CORNERSTONE EARTH GROUP

Date: October 24, 2022
Project No.: 118-134-3

Prepared For: Ms. Amy Wang
Mr. Nick Towstopiat
DAVID J. POWERS & ASSOCIATES
1871 The Alameda, Suite 200
San Jose, California 95126

Re: Soil Vapor Evaluation
1020, 1040 and 1050 Terra Bella Avenue, and 1055 San Leandro Avenue Mountain View, California

Dear Ms. Wang and Mr. Towstopiat:

Cornerstone Earth Group, Inc. (Cornerstone) is pleased to present this letter summarizing the results of the Soil Vapor Evaluation performed at 1040 and 1050 Terra Bella Avenue, and 1055 San Leandro Avenue in Mountain View, California (Site, Figures 1 and 2). The property recently evaluated by Essel Environmental (Essel) in May 2022 at 1020 Terra Bella Avenue is also included in the Site, but not included with this scope of work. This work was performed for David J. Powers & Associates (Powers) in accordance with our August 4, 2022 Agreement (Agreement).

Project Background

Site History

Based on Cornerstone's Environmental Document Review dated July 25, 2022 (Cornerstone, 2022), the approximately 5-acre Site was historically used for agricultural purposes. What appears to have been former residences and an associated outbuilding on the southern portion of the Public Storage facility property existed until the construction of the Public Storage facility by 1974. The 1020 Terra Bella Avenue parcel (APN 153-15-021) currently is occupied by a single-family house that has been converted to commercial office space; a structure that was likely a detached garage that has been converted for office and storage uses; and a 125 square foot shed used for storage These structures reportedly were constructed by the early 1960s.

Prior On-Site Studies

Prior environmental studies were completed at 1020 Terra Bella Avenue (proposed residential development) in 2001 by Environmental/Engineering Consultants (E_2C) and in 2017 by Terraphase Engineering (Terraphase), including the collection of soil, soil vapor, and groundwater samples. Terraphase reported that petroleum hydrocarbon and chlorinated solvent releases from several nearby properties have been documented up-gradient and cross-gradient of the Site and have the potential to impact the Site via groundwater migration and potentially cause a vapor intrusion concern[1].

[1] Vapor intrusion is the movement of chemical vapors from contaminated groundwater or soil into a nearby building. Vapors primarily enter through openings in the building foundation, such as cracks in the concrete slab and gaps around utility lines. It is also possible for vapors to pass through concrete, which is naturally porous. Once inside the structure, vapors may be inhaled by occupants posing potential health risks.

In May 2022, Essel sampled soil vapor from six probes located at 1020 Terra Bella Avenue. Several VOCs were detected. Benzene, ethylbenzene, xylenes, 1,3-butadiene, chloroform, ethylene dibromide and vinyl chloride were detected in one or more of the six vapor samples collected at concentrations greater than residential screening levels.

Prior investigations are summarized in our 2022 Environmental Document Review. Please refer to the summary report or the original reports prepared by E_2C, Terraphase, and Essel for additional details.

Soil Vapor Sampling

Exploratory Borings

On September 7, 2022, Cornerstone's field engineer directed advanced five exploratory borings (SV-1 through SV-5) to approximate depths of 5 feet for soil vapor sample collection. The borings were then converted to temporary soil vapor probes as discussed below. The approximate boring locations are shown on Figure 2.

The exploratory borings were advanced using direct push technology equipped with a Dual Wall Sampling System. The Dual Wall Sampling System is comprised of two main components: an exterior steel casing and an inner sample barrel. The outer casing has a 3.2-inch outer diameter (OD) and a 2.625-inch inner diameter (ID). The sample barrel is 5 feet in length with a 2.375 inch outside diameter (OD) and a 2.125-inch inner diameter (ID). The Dual Wall sample barrel was loaded with a 5-foot acetate liner and installed inside the outer casing. The outer drive casing and inner sample barrel was hydraulically pushed to a depth of approximately 4 feet. As these tools were advanced, the inner sampling barrel collected the soil core sample. This sampler was then retrieved while the outer casing remained in place, protecting the integrity of the hole. The final foot of each boring was advanced using handheld slide hammer equipment.

Due to the presence of tight clays, samples could not be collected from soil vapor probes SV-3, SV-4, and SV-5. Cornerstone field staff returned to the Site on September 9, 2022 and advanced additional borings adjacent to the prior borings. A 4-inch diameter coring machine was used to provide access to the underlaying soil, and the borings were advanced using hand augering equipment.

Subsurface Materials

The surface materials generally consisted of approximately 3 to 4 inches of asphalt concrete underlain by approximately 5 to 6 inches of aggregate baserock. The pavement section was underlain by dark grey lean clay with trace fine to coarse sands. The clay became increasingly light grey with depth.

Vapor Probe Construction

The subsurface probes consisted of a stainless-steel expendable vapor tip installed at approximate depths of 5 feet below surface grade with screens affixed to ¼- inch Teflon™ tubing. The probes were constructed by first placing approximately 2 inches of coarse aquarium sand into the bottom of the borehole using a tremie pipe. The stainless-steel tip and Teflon™ tubing were lowered into the borehole via a tremie pipe. Additional sand is then placed in the borehole via tremie to create an approximately 1-foot sand pack interval around the vapor tip.

Approximately 1 foot of granular bentonite (Benseal™) was placed on top of the sand pack via the tremie pipe. Bentonite "gel" was placed via tremie pipe on top of the dry granular bentonite to the bottom depth of the upper-sand pack hosting the shallower vapor tip. Prior to installing the upper-sand pack, an approximately 1-foot layer of dry granular bentonite was placed on top of the hydrated bentonite (using a tremie pipe) to help prevent settling of the upper-sand pack. The Teflon™ tubing was labeled with depth of placement and capped utilizing a vapor tight Swagelok tube cap.

Soil Vapor Sample Collection and Analysis

On September 7 and 14, 2022, Cornerstone personnel collected the soil vapor samples. The tubing emanating from the vapor points was affixed to a sample shutoff valve in the "off" position during the time needed to reach equilibrium (at least 2 hours). A 167 milliliters-per-minute flow regulator inclusive of particulate filter was fitted to the shutoff valve and the other end to a "T" fitting. One end of the "T" was connected to the sampling summa canister. The other end of the "T" was affixed to a digital vacuum gauge and a 1-liter summa canister utilized for purging.

A minimum 10-minute vacuum tightness test was performed on the manifold and connections by opening and closing the 6-liter purge canister valve and applying and monitoring a vacuum on the vacuum gauge. The sample shut-off valve on the downhole side of the sampling manifold remained in the "off" position. When gauge vacuum had maintained for at least 10 minutes without any noticeable decrease (less than approximately 0.1 inches of mercury [Hg] for properly connected fittings), purging began. The downhole shut off valve was opened, and three pore volumes were removed utilizing the purging summa canister. Purge volumes of vapor were removed and verified by the calculated pressure drop in the 6-liter summa canister utilized for purging. The purge volume was calculated based on the length and inner diameter of the sampling probe and the connected sampling tubing and equipment. Assuming the vapor probe was properly sealed, the borehole sand pack vapor space equilibrated with the surrounding vapors following the 2-hour equilibration period. Thus, the sand pack vapor space was not included in the purge volume calculation.

Sampling continued until the vacuum gauge indicated approximately 5 inches of Hg remaining. A datalogging organic vapor meter (OVM) utilized during sampling to monitor the atmosphere inside the shroud through a bulkhead fitting. The logged data (at minimum 1-minute intervals) was corrected to parts per million by volume isopropyl alcohol concentrations and utilized to evaluate the integrity of the sampling train. To confirm the isopropyl alcohol atmosphere, one confirmation sample was collected from the shroud atmosphere at probe SV-2 through the sampling port for the OVM.

The five soil vapor samples were analyzed for VOCs (EPA Test Method TO-15). In addition, one air sample was collected from the shroud atmosphere and analyzed for isopropyl alcohol.

Analytical Results

Data summary tables, analytical data sheets, and chain of custody documentation are attached to this letter. Cornerstone compared detected soil vapor data to residential and commercial Environmental Screening Levels (ESLs 2019) established by the San Francisco Bay Area Regional Water Quality Control Board (Water Board). Because Building 1 includes a manager apartment, soil vapor data collected from probes within the footprint of Building 1 were

compared to residential ESLs. Building 2 does not include residential uses, therefore data collected from within the footprint of Building 2 were compared to commercial ESLs.

Detected concentrations from probes within the footprint of Building 1 did not exceed residential soil vapor ESLs.

A summary of the detected compounds exceeding their respective commercial soil vapor ESLs collected from probes within the footprint of Building 2 is provided below:

- Cis-1,2-dichloroethene (cDCE) was detected at a concentration of 1,600 µg/m^3 at probe location SV-4, exceeding its commercial soil vapor ESL of 1,200 µg/m^3.
- Trichloroethene (TCE) was detected at a concentration of 190 µg/m^3 at probe location SV-4, exceeding its commercial soil vapor ESL of 100 µg/m^3.
- Vinyl chloride (VC) was detected at a concentration of 53 µg/m^3 at probe location SV-4, exceeding commercial soil vapor ESL of 5.2 µg/m^3.

All other detections were either below their respective commercial ESLs or not detected above laboratory reporting limits.

Soil Vapor Sample Integrity

At soil vapor probes SV-1 through SV-5, immediately upon opening the valve to the 1-liter sample Summa canister, a shroud was placed over and enclosed the atmosphere of the borehole and the entire sampling train, including all connections, for sample integrity evaluation purposes. Isopropyl alcohol (2-propanol, 91 percent) was utilized as a leak detection compound during sampling by applying between 5 and 6 drops to a cotton gauze and placing the moistened gauze near the borehole beneath the shroud. The concentration of isopropyl alcohol was monitored during sampling with a data logging organic vapor meter (OVM).
To help confirm the sampling trains were sufficiently tight and the soil vapor data is representative of subsurface conditions, one confirmation sample of the shroud atmosphere was collected from the exhaust port of the OVM and into a 250-mililiter (ml) Pac summa canister. Laboratory analyses of the shroud atmosphere sample detected isopropyl alcohol (i.e., 2-propanol) at 160,000 µg/m^3. During the same sampling period, 2-propanol levels within the shroud atmosphere were measured by the OVM to range from 53,675 µg/m^3 to 111,125 µg/m^3 with an average concentration of approximately 79,825 µg/m^3. The OVM appeared to underestimate the shroud atmosphere.

The maximum detected concentration of 2-propanol in soil vapor sample SV-5 was 14 µg/m^3 and the average concentration as measured by the OVM was 79,825 µg/m^3, the calculated maximum leakage rate of 0.018 percent (%). These data indicates that the sample trains were sufficiently tight, and no significant leakage occurred.

Conclusions and Recommendations

Known petroleum and chlorinated solvent releases have been documented up-gradient and cross-gradient of the Site. Previous soil vapor sampling performed in May 2022 at 1020 Terra Bella detected Benzene, BTEX compounds, and vinyl chloride above residential ESLs.

Additionally, in 2016 groundwater samples collected from the adjacent properties at 1066 and 1080 Linda Vista Avenue revealed PCE and its breakdown products.

In the Environmental Document Review (July 2022), Cornerstone recommended soil vapor sampling at the proposed storage facility in areas of human occupancy, such as offices, lobbies, and the managers residence to evaluate if vapor intrusion mitigation measures are warranted for the proposed structures. On September 7, 9, and 14, 2022 Cornerstone field staff mobilized to the Site to install and sample five temporary soil vapor wells. As shown in Table 1 (attached), cDCE, TCE, and VC exceed their respective commercial ESLs at SV-4. This probe is located at one of the proposed lobby areas of storage facility Building 2). Additionally, soil vapor data collected by others at 1020 Terra Bella Ave (2017 and 2022) revealed Benzene above the commercial screening level in 4 of 8 samples. Two of the soil vapor samples (2017 and 2022) were collected within the footprint of Building 2. Elevated VOC compounds were not detected at the other soil vapor probe locations advanced in the proposed storage facility Building 1 (September 2022) in the western area of the development.

The soil vapor data indicates that a soil vapor plume has migrated beneath the proposed development and may pose a risk for vapor intrusion, impacting indoor air quality and potentially creating a human health concern. Remedial measures appear required to facilitate the planned development, to manage the impacted soil vapor, and to limit potential health risks to future Site occupants and construction workers.

Based on the soil vapor data, in our opinion an oversight regulatory agency will require vapor intrusion mitigation measures for the residential building and eastern storage facility Building 2 but likely not for the western storage facility Building 1 along Linda Vista Avenue. We recommend coordinating with an appropriate regulatory agency (e.g., Department of Toxic Substances Control [DTSC], San Francisco Bay Regional Water Quality Control Board [Water Board], or Santa Clara County Department of Environmental Health [DEH]) to provide oversight for future investigations and subsequent mitigation measures. Please note that a regulatory oversight agency may require additional soil vapor and/or groundwater sampling to better define the lateral extent of the on-Site vapor plume and/or temporal variations.

Prior to future development, we also recommend that a Site Management Plan (SMP) be prepared that reflects the results of the on-Site investigations. The SMP should describe mitigation measures necessary to protect the health and safety of future Site occupants and establish appropriate management practices for handling and monitoring of impacted soil, soil vapor, and groundwater. The SMP should be prepared by an Environmental Professional and reviewed and approved by the selected oversight agency. A Health and Safety Plan (HSP) also should be prepared to establish health and safety protocols for construction personnel working at the Site. All mitigation measures will need to be completed under oversight of the selected agency and meet all applicable federal, state, and local laws, regulations, and requirements.

In addition to soil vapor management protocols, it is anticipated that the selected oversight agency will require that the SMP include a Vapor Mitigation Plan (VMP) that describes the measures to be implemented to prevent exposure of future Site occupants to VOCs in indoor air as a result of vapor intrusion. The VMP should also include vapor intrusion mitigation system (VIMS) plans and specifications to be incorporated into the development construction documents. An Operations, Maintenance, and Monitoring Plan (OMMP) should also be prepared that presents the actions to be taken following construction to maintain and monitor the VIMS.

Closing

This letter, an instrument of professional service, was prepared for the sole use of David J. Powers & Associates and may not be reproduced or distributed without written authorization from Cornerstone. The chemical data presented in this letter may change over time and are only valid for this time and location. Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

Should you have any questions regarding this letter, or if we may be of further service, please contact us at your convenience.

Sincerely,

Cornerstone Earth Group, Inc.

Michael F. Chang, P.E.
Project Engineer

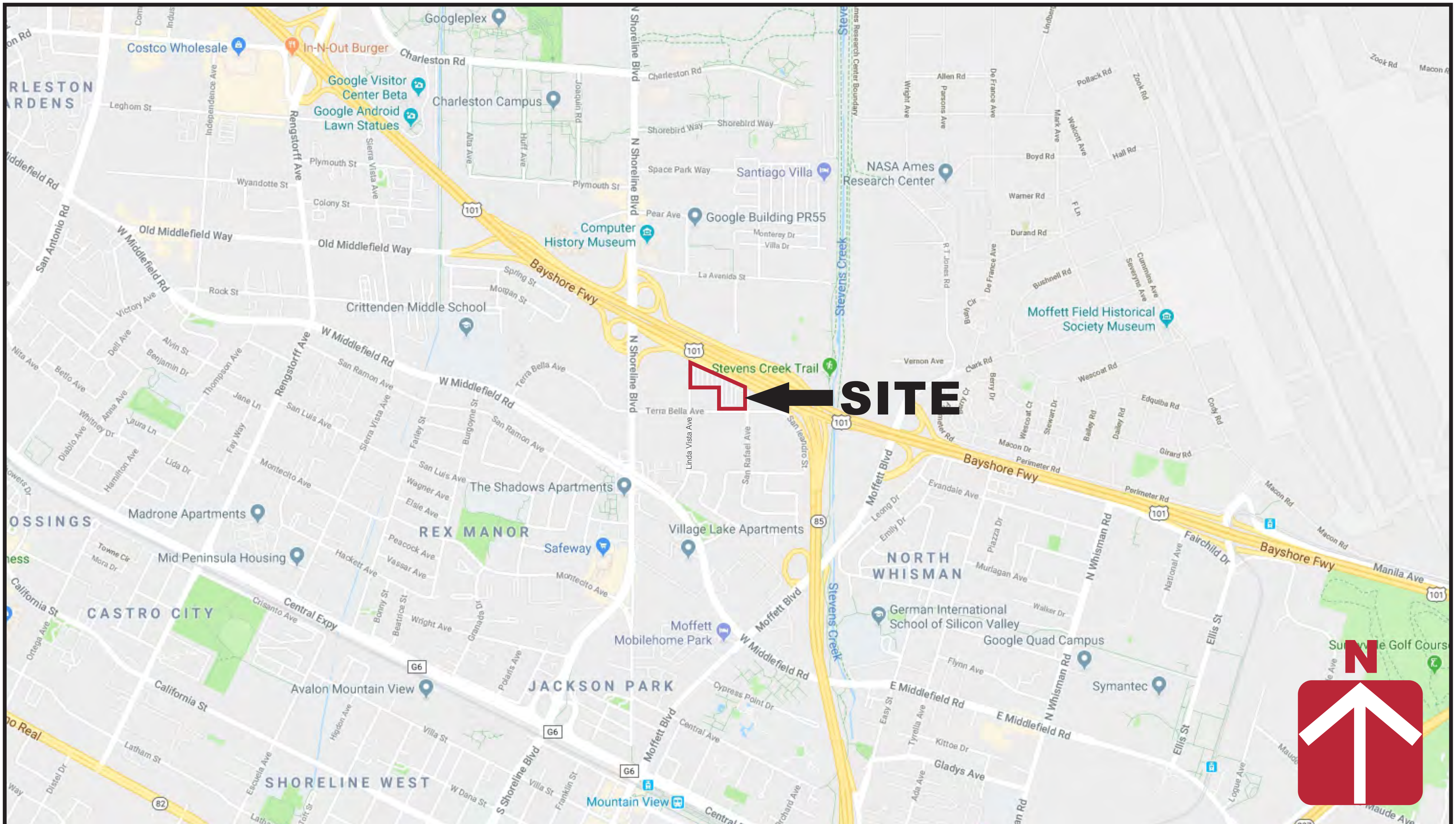
Ron L. Helm, C.E.G.
Senior Principal Geologist

Attachments: References
Figures
Data Tables
Laboratory Analytical Reports

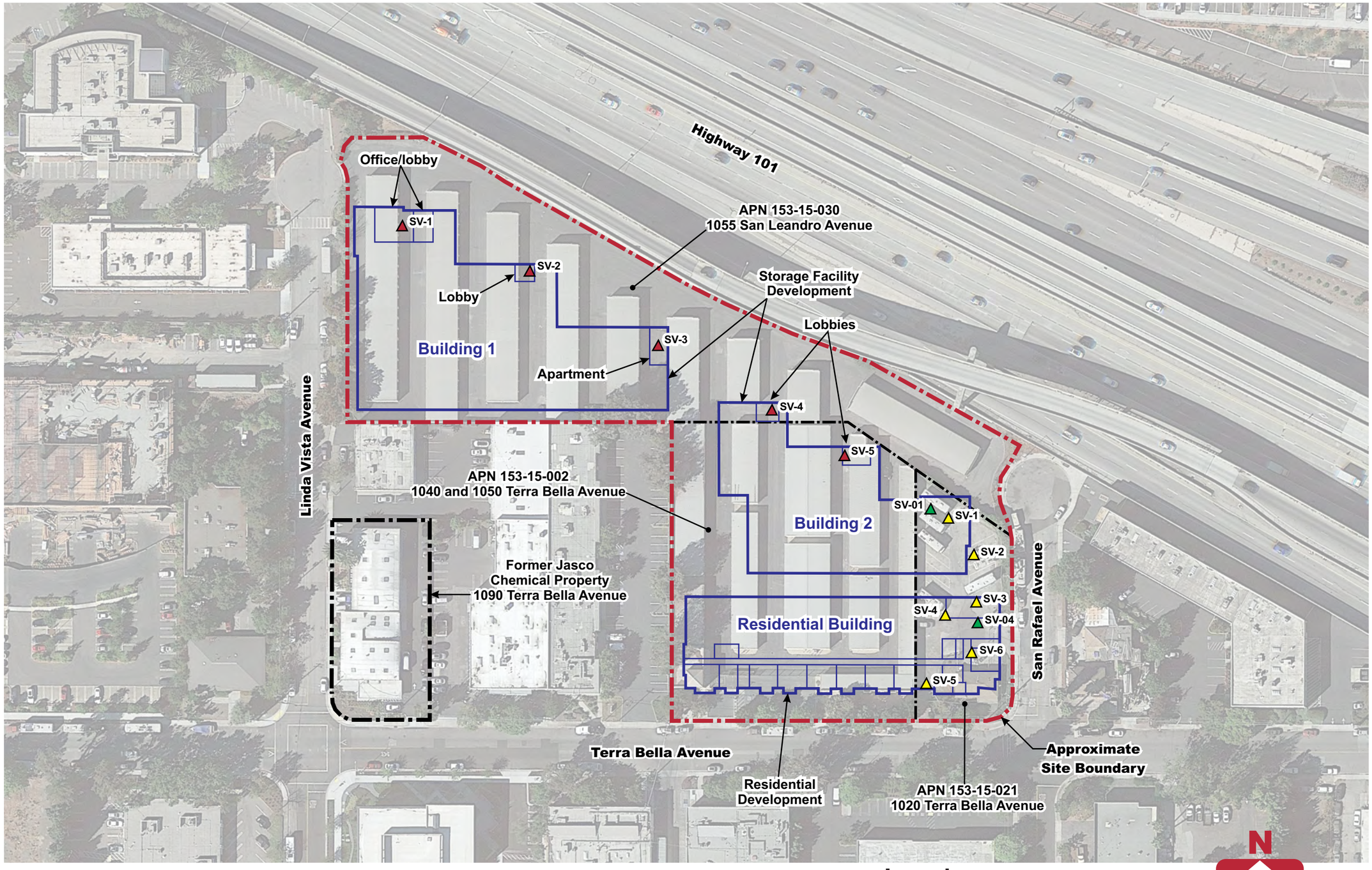
References

Cornerstone Earth Group, July, 25, 2022. *Environmental Document Review 1020, 1040 and 1050 Terra Bella Ave, and 1055 San Leandro Avenue, Mountain View, California.*

San Francisco Bay, Regional Water Quality Control Board. Revised January 2019. *Environmental Screening Levels.* http://www.waterboards.ca.gov/sanfranciscobay/waterissues/programs/esl.shtml



CORNERSTONE EARTH GROUP	**Vicinity Map**	Project Number 118-134-3
	1020, 1040, and 1050 Terra Bella Avenue, and 1055 San Leandro Avenue Mountain View, California	Figure Number Figure 1
		Date September 2022 / Drawn By RRN



Legend

- Approximate location of soil vapor sample (SV) (Cornerstone, 2022)
- Approximate location of soil vapor probe (SV) (Essel, 2022)
- Approximate location of soil vapor probe (SV) (Terraphase Engineering, 2017)

Base by Google Earth, dated 09/27/2021

Project Number 118-134-3

Figure Number Figure 2

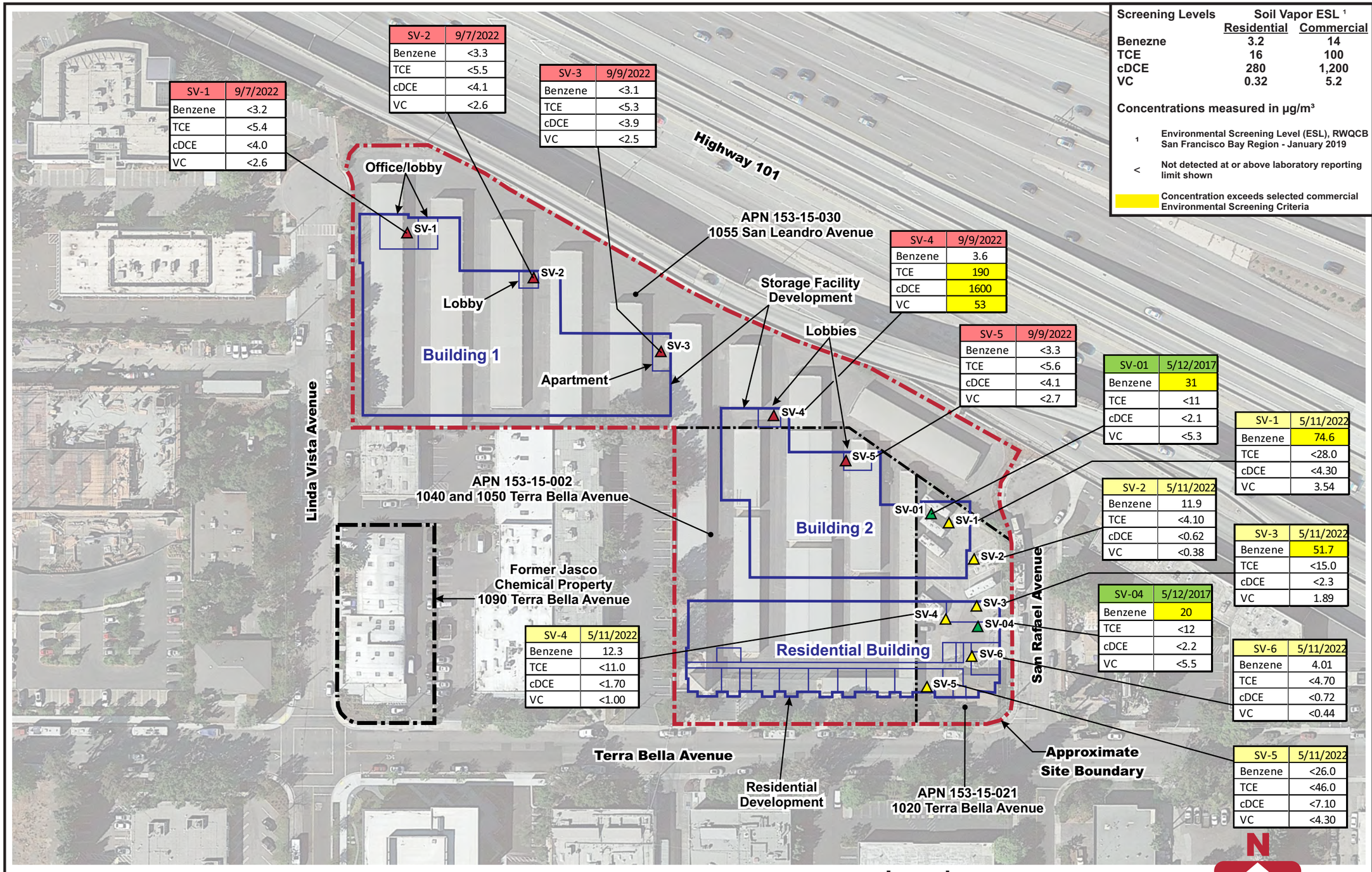
Drawn By RRN

Date October 2022

Site Plan

1020, 1040, and 1050 Terra Bella Avenue, and 1055 San Leandro Avenue
Mountain View, California

CORNERSTONE EARTH GROUP



SV-1	9/7/2022
Benzene	<3.2
TCE	<5.4
cDCE	<4.0
VC	<2.6

SV-2	9/7/2022
Benzene	<3.3
TCE	<5.5
cDCE	<4.1
VC	<2.6

SV-3	9/9/2022
Benzene	<3.1
TCE	<5.3
cDCE	<3.9
VC	<2.5

SV-4	9/9/2022
Benzene	3.6
TCE	190
cDCE	1600
VC	53

SV-5	9/9/2022
Benzene	<3.3
TCE	<5.6
cDCE	<4.1
VC	<2.7

SV-01	5/12/2017
Benzene	31
TCE	<11
cDCE	<2.1
VC	<5.3

SV-1	5/11/2022
Benzene	74.6
TCE	<28.0
cDCE	<4.30
VC	3.54

SV-2	5/11/2022
Benzene	11.9
TCE	<4.10
cDCE	<0.62
VC	<0.38

SV-3	5/11/2022
Benzene	51.7
TCE	<15.0
cDCE	<2.3
VC	1.89

SV-04	5/12/2017
Benzene	20
TCE	<12
cDCE	<2.2
VC	<5.5

SV-4	5/11/2022
Benzene	12.3
TCE	<11.0
cDCE	<1.70
VC	<1.00

SV-6	5/11/2022
Benzene	4.01
TCE	<4.70
cDCE	<0.72
VC	<0.44

SV-5	5/11/2022
Benzene	<26.0
TCE	<46.0
cDCE	<7.10
VC	<4.30

Screening Levels	Soil Vapor ESL [1] Residential	Commercial
Benezne	3.2	14
TCE	16	100
cDCE	280	1,200
VC	0.32	5.2

Concentrations measured in µg/m³

[1] Environmental Screening Level (ESL), RWQCB San Francisco Bay Region - January 2019

< Not detected at or above laboratory reporting limit shown

Concentration exceeds selected commercial Environmental Screening Criteria

Legend

- Approximate location of soil vapor sample (SV) (Cornerstone, 2022)
- Approximate location of soil vapor probe (SV) (Essel, 2022)
- Approximate location of soil vapor probe (SV) (Terraphase Engineering, 2017)

N

0 100 200

APPROXIMATE SCALE (FEET)

Base by Google Earth, dated 09/27/2021

Project Number 118-134-3

Figure Number Figure 3

Drawn By RRN

Date October 2022

Soil Vapor Data

1020, 1040, and 1050 Terra Bella Avenue, and 1055 San Leandro Avenue Mountain View, California

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Table 1. Analytical Results of Soil Vapor Samples
(Concentrations in µg/m³)

Building	Sample ID	Date	Depth (feet)	Benzene	Toluene	Ethylbenzene	1,2-DCA	1,1 - DCE	1,1-DCA	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2-Butanone (MEK)	2-Hexanone	4-Ethyl Toluene	4-Methyl-2-Pentanone (MIBK)	Acetone	Carbon Disulfide	cis-1,2-dichloroethene	Dichlorodifluoromethane	Heptane	Hexane	Isopropanol	n-Propylbenzene	o-xylene	PCE	TCE	trans-1,2-Dichloroethene	Vinyl Chloride
Building 1	SV-1	9/7/2022	5	<3.2	<3.8	<4.4	<4.1	<4.0	<4.1	<5.0	<5.0	<12	<16	<5.0	<4.1	29	<12	<4.0	5.5	6.1	<3.6	<9.9	<5.0	<4.4	<6.8	<5.4	<4.0	<2.6
	SV-2	9/7/2022	5	<3.3	<3.9	<4.5	<4.2	<4.1	<4.2	<5.1	<5.1	<12	<17	<5.1	<4.2	29	<13	<4.1	<5.1	<4.2	<3.6	<10	<5.1	<4.5	<7.0	<5.5	<4.1	<2.6
	SV-3	9/14/2022	5	<3.1	67	22	<4.0	<3.9	<4.0	36	11	<12	<16	12	5.9	25	110	<3.9	<4.8	7.2	<3.4	<9.6	7.8	28	6.6	<5.3	<3.9	<2.5
Building 2	SV-4	9/14/2022	5	3.6	86	18	4.4	26	25	35	10	48	35	10	15	69	100	1,600	<5.3	11	4.5	<11	6.9	24	<7.3	190	240	53
	SV-5	9/14/2022	5	<3.3	45	9.2	<4.2	<4.1	<4.2	13	<5.1	<12	<17	<5.1	5	28	27	<4.1	<5.2	6.2	<3.7	14	<5.1	12	<7.1	<5.6	<4.1	<2.7
Maximum Detection				3.6	86	22	4.4	26	25	36	11	48	35	12	15	69	110	1,600	5.5	11	4.5	160,000	7.8	28	6.6	190	240	53
ESL[1] - Human Health Risk (Residential)				3.2	10,000	37	3.6	2,400	5.8	NE	NE	170,000	NE	NE	100,000	1,100,000	NE	280	NE	NE	NE	NE	NE	NE	15	16	2,800	0.32
ESL[1] - Human Health Risk (Commercial)				14	44,000	160	16	10,000	260	NE	NE	730,000	NE	NE	440,000	4,500,000	NE	1,200	NE	NE	NE	NE	NE	NE	67	100	12,000	5.2

1 Environmental Screening Level (ESL), RWQCB, San Francisco Bay Region - January 2019.
< Not detected at or above laboratory reporting limit shown
NE Not Established
Concentration exceeds selected Commercial Environmental Screening Criteria

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9/16/2022
Mr. Mike Chang
Cornerstone Earth Group
1259 Oakmead Parkway

Sunnyvale CA 94085

Project Name: 1040 Terra Bella Ave, Mtn View
Project #: P11685
Workorder #: 2209212A

Dear Mr. Mike Chang

The following report includes the data for the above referenced project for sample(s) received on 9/9/2022 at Eurofins Air Toxics LLC.

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 LLC. 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: Nazanin Khorrami at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Nazanin Khorrami

Nazanin Khorrami

Project Manager

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WORK ORDER #: 2209212A

Work Order Summary

CLIENT:	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085	**BILL TO:**	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	408-245-4600	**P.O. #**	
FAX:	408-245-4620	**PROJECT #**	P11685 1040 Terra Bella Ave, Mtn View
DATE RECEIVED:	09/09/2022	**CONTACT:**	Nazanin Khorrami
DATE COMPLETED:	09/16/2022		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV-1	TO-15	5.0 "Hg	10 psi
02A	SV-2	TO-15	5.5 "Hg	10 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/16/22

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
Cornerstone Earth Group
Workorder# 2209212A

Two 1 Liter Summa Canister samples were received on September 09, 2022. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

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-1

Lab ID#: 2209212A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	1.1	5.0	5.5
Acetone	10	12	24	29
Heptane	1.0	1.5	4.1	6.1

Client Sample ID: SV-2

Lab ID#: 2209212A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	10	12	24	29

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Client Sample ID: SV-1

Lab ID#: 2209212A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091319**	**Date of Collection: 9/7/22 3:11:00 PM**	
Dil. Factor:	**2.02**	**Date of Analysis: 9/13/22 10:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	1.1	5.0	5.5
Freon 114	1.0	Not Detected	7.1	Not Detected
Chloromethane	10	Not Detected	21	Not Detected
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,3-Butadiene	1.0	Not Detected	2.2	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	4.0	Not Detected	11	Not Detected
Freon 11	1.0	Not Detected	5.7	Not Detected
Ethanol	10	Not Detected	19	Not Detected
Freon 113	1.0	Not Detected	7.7	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Acetone	10	12	24	29
2-Propanol	4.0	Not Detected	9.9	Not Detected
Carbon Disulfide	4.0	Not Detected	12	Not Detected
3-Chloropropene	4.0	Not Detected	13	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	4.0	Not Detected	14	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Hexane	1.0	Not Detected	3.6	Not Detected
1,1-Dichloroethane	1.0	Not Detected	4.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.0	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.0	Not Detected
Chloroform	1.0	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.0	Not Detected	5.5	Not Detected
Cyclohexane	1.0	Not Detected	3.5	Not Detected
Carbon Tetrachloride	1.0	Not Detected	6.4	Not Detected
2,2,4-Trimethylpentane	1.0	Not Detected	4.7	Not Detected
Benzene	1.0	Not Detected	3.2	Not Detected
1,2-Dichloroethane	1.0	Not Detected	4.1	Not Detected
Heptane	1.0	1.5	4.1	6.1
Trichloroethene	1.0	Not Detected	5.4	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.7	Not Detected
1,4-Dioxane	4.0	Not Detected	14	Not Detected
Bromodichloromethane	1.0	Not Detected	6.8	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.6	Not Detected
4-Methyl-2-pentanone	1.0	Not Detected	4.1	Not Detected
Toluene	1.0	Not Detected	3.8	Not Detected
trans-1,3-Dichloropropene	1.0	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.5	Not Detected
Tetrachloroethene	1.0	Not Detected	6.8	Not Detected
2-Hexanone	4.0	Not Detected	16	Not Detected

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Client Sample ID: SV-1

Lab ID#: 2209212A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091319**	**Date of Collection: 9/7/22 3:11:00 PM**	
Dil. Factor:	**2.02**	**Date of Analysis: 9/13/22 10:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.0	Not Detected	8.6	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	7.8	Not Detected
Chlorobenzene	1.0	Not Detected	4.6	Not Detected
Ethyl Benzene	1.0	Not Detected	4.4	Not Detected
m,p-Xylene	1.0	Not Detected	4.4	Not Detected
o-Xylene	1.0	Not Detected	4.4	Not Detected
Styrene	1.0	Not Detected	4.3	Not Detected
Bromoform	1.0	Not Detected	10	Not Detected
Cumene	1.0	Not Detected	5.0	Not Detected
1,1,2,2-Tetrachloroethane	1.0	Not Detected	6.9	Not Detected
Propylbenzene	1.0	Not Detected	5.0	Not Detected
4-Ethyltoluene	1.0	Not Detected	5.0	Not Detected
1,3,5-Trimethylbenzene	1.0	Not Detected	5.0	Not Detected
1,2,4-Trimethylbenzene	1.0	Not Detected	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected	6.1	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.1	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.2	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.1	Not Detected
1,2,4-Trichlorobenzene	4.0	Not Detected	30	Not Detected
Hexachlorobutadiene	4.0	Not Detected	43	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	78	70-130

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Client Sample ID: SV-2

Lab ID#: 2209212A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091320**	**Date of Collection:**	**9/7/22 3:49:00 PM**
Dil. Factor:	**2.06**	**Date of Analysis:**	**9/13/22 10:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	5.1	Not Detected
Freon 114	1.0	Not Detected	7.2	Not Detected
Chloromethane	10	Not Detected	21	Not Detected
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,3-Butadiene	1.0	Not Detected	2.3	Not Detected
Bromomethane	10	Not Detected	40	Not Detected
Chloroethane	4.1	Not Detected	11	Not Detected
Freon 11	1.0	Not Detected	5.8	Not Detected
Ethanol	10	Not Detected	19	Not Detected
Freon 113	1.0	Not Detected	7.9	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Acetone	10	12	24	29
2-Propanol	4.1	Not Detected	10	Not Detected
Carbon Disulfide	4.1	Not Detected	13	Not Detected
3-Chloropropene	4.1	Not Detected	13	Not Detected
Methylene Chloride	10	Not Detected	36	Not Detected
Methyl tert-butyl ether	4.1	Not Detected	15	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Hexane	1.0	Not Detected	3.6	Not Detected
1,1-Dichloroethane	1.0	Not Detected	4.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.1	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.0	Not Detected
Chloroform	1.0	Not Detected	5.0	Not Detected
1,1,1-Trichloroethane	1.0	Not Detected	5.6	Not Detected
Cyclohexane	1.0	Not Detected	3.5	Not Detected
Carbon Tetrachloride	1.0	Not Detected	6.5	Not Detected
2,2,4-Trimethylpentane	1.0	Not Detected	4.8	Not Detected
Benzene	1.0	Not Detected	3.3	Not Detected
1,2-Dichloroethane	1.0	Not Detected	4.2	Not Detected
Heptane	1.0	Not Detected	4.2	Not Detected
Trichloroethene	1.0	Not Detected	5.5	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.8	Not Detected
1,4-Dioxane	4.1	Not Detected	15	Not Detected
Bromodichloromethane	1.0	Not Detected	6.9	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
4-Methyl-2-pentanone	1.0	Not Detected	4.2	Not Detected
Toluene	1.0	Not Detected	3.9	Not Detected
trans-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.6	Not Detected
Tetrachloroethene	1.0	Not Detected	7.0	Not Detected
2-Hexanone	4.1	Not Detected	17	Not Detected

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Client Sample ID: SV-2

Lab ID#: 2209212A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091320**	**Date of Collection:**	**9/7/22 3:49:00 PM**
Dil. Factor:	**2.06**	**Date of Analysis:**	**9/13/22 10:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.0	Not Detected	8.8	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	7.9	Not Detected
Chlorobenzene	1.0	Not Detected	4.7	Not Detected
Ethyl Benzene	1.0	Not Detected	4.5	Not Detected
m,p-Xylene	1.0	Not Detected	4.5	Not Detected
o-Xylene	1.0	Not Detected	4.5	Not Detected
Styrene	1.0	Not Detected	4.4	Not Detected
Bromoform	1.0	Not Detected	11	Not Detected
Cumene	1.0	Not Detected	5.1	Not Detected
1,1,2,2-Tetrachloroethane	1.0	Not Detected	7.1	Not Detected
Propylbenzene	1.0	Not Detected	5.1	Not Detected
4-Ethyltoluene	1.0	Not Detected	5.1	Not Detected
1,3,5-Trimethylbenzene	1.0	Not Detected	5.1	Not Detected
1,2,4-Trimethylbenzene	1.0	Not Detected	5.1	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.3	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,2,4-Trichlorobenzene	4.1	Not Detected	30	Not Detected
Hexachlorobutadiene	4.1	Not Detected	44	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	77	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2209212A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 01:16 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	5.0	Not Detected	9.4	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 2209212A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 01:16 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	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
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	80	70-130

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Client Sample ID: CCV

Lab ID#: 2209212A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091302**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 10:52 AM**

Compound	%Recovery
Freon 12	111
Freon 114	99
Chloromethane	122
Vinyl Chloride	113
1,3-Butadiene	109
Bromomethane	118
Chloroethane	105
Freon 11	98
Ethanol	96
Freon 113	91
1,1-Dichloroethene	101
Acetone	101
2-Propanol	99
Carbon Disulfide	103
3-Chloropropene	100
Methylene Chloride	107
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	103
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	104
Tetrahydrofuran	102
Chloroform	102
1,1,1-Trichloroethane	100
Cyclohexane	98
Carbon Tetrachloride	99
2,2,4-Trimethylpentane	111
Benzene	103
1,2-Dichloroethane	107
Heptane	99
Trichloroethene	102
1,2-Dichloropropane	107
1,4-Dioxane	99
Bromodichloromethane	107
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	103
Toluene	101
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	101
Tetrachloroethene	84
2-Hexanone	107

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Client Sample ID: CCV

Lab ID#: 2209212A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091302**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 10:52 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	101
Chlorobenzene	95
Ethyl Benzene	98
m,p-Xylene	96
o-Xylene	94
Styrene	98
Bromoform	90
Cumene	93
1,1,2,2-Tetrachloroethane	101
Propylbenzene	92
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	90
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	75
Hexachlorobutadiene	71

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: LCS

Lab ID#: 2209212A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 11:19 AM**	

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	103	70-130
Chloromethane	99	70-130
Vinyl Chloride	113	70-130
1,3-Butadiene	109	70-130
Bromomethane	123	70-130
Chloroethane	108	70-130
Freon 11	101	70-130
Ethanol	97	70-130
Freon 113	95	70-130
1,1-Dichloroethene	102	70-130
Acetone	99	70-130
2-Propanol	108	70-130
Carbon Disulfide	106	70-130
3-Chloropropene	105	70-130
Methylene Chloride	102	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	103	70-130
Hexane	100	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	99	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	99	70-130
Carbon Tetrachloride	96	70-130
2,2,4-Trimethylpentane	109	70-130
Benzene	99	70-130
1,2-Dichloroethane	100	70-130
Heptane	90	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	101	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	98	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	84	70-130
2-Hexanone	100	70-130

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Client Sample ID: LCS

Lab ID#: 2209212A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 11:19 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	92	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	89	70-130
o-Xylene	87	70-130
Styrene	90	70-130
Bromoform	87	70-130
Cumene	87	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	86	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	82	70-130
1,2,4-Trimethylbenzene	84	70-130
1,3-Dichlorobenzene	83	70-130
1,4-Dichlorobenzene	82	70-130
alpha-Chlorotoluene	90	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	66 Q	70-130
Hexachlorobutadiene	67 Q	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: LCSD

Lab ID#: 2209212A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 11:45 AM**	

Compound	%Recovery	Method Limits
Freon 12	106	70-130
Freon 114	101	70-130
Chloromethane	92	70-130
Vinyl Chloride	112	70-130
1,3-Butadiene	106	70-130
Bromomethane	120	70-130
Chloroethane	106	70-130
Freon 11	100	70-130
Ethanol	92	70-130
Freon 113	94	70-130
1,1-Dichloroethene	99	70-130
Acetone	98	70-130
2-Propanol	106	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	104	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	103	70-130
Hexane	98	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	99	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	95	70-130
2,2,4-Trimethylpentane	107	70-130
Benzene	100	70-130
1,2-Dichloroethane	102	70-130
Heptane	91	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	100	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	98	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	85	70-130
2-Hexanone	99	70-130

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Client Sample ID: LCSD

Lab ID#: 2209212A-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a091304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/13/22 11:45 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	93	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	90	70-130
o-Xylene	86	70-130
Styrene	90	70-130
Bromoform	88	70-130
Cumene	88	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	86	70-130
1,2,4-Trimethylbenzene	88	70-130
1,3-Dichlorobenzene	84	70-130
1,4-Dichlorobenzene	84	70-130
alpha-Chlorotoluene	92	70-130
1,2-Dichlorobenzene	84	70-130
1,2,4-Trichlorobenzene	81	70-130
Hexachlorobutadiene	78	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	92	70-130

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9/21/2022
Mr. Mike Chang
Cornerstone Earth Group
1259 Oakmead Parkway

Sunnyvale CA 94085

Project Name: 1040 Terra Bella
Project #: P11685
Workorder #: 2209364

Dear Mr. Mike Chang

The following report includes the data for the above referenced project for sample(s) received on 9/15/2022 at Eurofins Air Toxics LLC.

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 LLC. 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: Nazanin Khorrami at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Nazanin Khorrami

Nazanin Khorrami

Project Manager

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WORK ORDER #: 2209364

Work Order Summary

CLIENT:	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085	**BILL TO:**	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	408-245-4600	**P.O. #**	
FAX:	408-245-4620	**PROJECT #**	P11685 1040 Terra Bella
DATE RECEIVED:	09/15/2022	**CONTACT:**	Nazanin Khorrami
DATE COMPLETED:	09/21/2022		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV-3	TO-15	4.5 "Hg	9.8 psi
02A	SV-4	TO-15	6.7 "Hg	10 psi
03A	SV-5	TO-15	6.3 "Hg	9.6 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/21/22

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15
Cornerstone Earth Group
Workorder# 2209364

Three 1 Liter Summa Canister samples were received on September 15, 2022. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

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-3

Lab ID#: 2209364-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	9.8	10	23	25
Carbon Disulfide	3.9	37	12	110
Heptane	0.98	1.7	4.0	7.2
4-Methyl-2-pentanone	0.98	1.4	4.0	5.9
Toluene	0.98	18	3.7	67
Tetrachloroethene	0.98	0.98	6.6	6.6
Ethyl Benzene	0.98	5.1	4.2	22
m,p-Xylene	0.98	19	4.2	82
o-Xylene	0.98	6.4	4.2	28
Propylbenzene	0.98	1.6	4.8	7.8
4-Ethyltoluene	0.98	2.5	4.8	12
1,3,5-Trimethylbenzene	0.98	2.2	4.8	11
1,2,4-Trimethylbenzene	0.98	7.3	4.8	36

Client Sample ID: SV-4

Lab ID#: 2209364-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	21	2.8	53
1,1-Dichloroethene	1.1	6.6	4.3	26
Acetone	11	29	26	69
Carbon Disulfide	4.3	32	13	100
trans-1,2-Dichloroethene	1.1	61	4.3	240
Hexane	1.1	1.3	3.8	4.5
1,1-Dichloroethane	1.1	6.1	4.4	25
2-Butanone (Methyl Ethyl Ketone)	4.3	16	13	48
cis-1,2-Dichloroethene	1.1	410	4.3	1600
Benzene	1.1	1.1	3.4	3.6
1,2-Dichloroethane	1.1	1.1	4.4	4.4
Heptane	1.1	2.8	4.4	11
Trichloroethene	1.1	36	5.8	190
4-Methyl-2-pentanone	1.1	3.6	4.4	15
Toluene	1.1	23	4.1	86

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

Client Sample ID: SV-4

Lab ID#: 2209364-02A

2-Hexanone	4.3	8.5	18	35
Ethyl Benzene	1.1	4.2	4.7	18
m,p-Xylene	1.1	16	4.7	68
o-Xylene	1.1	5.5	4.7	24
Propylbenzene	1.1	1.4	5.3	6.9
4-Ethyltoluene	1.1	2.0	5.3	10
1,3,5-Trimethylbenzene	1.1	2.1	5.3	10
1,2,4-Trimethylbenzene	1.1	7.1	5.3	35

Client Sample ID: SV-5

Lab ID#: 2209364-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	10	12	25	28
2-Propanol	4.2	5.5	10	14
Carbon Disulfide	4.2	8.6	13	27
Heptane	1.0	1.5	4.3	6.2
4-Methyl-2-pentanone	1.0	1.2	4.3	5.0
Toluene	1.0	12	3.9	45
Ethyl Benzene	1.0	2.1	4.5	9.2
m,p-Xylene	1.0	8.0	4.5	35
o-Xylene	1.0	2.7	4.5	12
1,2,4-Trimethylbenzene	1.0	2.7	5.1	13

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Client Sample ID: SV-3

Lab ID#: 2209364-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091610**	**Date of Collection:**	**9/14/22 8:45:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**9/16/22 02:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.98	Not Detected	4.8	Not Detected
Freon 114	0.98	Not Detected	6.8	Not Detected
Chloromethane	9.8	Not Detected	20	Not Detected
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
1,3-Butadiene	0.98	Not Detected	2.2	Not Detected
Bromomethane	9.8	Not Detected	38	Not Detected
Chloroethane	3.9	Not Detected	10	Not Detected
Freon 11	0.98	Not Detected	5.5	Not Detected
Ethanol	9.8	Not Detected	18	Not Detected
Freon 113	0.98	Not Detected	7.5	Not Detected
1,1-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Acetone	9.8	10	23	25
2-Propanol	3.9	Not Detected	9.6	Not Detected
Carbon Disulfide	3.9	37	12	110
3-Chloropropene	3.9	Not Detected	12	Not Detected
Methylene Chloride	9.8	Not Detected	34	Not Detected
Methyl tert-butyl ether	3.9	Not Detected	14	Not Detected
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Hexane	0.98	Not Detected	3.4	Not Detected
1,1-Dichloroethane	0.98	Not Detected	4.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Tetrahydrofuran	0.98	Not Detected	2.9	Not Detected
Chloroform	0.98	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Cyclohexane	0.98	Not Detected	3.4	Not Detected
Carbon Tetrachloride	0.98	Not Detected	6.2	Not Detected
2,2,4-Trimethylpentane	0.98	Not Detected	4.6	Not Detected
Benzene	0.98	Not Detected	3.1	Not Detected
1,2-Dichloroethane	0.98	Not Detected	4.0	Not Detected
Heptane	0.98	1.7	4.0	7.2
Trichloroethene	0.98	Not Detected	5.3	Not Detected
1,2-Dichloropropane	0.98	Not Detected	4.5	Not Detected
1,4-Dioxane	3.9	Not Detected	14	Not Detected
Bromodichloromethane	0.98	Not Detected	6.6	Not Detected
cis-1,3-Dichloropropene	0.98	Not Detected	4.4	Not Detected
4-Methyl-2-pentanone	0.98	1.4	4.0	5.9
Toluene	0.98	18	3.7	67
trans-1,3-Dichloropropene	0.98	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Tetrachloroethene	0.98	0.98	6.6	6.6
2-Hexanone	3.9	Not Detected	16	Not Detected

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Client Sample ID: SV-3

Lab ID#: 2209364-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091610**	**Date of Collection:**	**9/14/22 8:45:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**9/16/22 02:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.98	Not Detected	8.3	Not Detected
1,2-Dibromoethane (EDB)	0.98	Not Detected	7.5	Not Detected
Chlorobenzene	0.98	Not Detected	4.5	Not Detected
Ethyl Benzene	0.98	5.1	4.2	22
m,p-Xylene	0.98	19	4.2	82
o-Xylene	0.98	6.4	4.2	28
Styrene	0.98	Not Detected	4.2	Not Detected
Bromoform	0.98	Not Detected	10	Not Detected
Cumene	0.98	Not Detected	4.8	Not Detected
1,1,2,2-Tetrachloroethane	0.98	Not Detected	6.7	Not Detected
Propylbenzene	0.98	1.6	4.8	7.8
4-Ethyltoluene	0.98	2.5	4.8	12
1,3,5-Trimethylbenzene	0.98	2.2	4.8	11
1,2,4-Trimethylbenzene	0.98	7.3	4.8	36
1,3-Dichlorobenzene	0.98	Not Detected	5.9	Not Detected
1,4-Dichlorobenzene	0.98	Not Detected	5.9	Not Detected
alpha-Chlorotoluene	0.98	Not Detected	5.1	Not Detected
1,2-Dichlorobenzene	0.98	Not Detected	5.9	Not Detected
1,2,4-Trichlorobenzene	3.9	Not Detected	29	Not Detected
Hexachlorobutadiene	3.9	Not Detected	42	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: SV-4

Lab ID#: 2209364-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091611**	**Date of Collection:**	**9/14/22 9:27:00 AM**
Dil. Factor:	**2.16**	**Date of Analysis:**	**9/16/22 03:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.3	Not Detected
Freon 114	1.1	Not Detected	7.6	Not Detected
Chloromethane	11	Not Detected	22	Not Detected
Vinyl Chloride	1.1	21	2.8	53
1,3-Butadiene	1.1	Not Detected	2.4	Not Detected
Bromomethane	11	Not Detected	42	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
Freon 11	1.1	Not Detected	6.1	Not Detected
Ethanol	11	Not Detected	20	Not Detected
Freon 113	1.1	Not Detected	8.3	Not Detected
1,1-Dichloroethene	1.1	6.6	4.3	26
Acetone	11	29	26	69
2-Propanol	4.3	Not Detected	11	Not Detected
Carbon Disulfide	4.3	32	13	100
3-Chloropropene	4.3	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
Methyl tert-butyl ether	4.3	Not Detected	16	Not Detected
trans-1,2-Dichloroethene	1.1	61	4.3	240
Hexane	1.1	1.3	3.8	4.5
1,1-Dichloroethane	1.1	6.1	4.4	25
2-Butanone (Methyl Ethyl Ketone)	4.3	16	13	48
cis-1,2-Dichloroethene	1.1	410	4.3	1600
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Cyclohexane	1.1	Not Detected	3.7	Not Detected
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.0	Not Detected
Benzene	1.1	1.1	3.4	3.6
1,2-Dichloroethane	1.1	1.1	4.4	4.4
Heptane	1.1	2.8	4.4	11
Trichloroethene	1.1	36	5.8	190
1,2-Dichloropropane	1.1	Not Detected	5.0	Not Detected
1,4-Dioxane	4.3	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.2	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
4-Methyl-2-pentanone	1.1	3.6	4.4	15
Toluene	1.1	23	4.1	86
trans-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	Not Detected	7.3	Not Detected
2-Hexanone	4.3	8.5	18	35

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Client Sample ID: SV-4

Lab ID#: 2209364-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091611**	**Date of Collection:**	**9/14/22 9:27:00 AM**
Dil. Factor:	**2.16**	**Date of Analysis:**	**9/16/22 03:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.2	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.3	Not Detected
Chlorobenzene	1.1	Not Detected	5.0	Not Detected
Ethyl Benzene	1.1	4.2	4.7	18
m,p-Xylene	1.1	16	4.7	68
o-Xylene	1.1	5.5	4.7	24
Styrene	1.1	Not Detected	4.6	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.3	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.4	Not Detected
Propylbenzene	1.1	1.4	5.3	6.9
4-Ethyltoluene	1.1	2.0	5.3	10
1,3,5-Trimethylbenzene	1.1	2.1	5.3	10
1,2,4-Trimethylbenzene	1.1	7.1	5.3	35
1,3-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.6	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,2,4-Trichlorobenzene	4.3	Not Detected	32	Not Detected
Hexachlorobutadiene	4.3	Not Detected	46	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SV-5

Lab ID#: 2209364-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091612**	**Date of Collection:**	**9/14/22 10:02:00 AM**
Dil. Factor:	**2.09**	**Date of Analysis:**	**9/16/22 03:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	5.2	Not Detected
Freon 114	1.0	Not Detected	7.3	Not Detected
Chloromethane	10	Not Detected	22	Not Detected
Vinyl Chloride	1.0	Not Detected	2.7	Not Detected
1,3-Butadiene	1.0	Not Detected	2.3	Not Detected
Bromomethane	10	Not Detected	40	Not Detected
Chloroethane	4.2	Not Detected	11	Not Detected
Freon 11	1.0	Not Detected	5.9	Not Detected
Ethanol	10	Not Detected	20	Not Detected
Freon 113	1.0	Not Detected	8.0	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Acetone	10	12	25	28
2-Propanol	4.2	5.5	10	14
Carbon Disulfide	4.2	8.6	13	27
3-Chloropropene	4.2	Not Detected	13	Not Detected
Methylene Chloride	10	Not Detected	36	Not Detected
Methyl tert-butyl ether	4.2	Not Detected	15	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Hexane	1.0	Not Detected	3.7	Not Detected
1,1-Dichloroethane	1.0	Not Detected	4.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.2	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.1	Not Detected
Chloroform	1.0	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.0	Not Detected	5.7	Not Detected
Cyclohexane	1.0	Not Detected	3.6	Not Detected
Carbon Tetrachloride	1.0	Not Detected	6.6	Not Detected
2,2,4-Trimethylpentane	1.0	Not Detected	4.9	Not Detected
Benzene	1.0	Not Detected	3.3	Not Detected
1,2-Dichloroethane	1.0	Not Detected	4.2	Not Detected
Heptane	1.0	1.5	4.3	6.2
Trichloroethene	1.0	Not Detected	5.6	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.8	Not Detected
1,4-Dioxane	4.2	Not Detected	15	Not Detected
Bromodichloromethane	1.0	Not Detected	7.0	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
4-Methyl-2-pentanone	1.0	1.2	4.3	5.0
Toluene	1.0	12	3.9	45
trans-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.7	Not Detected
Tetrachloroethene	1.0	Not Detected	7.1	Not Detected
2-Hexanone	4.2	Not Detected	17	Not Detected

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Client Sample ID: SV-5

Lab ID#: 2209364-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091612**	**Date of Collection:**	**9/14/22 10:02:00 AM**
Dil. Factor:	**2.09**	**Date of Analysis:**	**9/16/22 03:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.0	Not Detected	8.9	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	8.0	Not Detected
Chlorobenzene	1.0	Not Detected	4.8	Not Detected
Ethyl Benzene	1.0	2.1	4.5	9.2
m,p-Xylene	1.0	8.0	4.5	35
o-Xylene	1.0	2.7	4.5	12
Styrene	1.0	Not Detected	4.4	Not Detected
Bromoform	1.0	Not Detected	11	Not Detected
Cumene	1.0	Not Detected	5.1	Not Detected
1,1,2,2-Tetrachloroethane	1.0	Not Detected	7.2	Not Detected
Propylbenzene	1.0	Not Detected	5.1	Not Detected
4-Ethyltoluene	1.0	Not Detected	5.1	Not Detected
1,3,5-Trimethylbenzene	1.0	Not Detected	5.1	Not Detected
1,2,4-Trimethylbenzene	1.0	2.7	5.1	13
1,3-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.4	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.3	Not Detected
1,2,4-Trichlorobenzene	4.2	Not Detected	31	Not Detected
Hexachlorobutadiene	4.2	Not Detected	44	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2209364-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091609a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 12:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	5.0	Not Detected	9.4	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 2209364-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091609a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 12:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	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
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: CCV

Lab ID#: 2209364-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091606**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 10:21 AM**

Compound	%Recovery
Freon 12	111
Freon 114	100
Chloromethane	119
Vinyl Chloride	111
1,3-Butadiene	112
Bromomethane	114
Chloroethane	115
Freon 11	109
Ethanol	107
Freon 113	101
1,1-Dichloroethene	96
Acetone	99
2-Propanol	100
Carbon Disulfide	99
3-Chloropropene	89
Methylene Chloride	107
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	101
Hexane	89
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	94
Tetrahydrofuran	96
Chloroform	98
1,1,1-Trichloroethane	99
Cyclohexane	92
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	100
Benzene	97
1,2-Dichloroethane	102
Heptane	92
Trichloroethene	98
1,2-Dichloropropane	98
1,4-Dioxane	100
Bromodichloromethane	102
cis-1,3-Dichloropropene	95
4-Methyl-2-pentanone	93
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	99
Tetrachloroethene	101
2-Hexanone	98

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Client Sample ID: CCV

Lab ID#: 2209364-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 10:21 AM**	

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	102
Chlorobenzene	98
Ethyl Benzene	99
m,p-Xylene	99
o-Xylene	99
Styrene	102
Bromoform	103
Cumene	100
1,1,2,2-Tetrachloroethane	104
Propylbenzene	104
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	107
Hexachlorobutadiene	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 2209364-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091607**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 11:07 AM**	

Compound	%Recovery	Method Limits
Freon 12	111	70-130
Freon 114	100	70-130
Chloromethane	110	70-130
Vinyl Chloride	85	70-130
1,3-Butadiene	86	70-130
Bromomethane	106	70-130
Chloroethane	112	70-130
Freon 11	105	70-130
Ethanol	106	70-130
Freon 113	98	70-130
1,1-Dichloroethene	92	70-130
Acetone	96	70-130
2-Propanol	103	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	86	70-130
Methylene Chloride	103	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	98	70-130
Hexane	90	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	92	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	96	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	96	70-130
2,2,4-Trimethylpentane	95	70-130
Benzene	96	70-130
1,2-Dichloroethane	100	70-130
Heptane	94	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	97	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	101	70-130
2-Hexanone	102	70-130

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Client Sample ID: LCS

Lab ID#: 2209364-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091607**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 11:07 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	99	70-130
o-Xylene	99	70-130
Styrene	102	70-130
Bromoform	103	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	103	70-130
1,3,5-Trimethylbenzene	104	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	106	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	113	70-130
Hexachlorobutadiene	114	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 2209364-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091608**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 11:36 AM**	

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	98	70-130
Chloromethane	107	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	94	70-130
Bromomethane	108	70-130
Chloroethane	113	70-130
Freon 11	105	70-130
Ethanol	105	70-130
Freon 113	96	70-130
1,1-Dichloroethene	91	70-130
Acetone	95	70-130
2-Propanol	104	70-130
Carbon Disulfide	95	70-130
3-Chloropropene	88	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	101	70-130
Hexane	92	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	97	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	92	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	96	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	95	70-130
1,2-Dichloroethane	101	70-130
Heptane	96	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	97	70-130
trans-1,3-Dichloropropene	100	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	102	70-130
2-Hexanone	101	70-130

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Client Sample ID: LCSD

Lab ID#: 2209364-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091608**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/16/22 11:36 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	103	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	99	70-130
o-Xylene	99	70-130
Styrene	102	70-130
Bromoform	104	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	103	70-130
1,2,4-Trimethylbenzene	102	70-130
1,3-Dichlorobenzene	106	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	113	70-130
Hexachlorobutadiene	113	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	99	70-130

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9/16/2022
Mr. Mike Chang
Cornerstone Earth Group
1259 Oakmead Parkway

Sunnyvale CA 94085

Project Name: 1040 Terra Bella Ave, Mtn View
Project #: P11685
Workorder #: 2209212B

Dear Mr. Mike Chang

The following report includes the data for the above referenced project for sample(s) received on 9/9/2022 at Eurofins Air Toxics LLC.

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 LLC. 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: Nazanin Khorrami at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Nazanin Khorrami

Nazanin Khorrami

Project Manager

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WORK ORDER #: 2209212B

Work Order Summary

CLIENT:	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085	**BILL TO:**	Mr. Mike Chang Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	408-245-4600	**P.O. #**	
FAX:	408-245-4620	**PROJECT #**	P11685 1040 Terra Bella Ave, Mtn View
DATE RECEIVED:	09/09/2022	**CONTACT:**	Nazanin Khorrami
DATE COMPLETED:	09/16/2022		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
03A	Shroud	TO-15	4.5 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/16/22

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Cornerstone Earth Group
Workorder# 2209212B

One PAC250 Canister sample was received on September 09, 2022. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample Shroud due to the presence of high level target species.

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

Client Sample ID: Shroud

Lab ID#: 2209212B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	300	65000	730	160000

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Client Sample ID: Shroud

Lab ID#: 2209212B-03A

EPA METHOD TO-15 GC/MS

File Name:	**14091417**	**Date of Collection: 9/7/22 5:16:00 PM**	
Dil. Factor:	**11.9**	**Date of Analysis: 9/14/22 04:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	300	65000	730	160000

Container Type: PAC250 Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2209212B-04A

EPA METHOD TO-15 GC/MS

File Name:	**14091410c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/14/22 01:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	25	Not Detected	61	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: CCV
Lab ID#: 2209212B-05A
EPA METHOD TO-15 GC/MS

File Name:	**14091406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/14/22 11:12 AM**	

Compound	%Recovery
2-Propanol	103

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCS

Lab ID#: 2209212B-06A

EPA METHOD TO-15 GC/MS

File Name:	**14091407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/14/22 11:37 AM**	

Compound	%Recovery	Method Limits
2-Propanol	122	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: LCSD

Lab ID#: 2209212B-06AA

EPA METHOD TO-15 GC/MS

File Name:	**14091408**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/14/22 11:59 AM**	

Compound	%Recovery	Method Limits
2-Propanol	122	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130