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Client Sample ID: LCSD
Lab ID#: 1706025-09AA
EPA METHOD TO-17

File Name:	**6060508**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/5/17 12:37 PM**

Compound	%Recovery	Method Limits
Naphthalene	114	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	116	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager Wayne hung
Collected by: (Print and Sign) William B Hix
Company AET Consultants Email Whung@aeiconsultants.com
Address 2500 Camino Diablo City Walnut Creek State C.A. Zip 94595
Phone 925-746-6050 Fax

Project Info:
P.O. # 132175
Project # 3388841
Project Name Kia

Turn Around Time: ☒ Normal ☐ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume	Indoor Air	Outdoor Air	Soil Vapor	Other ( )
01A	S6-1-5	60153856	05/30/17	1015	05/30/17	1015	60mL	60mL	60mL	☐	☐	☒	☐
02A	S6-2-5	60155644		1135		1137				☐	☐	☒	☐
03A	S6-3-5	A00457		1230		1231				☐	☐	☒	☐
04A	S6-4	60150079		1335		1336				☐	☐	☒	☐
05A	S6-5	60152521		14 12		1413				☐	☐	☒	☐
06A	S6-6	60154191		1503		1503				☐	☐	☒	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
William B Hix	6/1/17 1255		6-1-17 1255
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Courier		6.0°C	Good	Yes No (None)	1706025

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6/16/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1706047BR1

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 6/1/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1706047BR1

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	132175
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	06/01/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/08/2017		
DATE REISSUED:	06/16/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-1-5	Modified ASTM D-1946	2.8 "Hg	15.1 psi
02A	SG-2-5	Modified ASTM D-1946	3.5 "Hg	15.1 psi
03A	SG-3-5	Modified ASTM D-1946	4.1 "Hg	15.2 psi
04A	SG-4	Modified ASTM D-1946	4.3 "Hg	15.1 psi
05A	SG-5	Modified ASTM D-1946	6.7 "Hg	14.9 psi
06A	SG-6	Modified ASTM D-1946	5.3 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/16/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified ASTM D-1946
AEI Consultants, Inc.
Workorder# 1706047BR1

Six 1 Liter Summa Canister samples were received on June 01, 2017. The laboratory performed analysis via Modified ASTM Method D-1946 for fixed gases in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

The workorder was reissued on 06/16/17 to report for Methane per client request.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SG-1-5

Lab ID#: 1706047BR1-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	2.5
Methane	0.00022	0.038
Carbon Dioxide	0.022	5.7

Client Sample ID: SG-2-5

Lab ID#: 1706047BR1-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	4.9
Methane	0.00023	0.0011
Carbon Dioxide	0.023	4.9

Client Sample ID: SG-3-5

Lab ID#: 1706047BR1-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	2.4
Methane	0.00024	1.3
Carbon Dioxide	0.024	14

Client Sample ID: SG-4

Lab ID#: 1706047BR1-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18
Carbon Dioxide	0.024	2.2

Client Sample ID: SG-5

Lab ID#: 1706047BR1-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	20

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SG-5

Lab ID#: 1706047BR1-05A

Carbon Dioxide	0.026	0.93

Client Sample ID: SG-6

Lab ID#: 1706047BR1-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	14
Methane	0.00024	0.00029
Carbon Dioxide	0.024	5.3
Helium	0.12	0.38

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Client Sample ID: SG-1-5

Lab ID#: 1706047BR1-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060505**	**Date of Collection: 5/30/17 10:13:00 AM**	
Dil. Factor:	**2.24**	**Date of Analysis: 6/5/17 09:13 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.22	2.5
Methane	0.00022	0.038
Carbon Dioxide	0.022	5.7
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-2-5

Lab ID#: 1706047BR1-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060506**	**Date of Collection: 5/30/17 11:34:00 AM**	
Dil. Factor:	**2.29**	**Date of Analysis: 6/5/17 09:46 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.23	4.9
Methane	0.00023	0.0011
Carbon Dioxide	0.023	4.9
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-3-5

Lab ID#: 1706047BR1-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060507**	**Date of Collection: 5/30/17 12:28:00 PM**	
Dil. Factor:	**2.35**	**Date of Analysis: 6/5/17 10:09 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.24	2.4
Methane	0.00024	1.3
Carbon Dioxide	0.024	14
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-4

Lab ID#: 1706047BR1-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060508**	**Date of Collection: 5/30/17 1:33:00 PM**	
Dil. Factor:	**2.36**	**Date of Analysis: 6/5/17 10:32 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.24	18
Methane	0.00024	Not Detected
Carbon Dioxide	0.024	2.2
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-5

Lab ID#: 1706047BR1-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060509**	**Date of Collection: 5/30/17 2:10:00 PM**	
Dil. Factor:	**2.60**	**Date of Analysis: 6/5/17 11:12 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.26	20
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	0.93
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SG-6

Lab ID#: 1706047BR1-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060510**	**Date of Collection: 5/30/17 3:01:00 PM**	
Dil. Factor:	**2.45**	**Date of Analysis: 6/5/17 11:35 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.24	14
Methane	0.00024	0.00029
Carbon Dioxide	0.024	5.3
Helium	0.12	0.38

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1706047BR1-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/17 08:37 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1706047BR1-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060503c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/17 08:14 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1706047BR1-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/17 07:49 AM**	

Compound	%Recovery	Method Limits
Oxygen	100	85-115
Methane	100	85-115
Carbon Dioxide	98	85-115
Helium	100	85-115

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1706047BR1-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060524**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/5/17 07:34 PM**	

Compound	%Recovery	Method Limits
Oxygen	99	85-115
Methane	102	85-115
Carbon Dioxide	99	85-115
Helium	100	85-115

Container Type: NA - Not Applicable

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Wayne Hung
Collected by: (Print and Sign) William B Hix
Company AEI Consultants Email whung@aeiconsultants.com
Address 2500 Camino Diablo City Walnut Creek State C.A. Zip 94595
Phone 925-746-6050 Fax

Project Info:
P.O. # 132175
Project # 338841
Project Name Kia

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	S6-1-5	3003	5/30/17	1013	Tphg, BTEX, MTBE, O_2+CO by ATSM 1946 To-15	-27.5	-5.0		
02A	S6-2-5	2330		1134	Helium	-30+	-5.0		
03A	S6-3-5	1833		1228		-30+	-4.5		
04A	S6-4	2483		1333		-30.0	-5.0		
05A	S6-5	2479		1410		-27.5	-7.5		
06A	S6-6	2616		1501		-28.0	-5.0		

Relinquished by: (signature) William B Hix Date/Time 6/1/17 1255
Received by: (signature) Date/Time 6-1-17 1255

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Leak check was He.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Courier		NA	Good	Yes No None	1706047

Form 1293 rev.11

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6/14/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1706191

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 6/9/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1706191

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	132175
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	06/09/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/14/2017		

FRACTION #	NAME	TEST
01A	SG-9	Modified TO-17 VI
02A	Lab Blank	Modified TO-17 VI
03A	CCV	Modified TO-17 VI
04A	LCS	Modified TO-17 VI
04AA	LCSD	Modified TO-17 VI

CERTIFIED BY:  DATE: 06/14/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
AEI Consultants, Inc.
Workorder# 1706191

One TO-17 VI Tube sample was received on June 09, 2017. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

A Temperature Blank was not included with the shipment. Temperature was measured on a representative sample and was not within 4±2 °C. Coolant in the form of blue ice was present. Analysis proceeded.

Analytical Notes

A sampling volume of 0.06 L was used to convert ng to ug/m3 for the associated Lab Blank.

The reported CCV and LCS for each daily batch may be derived from more than one analytical file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: SG-9

Lab ID#: 1706191-01A

No Detections Were Found.

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Client Sample ID: SG-9
Lab ID#: 1706191-01A
EPA METHOD TO-17

File Name:	**6061216**	**Date of Extraction: NA**	**Date of Collection: 6/9/17 11:55:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 6/12/17 06:58 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	97	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1706191-02A

EPA METHOD TO-17

File Name:	**6061212**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/12/17 04:01 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	107	50-150

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Client Sample ID: CCV
Lab ID#: 1706191-03A
EPA METHOD TO-17

File Name:	**6061203**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/12/17 09:04 AM**

Compound	%Recovery
Naphthalene	109
TPH (Diesel Range C10-C22)	93

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	115	50-150

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Client Sample ID: LCS
Lab ID#: 1706191-04A
EPA METHOD TO-17

File Name:	**6061204**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/12/17 09:44 AM**

Compound	%Recovery	Method Limits
Naphthalene	111	70-130
TPH (Diesel Range C10-C22)	96	60-140

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	104	50-150

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Client Sample ID: LCSD
Lab ID#: 1706191-04AA
EPA METHOD TO-17

File Name:	**6061205**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 6/12/17 10:24 AM**

Compound	%Recovery	Method Limits
Naphthalene	110	70-130
TPH (Diesel Range C10-C22)	104	60-140

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	103	50-150

Air Toxics LTD.

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection handling or shipping of these samples. Relinquished signature also indicated agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

AIR TOXICS LTD.
180 BLUE RAVINE RD, SUITE B
FOLSOM, CA 95630-1020
916-985-1000 main line
916-985-1020 fax line

Chain-of-Custody Record

Project Manager: Wayne Hung
Company: AEI
Address: 2500 Camino Diablo City: Walnut Creek State: CA Zip: 94597
Phone: 925-746-6022 FAX: 925-746-6099
Collected By (print and sign):

Project Information:
P.O. # 132175
Project # 338841
Project Name Kia

Turn Around Time: ☒ Normal ☐ Rush Specify

Reporting Units: ☐ ppmv ☐ ppbv ☐ ug/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D.	Tube/ Cartridge	Date of Collection	Start Time	End Time	Duration (min)	Final Volume	Analysis Requested
01A	SG-9	G0149703	6/9/17	1152	1155	3	60mL	TO-17 (TPHg & naphthalene)

Relinquished By: (Signature) Date/Time: 6/9/17 1625
Received By: (Signature) Date/Time: 6-9-17 1625
Relinquished By: (Signature) Date/Time:
Received By: (Signature) Date/Time:
Relinquished By: (Signature) Date/Time:
Received By: (Signature) Date/Time:

Pump Calibration Information
Pre-test Flow Rate:
Post-test Flow Rate:
Average Flow Rate:

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By	Temp ©	Condition	Custody Seals	Work Order #
	Courier		NA	12.6°	~~OK~~ DNR 6/10/17	Yes No (None)	1706191
				SDR			

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6/14/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1706201A

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 6/9/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1706201A

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	132175
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	06/09/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/14/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-9	TO-15	6.7 "Hg	15.1 psi
02A	Lab Blank	TO-15	NA	NA
03A	CCV	TO-15	NA	NA
04A	LCS	TO-15	NA	NA
04AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/14/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
EPA Method TO-15
AEI Consultants, Inc.
Workorder# 1706201A

One 1 Liter Summa Canister sample was received on June 09, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-9

Lab ID#: 1706201A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	1.3	1.4	4.2	4.4

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Client Sample ID: SG-9

Lab ID#: 1706201A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17061320**	**Date of Collection: 6/9/17 11:51:00 AM**	
Dil. Factor:	**2.61**	**Date of Analysis: 6/13/17 11:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	5.2	Not Detected	19	Not Detected
Benzene	1.3	1.4	4.2	4.4
Toluene	1.3	Not Detected	4.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
TPH ref. to Gasoline (MW=100)	130	Not Detected	530	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1706201A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17061307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/17 01:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 1706201A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17061302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/17 09:42 AM**	

Compound	**%Recovery**
Methyl tert-butyl ether	87
Benzene	93
Toluene	97
Ethyl Benzene	94
m,p-Xylene	94
o-Xylene	92
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 1706201A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17061303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/17 10:35 AM**	

Compound	%Recovery	Method Limits
Methyl tert-butyl ether	92	70-130
Benzene	98	70-130
Toluene	100	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	96	70-130
o-Xylene	95	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: LCSD

Lab ID#: 1706201A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**17061304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/13/17 11:01 AM**	

Compound	%Recovery	Method Limits
Methyl tert-butyl ether	91	70-130
Benzene	96	70-130
Toluene	100	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	98	70-130
o-Xylene	96	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	100	70-130

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10/20/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1706201BR1

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 6/9/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1706201BR1

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	132175
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	06/09/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	06/16/2017		
DATE REISSUED:	10/20/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SG-9	Modified ASTM D-1946	6.7 "Hg	15.1 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/20/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified ASTM D-1946
AEI Consultants, Inc.
Workorder# 1706201BR1

One 1 Liter Summa Canister sample was received on June 09, 2017. The laboratory performed analysis via Modified ASTM Method D-1946 for fixed gases in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

The workorder was reissued on 10/20/2017 to report additional compound for SG-9 per client request.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SG-9

Lab ID#: 1706201BR1-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	16
Carbon Dioxide	0.026	5.6
Helium	0.13	0.39

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Client Sample ID: SG-9

Lab ID#: 1706201BR1-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10061412R1**	**Date of Collection: 6/9/17 11:51:00 AM**	
Dil. Factor:	**2.61**	**Date of Analysis: 6/14/17 02:22 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.26	16
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	5.6
Helium	0.13	0.39

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1706201BR1-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10061404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/17 10:01 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1706201BR1-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10061403c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/17 09:37 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1706201BR1-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10061402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/17 09:06 AM**	

Compound	%Recovery	Method Limits
Oxygen	99	85-115
Methane	101	85-115
Carbon Dioxide	99	85-115
Helium	100	85-115

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1706201BR1-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10061418**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/17 05:42 PM**	

Compound	%Recovery	Method Limits
Oxygen	98	85-115
Methane	100	85-115
Carbon Dioxide	99	85-115
Helium	100	85-115

Container Type: NA - Not Applicable

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Wayne Hung
Collected by: (Print and Sign) Wayne Hung
Company AEI Email Whung@aeiconsultants.com
Address 2500 Camino Diablo City Walnut Creek State CA Zip 94597
Phone 925-746-6022 Fax

Project Info:
P.O. # 132175
Project # 338841
Project Name Kia

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	SG-9	3034	6/9/17	1151	~~VOCs (TO-15) + O2/CO2~~ VOC	30.0	5.0		
					O_2, CO_2 (ASTMD1946)				
					TPHg, BTEX, MTBE (TO-15)				

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
	6/9/17 1425		6-9-17 1425
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
Helium as leak check compound

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Courier		N/A	OK	Yes No ~~None~~	1706201

Form 1293 rev.11

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10/19/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1710301A

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 10/16/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1710301A

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	142813
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	10/16/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	10/19/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
03A	SV-7	TO-15	2.8 "Hg	15.1 psi
04A	SV-8	TO-15	1.6 "Hg	14.8 psi
05A	Lab Blank	TO-15	NA	NA
06A	CCV	TO-15	NA	NA
07A	LCS	TO-15	NA	NA
07AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/19/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
EPA Method TO-15
AEI Consultants, Inc.
Workorder# 1710301A

Two 1 Liter Summa Canister samples were received on October 16, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for sample SV-7 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV-7

Lab ID#: 1710301A-03A

No Detections Were Found.

Client Sample ID: SV-8

Lab ID#: 1710301A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	1.1	2.6	4.0	9.7

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Client Sample ID: SV-7

Lab ID#: 1710301A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101717**	**Date of Collection: 10/12/17 2:07:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 10/17/17 07:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	4.5	Not Detected	16	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
Toluene	1.1	Not Detected	4.2	Not Detected
Ethyl Benzene	1.1	Not Detected	4.9	Not Detected
m,p-Xylene	1.1	Not Detected	4.9	Not Detected
o-Xylene	1.1	Not Detected	4.9	Not Detected
TPH ref. to Gasoline (MW=100)	110	Not Detected	460	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: SV-8

Lab ID#: 1710301A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101718**	**Date of Collection: 10/12/17 3:00:00 PM**	
Dil. Factor:	**2.12**	**Date of Analysis: 10/17/17 08:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	4.2	Not Detected	15	Not Detected
Benzene	1.1	Not Detected	3.4	Not Detected
Toluene	1.1	2.6	4.0	9.7
Ethyl Benzene	1.1	Not Detected	4.6	Not Detected
m,p-Xylene	1.1	Not Detected	4.6	Not Detected
o-Xylene	1.1	Not Detected	4.6	Not Detected
TPH ref. to Gasoline (MW=100)	110	Not Detected	430	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1710301A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101707**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/17/17 01:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TPH ref. to Gasoline (MW=100)	50	Not Detected	200	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1710301A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/17/17 09:05 AM**	

Compound	%Recovery
Methyl tert-butyl ether	78
Benzene	95
Toluene	99
Ethyl Benzene	96
m,p-Xylene	97
o-Xylene	94
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1710301A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/17/17 09:28 AM**	

Compound	%Recovery	Method Limits
Methyl tert-butyl ether	75	70-130
Benzene	100	70-130
Toluene	103	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	100	70-130
o-Xylene	99	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1710301A-07AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3101704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/17/17 09:50 AM**	

Compound	%Recovery	Method Limits
Methyl tert-butyl ether	74	70-130
Benzene	99	70-130
Toluene	102	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	102	70-130
o-Xylene	105	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	110	70-130

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Wayne Hung

Collected by: (Print and Sign) Nicole Rockenfine

Company AEI Consultants.com Email whung@aeiconsultants.com

Address 3585 13th Ave City Oakland State CA Zip _____

Phone 925-746-6000 Fax 925-746-6099

Project Info:
P.O. # 142813
Project # 338841
Project Name Kia

Turn Around Time:
☐ Normal
☒ Rush
_____ specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
03A	SV-7	37816	10/12/17	14:07	TO-15 & ASTM D1946	30	5		
04A	SV-8	37831	10/12/17	15:00	TO-15 & ASTM D1946	30	5		

Relinquished by: (signature) Date/Time 10/16/17 1121
Received by: (signature) Date/Time 10-16-17 1121
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Please run TpHg, BTEX, MTBE (TO-15) and O_2, CO_2, & Helium (ASTM D 1946) result by Thursday 10/19/17

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
Courier		NA	Good	Yes No (None)	171030L

Form 1293 rev.11

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10/19/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1710301B

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 10/16/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1710301B

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	142813
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	10/16/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	10/19/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
03A	SV-7	Modified ASTM D-1946	2.8 "Hg	15.1 psi
04A	SV-8	Modified ASTM D-1946	1.6 "Hg	14.8 psi
05A	Lab Blank	Modified ASTM D-1946	NA	NA
05B	Lab Blank	Modified ASTM D-1946	NA	NA
06A	LCS	Modified ASTM D-1946	NA	NA
06AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: _____ DATE: 10/19/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified ASTM D-1946
AEI Consultants, Inc.
Workorder# 1710301B

Two 1 Liter Summa Canister samples were received on October 16, 2017. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Chain of Custody (COC) information for sample SV-7 did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the

information on the canister was used to process and report the sample.

The Chain of Custody (COC) information for samples SV-7 and SV-8 did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: SV-7

Lab ID#: 1710301B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	20
Carbon Dioxide	0.022	1.3

Client Sample ID: SV-8

Lab ID#: 1710301B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	18
Carbon Dioxide	0.021	2.9

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Client Sample ID: SV-7

Lab ID#: 1710301B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101805**	**Date of Collection: 10/12/17 2:07:00 PM**	
Dil. Factor:	**2.24**	**Date of Analysis: 10/18/17 08:55 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	20
Methane	0.00022	Not Detected
Carbon Dioxide	0.022	1.3
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SV-8

Lab ID#: 1710301B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101806**	**Date of Collection: 10/12/17 3:00:00 PM**	
Dil. Factor:	**2.12**	**Date of Analysis: 10/18/17 09:21 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	18
Methane	0.00021	Not Detected
Carbon Dioxide	0.021	2.9
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1710301B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101804b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/18/17 08:21 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1710301B-05B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101803c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/18/17 07:58 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1710301B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101802**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/18/17 07:31 AM**	

Compound	%Recovery	Method Limits
Oxygen	102	85-115
Methane	101	85-115
Carbon Dioxide	99	85-115
Helium	100	85-115

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1710301B-06AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10101817**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/18/17 03:05 PM**	

Compound	%Recovery	Method Limits
Oxygen	101	85-115
Methane	98	85-115
Carbon Dioxide	100	85-115
Helium	101	85-115

Container Type: NA - Not Applicable

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Wayne Hung

Collected by: (Print and Sign) Nicole Rockenfine

Company AEI Consultants.com Email whung@aeiconsultants.com

Address 3585 13th Ave City Oakland State CA Zip _____

Phone 925-746-6000 Fax 925-746-6099

Project Info:
P.O. # 142813
Project # 338841
Project Name Kia

Turn Around Time:
☐ Normal
☒ Rush
_____ specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
03A	SV-7	37816	10/12/17	14:07	TO-15 & ASTM D1946	30	5		
04A	SV-8	37831	10/12/17	15:00	TO-15 & ASTM D1946	30	5		

Relinquished by: (signature) Date/Time 10/16/17 1121
Received by: (signature) Date/Time 10-16-17 1121
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Notes:
Please run TpHg, BTEX, MTBE (TO-15) and O_2, CO_2, & Helium (ASTM D 1946) result by Thursday 10/19/17

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
Courier		NA	Good	Yes No (None)	171030L

Form 1293 rev.11

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10/18/2017
Mr. Wayne Hung
AEI Consultants, Inc.
2500 Camino Diablo
Suite 200
Walnut Creek CA 94597

Project Name: Kia
Project #: 338841
Workorder #: 1710301C

Dear Mr. Wayne Hung

The following report includes the data for the above referenced project for sample(s) received on 10/16/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Rachel Selenis at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Rachel Selenis

Project Manager

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WORK ORDER #: 1710301C

Work Order Summary

CLIENT:	Mr. Wayne Hung AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable- Walnut Creek AEI Consultants, Inc. 2500 Camino Diablo Suite 200 Walnut Creek, CA 94597
PHONE:	925-283-6000	**P.O. #**	142813
FAX:	925-283-6121	**PROJECT #**	338841 Kia
DATE RECEIVED:	10/16/2017	**CONTACT:**	Rachel Selenis
DATE COMPLETED:	10/18/2017		

FRACTION #	NAME	TEST
01A	SV-7	Modified TO-17 VI
02A	SV-8	Modified TO-17 VI
03A	Lab Blank	Modified TO-17 VI
04A	CCV	Modified TO-17 VI
05A	LCS	Modified TO-17 VI
05AA	LCSD	Modified TO-17 VI

CERTIFIED BY:  DATE: 10/18/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
AEI Consultants, Inc.
Workorder# 1710301C

Two TO-17 VI Tube samples were received on October 16, 2017. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

Requirement	***TO-17***	***ATL Modifications***
Distributed Volume Pairs	Collection of distributed volume pairs required for monitoring ambient air to insure high quality.	If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A sampling volume of 0.06 L was used to convert ng to ug/m3 for the associated Lab Blank.

The reported CCV and LCS for each daily batch may be derived from more than one analytical file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in blank (subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates

as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: SV-7

Lab ID#: 1710301C-01A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
TPH (Diesel Range C10-C22)	1000	17000	1300	22000

Client Sample ID: SV-8

Lab ID#: 1710301C-02A

No Detections Were Found.

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Client Sample ID: SV-7
Lab ID#: 1710301C-01A
EPA METHOD TO-17

File Name:	**6101707**	**Date of Extraction: NA**	**Date of Collection: 10/12/17 2:23:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 01:00 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	1300	22000

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	85	50-150

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Client Sample ID: SV-8
Lab ID#: 1710301C-02A
EPA METHOD TO-17

File Name:	**6101710**	**Date of Extraction: NA**	**Date of Collection: 10/12/17 3:12:00 PM**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 03:29 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600
Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

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Client Sample ID: Lab Blank

Lab ID#: 1710301C-03A

EPA METHOD TO-17

File Name:	**6101706**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 11:06 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Naphthalene	1.0	17	Not Detected	Not Detected
TPH (Diesel Range C10-C22)	1000	17000	Not Detected	Not Detected

Air Sample Volume(L): 0.0600

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	99	50-150

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1710301C-04A
EPA METHOD TO-17

File Name:	**6101702**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 08:25 AM**

Compound	%Recovery
Naphthalene	98
TPH (Diesel Range C10-C22)	117

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	90	50-150

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Client Sample ID: LCS
Lab ID#: 1710301C-05A
EPA METHOD TO-17

File Name:	**6101703**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 09:05 AM**

Compound	%Recovery	Method Limits
Naphthalene	104	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

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Client Sample ID: LCSD

Lab ID#: 1710301C-05AA

EPA METHOD TO-17

File Name:	**6101704**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 10/17/17 09:45 AM**

Compound	%Recovery	Method Limits
Naphthalene	103	70-130
TPH (Diesel Range C10-C22)	Not Spiked	60-140

Air Sample Volume(L): 1.00

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Naphthalene-d8	94	50-150

TO-17 SAMPLE COLLECTION

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Eurofins assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630
(916) 985-1000 FAX (916) 985-1020

Project Manager: Wayne Hung
Collected by: (Print and Sign) Nicole Rockenbine
Company: AEI Consultants Email: whung@aeiconsultants.com
Address: 3585 13th Ave City: Oakland State: CA Zip:
Phone: 925-746-6002 Fax: 925-746-6099

Project Info:
P.O. # 142813
Project # 338841
Project Name: Kia

Turn Around Time: ☐ Normal ☒ Rush (specify)

Reporting Units: ☐ ppmv ☐ ppbv ☒ µg/m3 ☐ mg/m3

Lab I.D.	Field Sample I.D. (Location)	Engraved or Stamped Tube #	Date of Collection (mm/dd/yy)	Start Time (hr:min)	Date of Retrieval (mm/dd/yy)	End Time (hr:min)	Pre-Test Flow Rate	Post-Test Flow Rate	Volume (mL)	Indoor Air	Outdoor Air	Soil Vapor TO-17	Other ( )
01A	SV-7	G0150092	10/12/17	14:22	10/12/17	14:23	—	—	60	☐	☐	☒	☐
02A	SV-8	G0H7399	10/12/17	15:12	10/12/17	15:12	—	—	60	☐	☐	☒	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐
										☐	☐	☐	☐

Relinquished by: (signature) Date/Time: 10/16/17 1121
Received by: (signature) Date/Time: 10-16-17 1121
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes:
Please run TpHd & Naphthalene (TO-17)
result by Thursday 10/19/17

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Courier		~~N/A~~ 5.4°C GR 10/16/17	Good	Yes No (None)	1710301