Technical Memorandum

Stantec

To:	Ms. Samantha Houser City Ventures 444 Spear Street, Suite 200 San Francisco, California 94105	From:	Kyle Emerson, CEG Stantec Consulting Services, Inc. 735 East Carnegie Drive, Suite 280 San Bernardino, California 92408
Project/File:	Stantec Project Number: 185806112	Date:	November 6, 2023

Reference: Technical Memorandum: Technical Review of 2020 GEOCON Soil Vapor Survey
2880 & 2890 San Bruno Avenue West and 850 Glenview Drive
San Bruno, California

Stantec Consulting Services Inc. (Stantec) has prepared this Technical Memorandum at the request of City Ventures to provide an update to our Phase I Environmental Site Assessment (ESA) prepared for the above referenced Property, dated July 6, 2023. It was specifically requested for Stantec to comment on the 2019 report prepared by GEOCON Consultants (for Raney Planning & Management as part of the Glenview Terrace MND) dated October 29, 2019, revised January 20, 2020, (copy attached to this memorandum) for the above referenced Property to assess the potential for residual soil vapor impacts detected below the subject Site and former gasoline service stations. Stantec's Phase I ESA stated the following regarding the GEOCON report, and the specific issues related to the former gasoline service stations which existed on the subject Property.

- *"The Subject Property at 2880 San Bruno Avenue West is listed in the State Water Resources Control Board's (SWRCB's) GeoTracker database as a leaking underground storage tank (LUST) site. The case received closure from SWRCB on 05/23/2002 based on remediation activities, the stability of the hydrocarbon plume, and no perceived significant risk to human health or the environment.*

  Additionally, the Subject Property at 2890 San Bruno Avenue West is listed in the SWRCB's GeoTracker database as a LUST site. The case received regulatory closure on July 14, 2008, with residual contaminants allowed to remain in place.

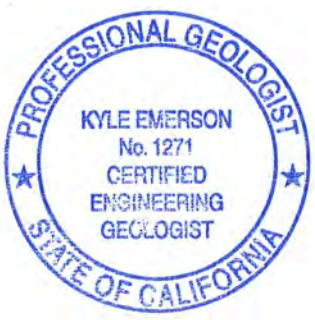
  A soil vapor sampling report dated October 29, 2019, was prepared by Geocon (revised January 17, 2020), and was submitted to the San Mateo County Groundwater Protection Program (GPP) to evaluate the Subject Property (2880/2890 West San Bruno Avenue and 850 Glenview Drive) for potential residential redevelopment. Soil vapor concentrations were below regulatory screening levels when using the State Water Resources Control Board's Low Threat Underground Storage Tank Case Closure Policy dated 2012. In a letter dated July 28, 2020, the GPP requested a soil and groundwater management plan be submitted prior to redevelopment.

Stantec has concluded that the findings contained in the GEOCON report referenced above is still valid as of the date of this letter. Stantec is not recommending any further assessment or action on the Property related to the residual soil vapor impacts detected by GEOCON other than responding to GPP's request for

a Soil Groundwater Management Plan (SGMP) and any questions related to that effort, it is Stantec's understanding that GEOCON is presently drafting a letter and SGMP for GPP review.

Should you have any questions concerning this review, please feel free to contact the undersigned.

Regards,



Kyle D Emerson
Managing Principal
Phone: (951) 315-0534
Kyle.emerson@Stantec.com

Attachment: GEOCON January 20, 2020, Report

Project No. S1838-03-01
October 29, 2019
Revised January 17, 2020

Nick Pappani
Vice President
Raney Planning and Management
1501 Sports Drive
Sacramento, California 95834

Subject: GLENVIEW TERRACE
SOIL VAPOR SURVEY
2880 AND 2890 SAN BRUNO AVENUE WEST AND 850 GLENVIEW DRIVE
SAN BRUNO, CALIFORNIA

Mr. Pappani:

In accordance with your request and our Proposal No. LS-19-266, dated July 30, 2019, we have performed a soil vapor survey (SVS) at the property at 2880 and 2890 San Bruno Avenue West and 850 Glenview Drive (the Site) in San Bruno, California. Raney Planning and Management (Raney, the Client) requested the SVS to assess the Site for contaminants of concern (COCs) in soil vapor related to the former operation of automobile service stations on the Site and an offsite former dry cleaners prior to planned redevelopment of the Site for residential use.

This report provides background information related to the past service station operation on the Site, states the purpose and objectives of the SVS, describes the field sampling activities and laboratory analyses, presents the results of laboratory analysis of soil vapor samples for COCs, and provides conclusions and recommendations for the Site based on our findings.

BACKGROUND

The 3.28-acre Site is located adjacent to the northeast of the intersection of San Bruno Avenue and Glenview Drive and approximately 400 feet northeast of Skyline Boulevard in San Bruno. The Site was previously developed with gas stations on the 2880 and 2890 West San Bruno Avenue site parcels and a church on Glenview Drive. The Site is planned to be developed with 29 single-family homes. U.S.A GUOFU Investment, Inc. is listed as the site developer on the City of San Bruno Planning Division's website.

Langan Treadwell Rollo (Langan) performed a Phase I Environmental Site Assessment (ESA) of the Site in 2016 and identified the two former service stations on the Site as *Recognized Environmental Conditions* (RECs) due to releases from former underground storage tanks (UST) on both parcels. The regulatory cases for the releases at both gas stations were closed because criteria under the State Water Resources Control Board's (SWRCB) 2012 *Low-Threat Underground Storage Tank Case Closure Policy* (LTCP) were met. However, Langan recommended "soil vapor sampling" prior to construction to assess soil vapor for residual COCs. The SVS described herein was performed to satisfy that recommendation.

Additionally, Langan identified the former Crest Cleaners dry cleaning facility approximately 500 feet south of the Site as a "potential environmental concern" because of the presence of volatile organic compounds (VOCs) including tetrachloroethylene (PCE) and trichloroethylene (TCE) in soil and soil vapor there. Although, data for that facility suggest that those VOCs are not likely to extend to the Site, the SVS assessed the potential presence of those VOCs in soil vapor at the Site as well.

PURPOSE AND OBJECTIVE

The purpose of the SVS was to assess the potential presence of COCs in soil vapor on the Site related to unauthorized releases of petroleum products at the former gas stations on the Site and dry cleaning chemicals at the former dry cleaners south of the Site. If COCs were found to be present, we would determine if their concentrations pose a threat to human health - specifically that of future site residents at the planned Glenview Terrace single-family residential development. The objective of the SVS was to collect representative soil vapor samples throughout the Site and have them analyzed for the COCs.

SCOPE OF SERVICES

The SVS included the following tasks:

- Task 1 – Pre-field activities: health and safety planning, underground utilities clearance, and subcontractor procurement;
- Task 2 – Field activities: soil vapor sample collection;
- Task 3 – Laboratory analysis of soil vapor samples; and
- Task 4 – Preparation of this SVS report.

Following are descriptions of each of these tasks.

Task 1 – Pre-field Activities

Prior to conducting the SVS, we prepared a site-specific health and safety plan (HSP), marked and cleared excavation locations for underground utilities, and retained a laboratory subcontractor for analysis of soil vapor samples. Following are detailed descriptions of each of the pre-field activities.

HSP

We prepared a site-specific HSP describing the physical and chemical hazards of the field sampling to be performed and provided health and safety guidelines protective of Geocon field personnel. The HSP also identified emergency contact personnel and the nearest emergency room.

Utility Clearance

We marked the Site with white paint as required by law, then provided the required 72-hour notification to Underground Service Alert (USA) (Ticket No. X925602174) prior to sample collection. We also provided the Client with notification prior to mobilizing to the Site.

We retained Ground Penetrating Radar Systems, Inc. (GPRS), a private utility locator, to further assess each planned boring location for buried utilities. GPRS identified no utility conflicts at the planned boring locations.

Subcontractor and Equipment Procurement

We retained Eurofins Air Toxics (Air Toxics) of Folsom, California, to provide soil vapor sampling equipment and chemical analysis of soil vapor samples. Air Toxics is accredited by the National Environmental Laboratory Accreditation Program.

Task 2 – Field Activities

Temporary Soil Vapor Well Installation

On September 25 and 26, 2019, we used our Geoprobe direct-push equipment to advance borings and install ten temporary soil vapor wells to a maximum depth of 5.5 feet. We encountered refusal in and around SV6, which was finally advanced to and set at a depth of 4.5 feet. We then collected a soil vapor sample from each well following guidelines in *Advisory-Active Soil Gas Investigation* (California Environmental Protection Agency [Cal-EPA] et al., 2015). We selected the soil vapor well locations based on information available for the former gas stations on the Site (Figure 2), the former dry cleaners south of the Site, and existing site conditions.

In each boring we installed temporary soil vapor wells according to the following specifications:

- used our truck-mounted Geoprobe direct-push rig to advance a 1.5-inch-diameter boring to an approximate depth of 5.5 feet.
- constructed a well using 0.25-inch-diameter Nylaflow® tubing fitted with a 1.75-inch-long, stainless steel vapor probe tip with a 0.0057-inch, wire-wrapped screen placed approximately 3 inches above the bottom of the boring (typically 5.5 feet).
- placed a 0.5-foot-thick filter pack consisting of #30 silica sand from the bottom of the boring surrounding the vapor probe tip.
- placed 0.5-foot-thick layer of dry granular bentonite clay above the filter pack.
- placed hydrated bentonite gel clay from above the dry granular bentonite clay to the ground surface to create a seal to separate the soil vapor probe tip from atmospheric air.
- extend Nylaflow® tubing approximately 2 feet above the ground surface to accommodate sample collection and cap it with a polypropylene ball valve in the closed position.

Soil Vapor Sample Collection

We waited a minimum of 2 hours following installation of the soil vapor wells to allow subsurface conditions to equilibrate prior to purging and sampling. To purge each soil vapor well and collect a soil vapor sample we connected a soil vapor manifold consisting of an air filter, flow restrictor, three-way valve and pressure gauge connected to a 6-liter Summa canister (for purging), and a 1-liter Summa canister (for sample collection), all enclosed within a flexible plastic shroud.

In each well we performed the following pre-sample purging and sample collection procedures:

- assembled and attached the soil vapor manifold to the well (Nylaflow® tubing) using a Swagelok fitting and a two-way valve in the closed position.
- encompassed the manifold and the 1-liter Summa canister used for sampling with a plastic shroud.
- conducted a shut-in test by exerting a vacuum inside the manifold using the 6-liter Summa canister with the two-way valve in the closed position to the well. If the vacuum was not maintained for a duration of 5 minutes, we adjusted the fittings on the assembly until a successful shut-in test is achieved.

- sealed and filled the shroud with helium and maintained a minimum helium concentration of 20% throughout purging and sampling to assess the sample train for potential leaks. A helium detector was placed inside the shroud to monitor helium concentrations.
- opened the two-way valve to the well and purged three volumes of soil vapor (one well volume equals the total volume of the tubing, sand filter pack, and dry bentonite used to construct the well) using the 6-liter Summa canister at a flow rate of 167 ml per minute (ml/min) and at a vacuum of less than 7 inches of mercury (in-Hg).
- once the appropriate volume of soil vapor was purged, we closed the purge valve and manifold valve, leaving the "sample train" (Figure 3) open to the well. Then we opened the sample valve to draw soil vapor into the 1-liter Summa canister at a flow rate of 167 ml/min and at a vacuum of less than 7 in-Hg. Once the 1-liter Summa canister had approximately 5 in-Hg of vacuum remaining, we stopped sampling by closing the sample and well valves.
- disconnected the manifold from the well and label the 1-liter Summa canister in preparation for submittal of the sample to Air Toxics under standard chain-of-custody protocol.

We abandoned the temporary wells after sampling was complete by removing the tubing and the top 3 to 4 feet of hydrated bentonite and backfilling with cement grout and topping the last 6 inches of the boring with dirt to match the surrounding surface. SV9 and SV10 were located in asphalt and were finished with cement.

Task 3 – Laboratory Analysis

Air Toxics analyzed the soil vapor samples for VOCs (including gasoline) by United States Environmental Protection Agency Method TO-15 (low-level reporting) and helium and oxygen following modified American Society for Testing and Materials D-1946. Low-level reporting for TO-15 was requested in order to achieve benzene concentrations low enough to compare to residential health risk-based screening levels. Because of this request, Summa canisters and manifolds provided by the laboratory were also individually certified as clean.

LABORATORY ANALYSIS RESULTS

Following are summaries of the laboratory analysis results for the soil vapor samples. Copies of the laboratory analytical reports and chain-of-custody documentation are attached.

Helium and Oxygen

Helium was not detected at concentrations equal to or exceeding the reporting limits (RLs), in nine of the ten vapor samples, which indicates that our sample collection equipment was free of atmospheric leaks for those nine samples. Helium was detected at a concentration of 0.17% in SV7. We maintained a 20% helium concentration inside of the shroud over SV7, so 0.17% represents a leak of 0.85%, which is less than the guidance-specified leak tolerance level of 5% (Cal-EPA et al., 2015) indicating that the sample and associated analysis results are valid.

Oxygen was detected in nine of the ten samples collected at concentrations ranging from 17 to 20%. Oxygen was detected in SV10 at 1.6%. As summarized in the San Francisco Bay Regional Water Quality Control Board's (SFBRWQCB) January 2019 *User's Guide: Derivation and Application of Environmental Screening Levels* (User's Guide), the oxygen availability in the subsurface is important for assessing areas with petroleum contamination because petroleum hydrocarbons will biodegrade under aerobic subsurface conditions. Aerobic biodegradation can also limit the upward migration of petroleum vapors in the vadose zone, which is known as bioattenuation (SFBRWQCB, 2019).

Petroleum VOCs

As shown on Table 1, several VOCs were detected in the soil vapor samples collected from the Site. The following table lists the maximum concentrations of selected petroleum-related VOCs detected in the soil vapor samples collected from the Site.

Petroleum VOCs in Soil Vapor							
VOCs	**GRO**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Total Xylenes**	**MTBE**	**Naphthalene**
Maximum Concentration ($\mu g/m^3$)/well	15,000	44	29	5.5	23.3	1.9	29
LTCP – w/out bioattenuation	NE	85	NE	1,100	NE	NE	93
LTCP – w/ bioattenuation	NE	85,000	NE	1,100,000	NE	NE	93,000

$\mu g/m^3$ = micrograms per cubic meter
LTCP = Low -Threat Closure Policy criteria for residential use
GRO = gasoline-range organics
MTBE = methyl tert-butyl ether
NE = LTCP criteria not established

As shown in the above table, the maximum reported benzene, ethylbenzene, and naphthalene concentrations do not exceed their respective LTCP criteria either with or without bioattenuation. The LTCP defines the bioattenuation zone at petroleum sites as the zone of soil from the ground surface to a depth of 5 feet with soil vapor having an oxygen content greater than 4% and petroleum concentrations (total of gasoline and diesel) less than 100 milligrams per kilogram. Note that we compared the petroleum VOC concentrations only to LTCP criteria, and not other soil vapor criteria such as the SFBRWQCB Environmental Screening Levels (ESLs), because the ESL guidance specifically states that "petroleum UST sites should follow the LTCP." The ESLs for petroleum constituents do not account for bioattenuation and therefore can be overly conservative. For a conservative comparison, we have listed the soil vapor human health risk level ESLs for residential use for the petroleum VOCs which do not have a corresponding LTCP screening level on Table 1. The maximum GRO, toluene, xylenes, and MTBE concentrations do not exceed their respective corresponding ESL for residential use.

Non-Petroleum VOCs

The following table lists non-petroleum-related VOCs that were detected in one or more of the soil vapor samples collected from the Site.

Non-petroleum and Chlorinated VOCs in Soil Vapor								
VOCs	**Acetone**	**Methyl Ethyl Ketone**	**Chloro-form**	**1,4-Dioxane**	**Methylene Chloride**	**Methyl Isobutyl Ketone**	**Styrene**	**1,1,1-Tricloro-ethane**
Maximum Concentration ($\mu g/m^3$)	360	92	82	5.7	1.9	35	1.2	2.6
ESLs	1,100,000	170,000	4.1	12	34	100,000	31,000	35,000

ESL = Environmental Screening Level for residential use

Chloroform was detected in six soil vapor samples at concentrations exceeding the ESL for residential use. None of the other VOC concentrations exceed their respective soil vapor ESLs for residential use. However, there is no known source of chloroform at the Site and its presence in soil vapor may be due to natural biogeochemical processes in site soil (Breider, 2013). We also discussed the presence of chloroform in soil vapor with Cheryl Prowell, the SFBRWQCB Toxics Cleanup Division Chief, and she stated that chloroform in soil vapor and indoor air where there is no identified source, is often attributable to off-gassing from treated drinking water and sewers. Ms. Prowell recommended reporting the detected concentrations to the current regulatory caseworker(s), but stated it is unlikely to be a driver for further investigation.

Carbon disulfide, heptane, hexane, cyclohexane, 2-hexanone, 4-ethyltoluene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3-butadiene, ethanol, 2-propanol, tetrahydrofuran, propylbenzene, and 2,2,4-trimethylpentane were also detected, but do not have corresponding ESLs.

CONCLUSIONS AND RECOMMENDATIONS

Petroleum-related VOCs were detected in soil vapor at the Site, but at concentrations less than the LTCP criteria for residential use both with and without a bioattenuation zone. These findings suggest that vapor intrusion of COCs to future indoor air on the Site will not result in an unacceptable health risk to future site residents or workers. This report should be provided to the San Mateo County Environmental Health Division for their consideration regarding the planned redevelopment of the Site for residential use.

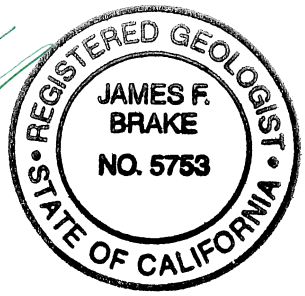
We appreciate the opportunity to be of service to you on this project. Please contact the undersigned if you have any questions or if we can be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Nicole Hastings-Bethel
Project Environmental Scientist

Jim Brake, PG
Senior Geologist



Attachments: Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Soil Vapor Manifold
Table 1 Summary of Laboratory Analysis Results – Soil Vapor
Laboratory Reports

REFERENCES

Breider, Florian, *Investigating the origin of chloroform in soils and groundwater using carbon and chlorine stable isotopes analysis*, PhD thesis presented to the Faculty of Sciences of the University of Neuchâtel to satisfy the requirements of the degree of Doctor of Philosophy in Science, 2013.

California Department of Toxic Substances Control and California Environmental Protection Agency, *Vapor Intrusion Mitigation Advisory*, October 2011.

California Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, and San Francisco Regional Water Quality Control Board, *Advisory – Active Soil Gas Investigations*, July 2015.

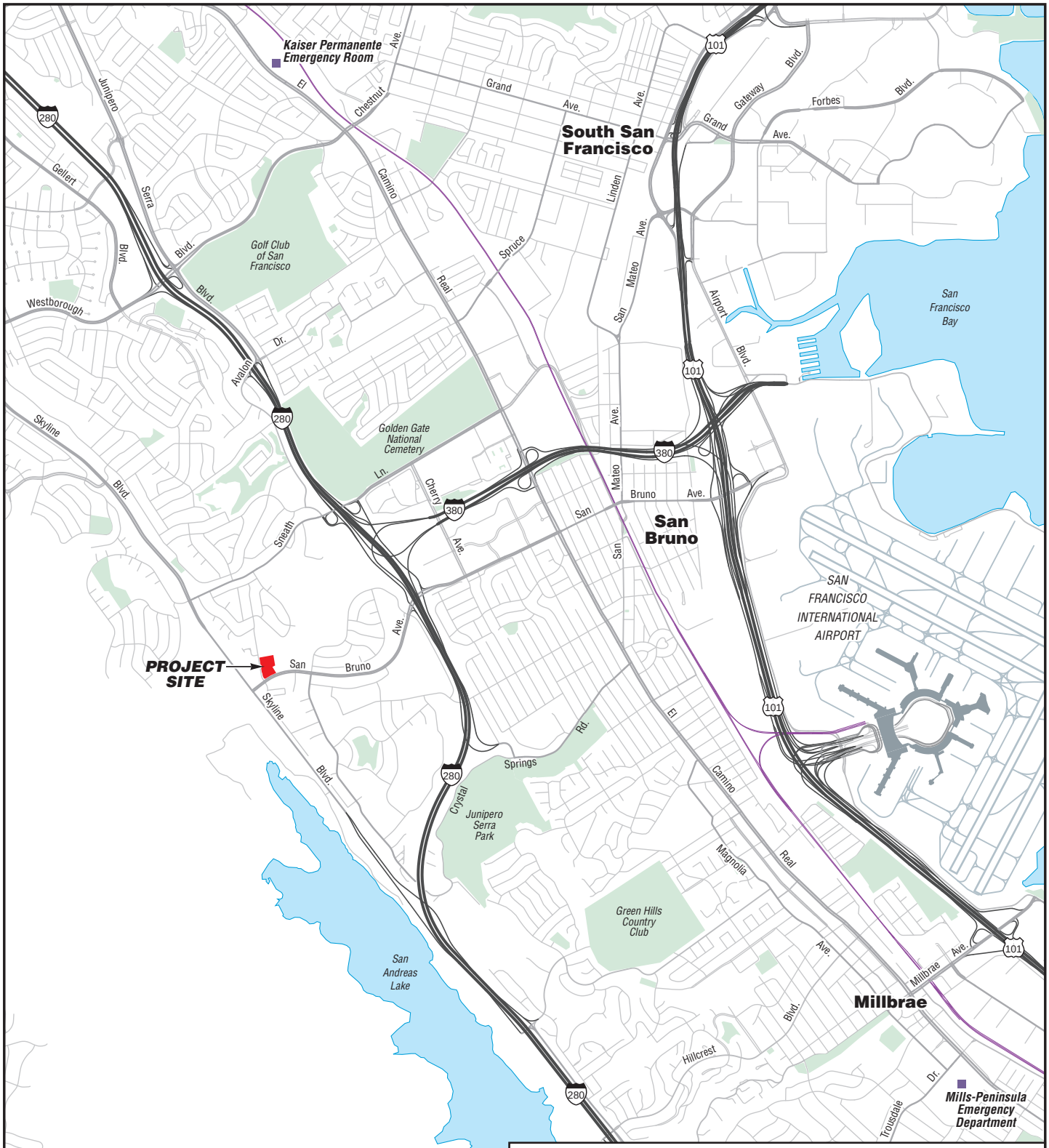
California State Water Resources Board, GeoTracker, GeoTracker Global IDs T0608100746 Skyline Mobil and T0608100525 D&J Union 76 <http://geotracker.swrcb.ca.gov/>, Accessed in October 2019.

California State Water Resources Board, *Low-Threat Underground Storage Tank Case Closure Policy*, August 14, 2012.

Langan Treadwell Rollo, *Phase I Environmental Site Assessment, 2880 and 2890 San Bruno Avenue West and 850 Glenview Drive, San Bruno, California*, January 14, 2016.

San Francisco Bay Regional Water Quality Control Board, *User's Guide: Derivation and Application of Environmental Screening Levels*, Interim Final 2019.

San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, Rev.1, January 2019.



GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

2880 and 2890 San Bruno Avenue West
and 850 Glenview Drive

San Bruno, California

SITE LOCATION MAP

S1838-03-01	January 2020	Figure 1

Ref: KCE Matrix (7/16/93) & Streamborn (undated)

N

LEGEND:

- Approximate Site Boundary
- SV10 Approximate Soil Vapor Sample Location
- Approximate Former UST Location

0 60

Scale in Feet

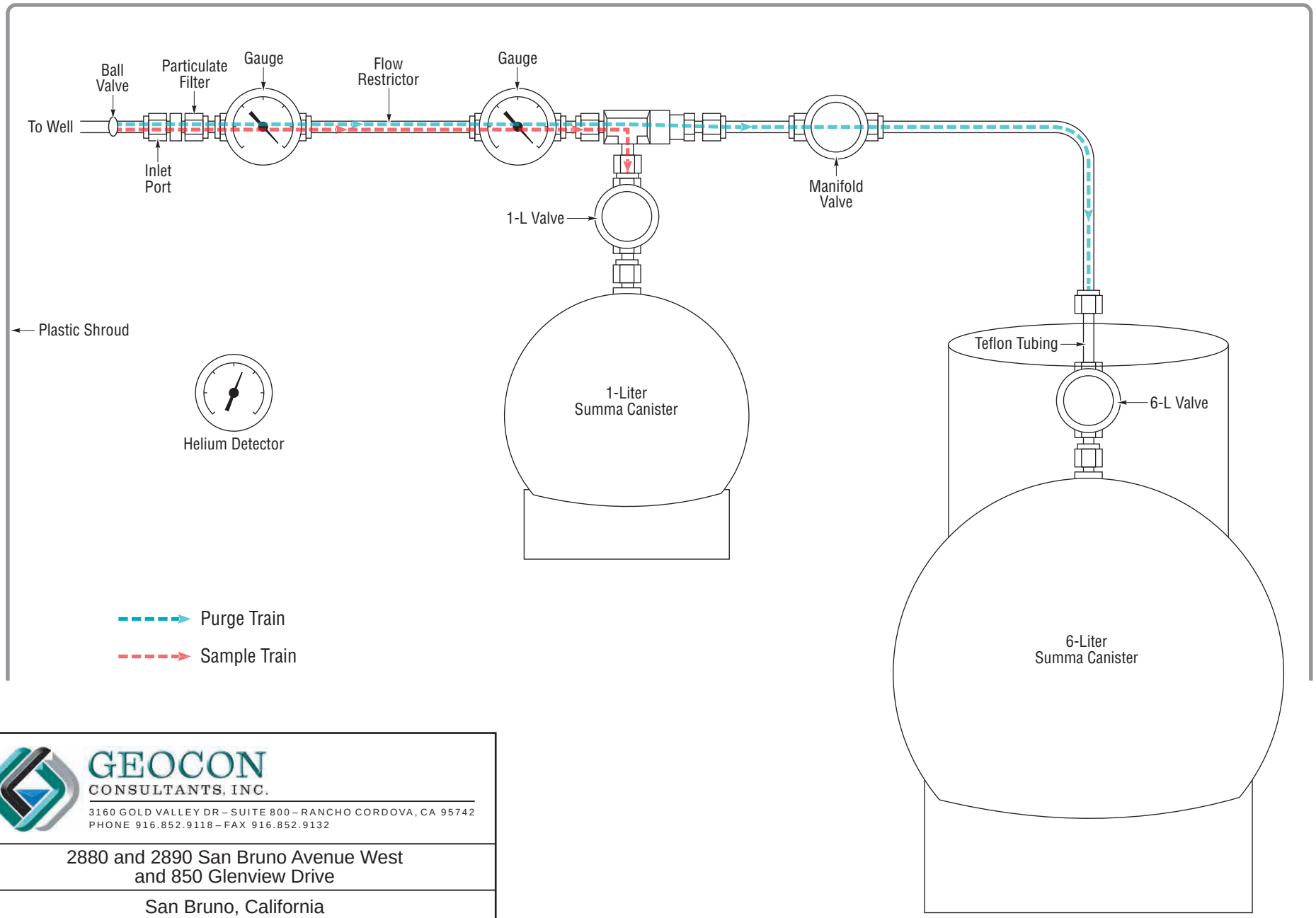
GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

2880 and 2890 San Bruno Avenue West and 850 Glenview Drive

San Bruno, California

SITE PLAN

S1838-03-01	January 2020	Figure 2



GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

2880 and 2890 San Bruno Avenue West
and 850 Glenview Drive

San Bruno, California

Soil Vapor Sampling Manifold

S1838-03-01	January 2020	Figure 3

TABLE 1
SUMMARY OF LABORATORY ANALYSIS RESULTS - SOIL VAPOR
VOLATILE ORGANIC COMPOUNDS BY USEPA METHOD TO-15
2880 AND 2890 SAN BRUNO AVENUE WEST
SAN BRUNO, CALIFORNIA

Sample ID	Sample Depth (feet)	Date Sampled	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Acetone	Methyl Ethyl Ketone	Chloroform	1,4-Dioxane	Methylene Chloride	Methyl Isobutyl Keytone*	Styrene	1,1,1-Trichloro-ethane	Helium - Tracer Gas	Oxygen
			µg/m^3															(%)	
SV1	5.0	9/25/2019	1,900	29	11	1.9	8.9	<0.91	14	360E	83	1.8	<0.91	<1.8	20	<1.1	<1.4	<0.13	18
SV2	5.25	9/26/2019	9,400	23	17	5.5	15.9	1.9	8.0	9.3	5.0	17	<0.91	<1.8	15	<1.1	<1.4	<0.13	19
SV3	5.0	9/26/2019	5,300	44	22	2.3	8.5	<0.97	<7.0	97	16	29	<0.97	<1.9	16	<1.1	2.6	<0.13	19
SV4	5.25	9/26/2019	1,200	14	4.1	<0.99	6.8	<0.82	7.4	17	9.4	7.2	5.7	1.9	2.7	<0.98	<1.2	<0.11	17
SV5	5.0	9/25/2019	1,300	12	29	4.5	23.3	<1.0	16	150	45	14	<0.99	<1.9	26	1.2	<1.5	<0.14	19
SV6	4.25	9/25/2019	860	2.0	9.6	2.4	14.5	<0.93	29	70	14	2.1	<0.93	<1.8	12	<1.1	<1.4	<0.13	20
SV7	5.25	9/26/2019	15,000	14	6.7	1.2	5.7	<0.84	<6.1	47	18	82	1.3	<1.6	27	<0.99	<1.3	0.17	19
SV8	5.25	9/25/2019	900	4.0	3.4	1.1	6.1	<0.89	16	190	92	<1.2	<0.89	<1.7	12	<1.0	<1.3	<0.12	20
SV9	5.25	9/26/2019	1,300	1.9	1.2	<1.0	<1.0	<0.86	<6.2	12	4.8	1.3	<0.86	<1.6	3.7	<1.0	<1.3	<0.12	18
SV10	5.25	9/26/2019	1,600	3.0	9.3	2.6	16	1.2	8.6	160	62	13	<0.93	<1.8	35	<1.1	<1.4	<0.13	1.6
LTCP	Residential - No Bioattenuation Zone		NE	85	NE	1,100	NE	NE	93	NE	NE	NE	NE	NE	NE	NE	NE	--	<4
	Residential - With Bioattenuation Zone		NE	85,000	NE	1,100,000	NE	NE	93,000	NE	NE	NE	NE	NE	NE	NE	NE	--	>4
ESL	Residential		20,000	--	10,000	--	3,500	360	--	1,100,000	170,000	4.1	12	34	100,000	31,000	35,000	NE	NE

Notes: µg/m^3 = micrograms per cubic meter

NE = screening level not established

-- = screening level not applicable

< = less than laboratory reporting limit

E = Exceeds instrument calibration range

LTCP = State Water Resources Control Board's, Low-Threat Underground Storage Tank Case Closure Policy dated 2012

ESLs = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for soil gas dated January 2019

*reported as 4-methyl-2-pentanone by laboratory

[1] ESLs for petroleum constituents do not account for bioattenuation and therefore can be overly conservative if a bioattenuation zone is identified. It may be appropriate to employ a bioattenuation factor of 1,000 for risk screening (petroleum soil gas ESL x 1,000). *User's Guide: Derivation and Application of Environmental Screening Levels* , Interim Final 2019

eurofins | Air Toxics

10/10/2019
Ms. Nicole Hastings-Bethel
Geocon Consultants, Inc.
3160 Gold Valley Drive
Suite 800
Rancho Cordova CA 95742-7207

Project Name: San Bruno
Project #: 51838-03-01
Workorder #: 1909568A

Dear Ms. Nicole Hastings-Bethel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2019 at Air Toxics Ltd.

The data and associated QC analyzed by Modified 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: Sarah Westerman at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Sarah Westerman

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1909568A

Work Order Summary

CLIENT:	Ms. Nicole Hastings-Bethel Geocon Consultants, Inc. 3160 Gold Valley Drive Suite 800 Rancho Cordova, CA 95742-7207	**BILL TO:**	Accounts Payable Geocon Consultants, Inc. 3160 Gold Valley Drive Suite 800 Rancho Cordova, CA 95742-7207
PHONE:	916-852-9118	**P.O. #**	
FAX:	916-852-9132	**PROJECT #**	51838-03-01 San Bruno
DATE RECEIVED:	09/26/2019	**CONTACT:**	Sarah Westerman
DATE COMPLETED:	10/10/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV1	Modified TO-15	6.0 "Hg	15 psi
02A	SV8	Modified TO-15	5.5 "Hg	15 psi
03A	SV5	Modified TO-15	8.0 "Hg	15 psi
04A	SV6	Modified TO-15	6.5 "Hg	15 psi
05A	SV7	Modified TO-15	4.0 "Hg	15 psi
06A	SV3	Modified TO-15	7.5 "Hg	15 psi
07A	SV2	Modified TO-15	6.0 "Hg	15 psi
08A	SV4	Modified TO-15	3.5 "Hg	15 psi
09A	SV9	Modified TO-15	4.5 "Hg	15 psi
10A	SV10	Modified TO-15	6.5 "Hg	15 psi
11A	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA

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

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics Inc.. 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) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Geocon Consultants, Inc.
Workorder# 1909568A

Ten 1 Liter Summa Canister (100% Certified) samples were received on September 26, 2019. The laboratory performed analysis via modified 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.

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

Requirement	***TO-15***	***ATL Modifications***
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

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.

The hydrocarbon profile present in all samples did not resemble that of commercial gasoline. Results were calculated using the response factor derived from the gasoline calibration.

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
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SV1

Lab ID#: 1909568A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.25	7.7	0.56	17
Ethanol	1.3	25	2.4	46
Acetone	2.5	150 E	6.0	360 E
2-Propanol	1.3	4.9	3.1	12
Carbon Disulfide	1.3	4.9	3.9	15
Hexane	1.3	6.9	4.4	24
2-Butanone (Methyl Ethyl Ketone)	1.3	28	3.7	83
Tetrahydrofuran	1.3	1.5	3.7	4.5
Chloroform	0.25	0.38	1.2	1.8
Cyclohexane	0.25	19	0.87	64
Benzene	0.25	9.0	0.80	29
Heptane	1.3	5.8	5.2	24
4-Methyl-2-pentanone	0.25	4.9	1.0	20
Toluene	0.25	2.8	0.95	11
2-Hexanone	1.3	1.5	5.2	6.2
Ethyl Benzene	0.25	0.43	1.1	1.9
m,p-Xylene	0.25	1.3	1.1	5.5
o-Xylene	0.25	0.78	1.1	3.4
4-Ethyltoluene	0.25	0.58	1.2	2.9
1,3,5-Trimethylbenzene	0.25	0.43	1.2	2.1
1,2,4-Trimethylbenzene	0.25	0.86	1.2	4.2
Naphthalene	1.3	2.7	6.6	14
TPH ref. to Gasoline (MW=100)	25	470	100	1900

Client Sample ID: SV8

Lab ID#: 1909568A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.25	0.94	0.55	2.1
Ethanol	1.2	6.1	2.3	12
Acetone	2.5	80	5.9	190
2-Propanol	1.2	3.2	3.0	7.9
Carbon Disulfide	1.2	2.1	3.8	6.4

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

Client Sample ID: SV8

Lab ID#: 1909568A-02A

2-Butanone (Methyl Ethyl Ketone)	1.2	31	3.6	92
Cyclohexane	0.25	5.1	0.85	17
Benzene	0.25	1.3	0.79	4.0
4-Methyl-2-pentanone	0.25	2.9	1.0	12
Toluene	0.25	0.89	0.93	3.4
Ethyl Benzene	0.25	0.25	1.1	1.1
m,p-Xylene	0.25	0.87	1.1	3.8
o-Xylene	0.25	0.53	1.1	2.3
4-Ethyltoluene	0.25	1.0	1.2	4.9
1,3,5-Trimethylbenzene	0.25	0.46	1.2	2.2
1,2,4-Trimethylbenzene	0.25	1.3	1.2	6.2
Naphthalene	1.2	3.0	6.5	16
TPH ref. to Gasoline (MW=100)	25	220	100	900

Client Sample ID: SV5

Lab ID#: 1909568A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.28	0.93	0.61	2.0
Ethanol	1.4	4.1	2.6	7.7
Acetone	2.8	62	6.6	150
2-Propanol	1.4	1.9	3.4	4.8
Carbon Disulfide	1.4	9.3	4.3	29
2-Butanone (Methyl Ethyl Ketone)	1.4	15	4.1	45
Tetrahydrofuran	1.4	1.5	4.1	4.3
Chloroform	0.28	2.8	1.3	14
Cyclohexane	0.28	0.47	0.95	1.6
Benzene	0.28	3.8	0.88	12
4-Methyl-2-pentanone	0.28	6.2	1.1	26
Toluene	0.28	7.8	1.0	29
2-Hexanone	1.4	1.8	5.6	7.4
Ethyl Benzene	0.28	1.0	1.2	4.5
m,p-Xylene	0.28	3.8	1.2	17
o-Xylene	0.28	1.5	1.2	6.3
Styrene	0.28	0.29	1.2	1.2

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

Client Sample ID: SV5

Lab ID#: 1909568A-03A

Propylbenzene	0.28	0.34	1.4	1.7
4-Ethyltoluene	0.28	1.4	1.4	7.0
1,3,5-Trimethylbenzene	0.28	0.71	1.4	3.5
1,2,4-Trimethylbenzene	0.28	1.8	1.4	8.9
Naphthalene	1.4	3.1	7.2	16
TPH ref. to Gasoline (MW=100)	28	310	110	1300

Client Sample ID: SV6

Lab ID#: 1909568A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	1.3	5.6	2.4	11
Acetone	2.6	29	6.1	70
2-Propanol	1.3	2.1	3.2	5.1
Carbon Disulfide	1.3	4.9	4.0	15
2-Butanone (Methyl Ethyl Ketone)	1.3	4.8	3.8	14
Chloroform	0.26	0.42	1.2	2.1
Cyclohexane	0.26	0.27	0.89	0.94
Benzene	0.26	0.64	0.82	2.0
4-Methyl-2-pentanone	0.26	3.0	1.0	12
Toluene	0.26	2.6	0.97	9.6
Ethyl Benzene	0.26	0.55	1.1	2.4
m,p-Xylene	0.26	2.3	1.1	10
o-Xylene	0.26	1.0	1.1	4.5
Propylbenzene	0.26	0.38	1.3	1.9
4-Ethyltoluene	0.26	1.9	1.3	9.3
1,3,5-Trimethylbenzene	0.26	0.86	1.3	4.2
1,2,4-Trimethylbenzene	0.26	2.2	1.3	11
Naphthalene	1.3	5.6	6.8	29
TPH ref. to Gasoline (MW=100)	26	210	100	860

Client Sample ID: SV7

Lab ID#: 1909568A-05A

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

Client Sample ID: SV7

Lab ID#: 1909568A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.23	8.8	0.52	20
Ethanol	1.2	7.6	2.2	14
Acetone	2.3	20	5.5	47
2-Propanol	1.2	2.6	2.9	6.4
Carbon Disulfide	1.2	4.0	3.6	12
Hexane	1.2	52	4.1	180
2-Butanone (Methyl Ethyl Ketone)	1.2	6.1	3.4	18
Chloroform	0.23	17	1.1	82
Cyclohexane	0.23	15	0.80	53
2,2,4-Trimethylpentane	1.2	14	5.4	64
Benzene	0.23	4.4	0.74	14
Heptane	1.2	19	4.8	79
1,4-Dioxane	0.23	0.37	0.84	1.3
4-Methyl-2-pentanone	0.23	6.7	0.95	27
Toluene	0.23	1.8	0.88	6.7
Ethyl Benzene	0.23	0.29	1.0	1.2
m,p-Xylene	0.23	0.90	1.0	3.9
o-Xylene	0.23	0.41	1.0	1.8
4-Ethyltoluene	0.23	0.51	1.1	2.5
1,3,5-Trimethylbenzene	0.23	0.28	1.1	1.4
1,2,4-Trimethylbenzene	0.23	0.76	1.1	3.7
TPH ref. to Gasoline (MW=100)	23	3600	95	15000

Client Sample ID: SV3

Lab ID#: 1909568A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.27	1.9	0.60	4.2
Ethanol	1.3	2.5	2.5	4.7
Acetone	2.7	41	6.4	97
Carbon Disulfide	1.3	6.1	4.2	19
Hexane	1.3	3.9	4.7	14
2-Butanone (Methyl Ethyl Ketone)	1.3	5.5	4.0	16

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

Client Sample ID: SV3

Lab ID#: 1909568A-06A

Chloroform	0.27	6.0	1.3	29
1,1,1-Trichloroethane	0.27	0.47	1.5	2.6
Cyclohexane	0.27	9.3	0.92	32
Benzene	0.27	14	0.86	44
Heptane	1.3	1.8	5.5	7.5
4-Methyl-2-pentanone	0.27	4.0	1.1	16
Toluene	0.27	5.7	1.0	22
Ethyl Benzene	0.27	0.53	1.2	2.3
m,p-Xylene	0.27	1.3	1.2	5.5
o-Xylene	0.27	0.70	1.2	3.0
Propylbenzene	0.27	0.32	1.3	1.6
4-Ethyltoluene	0.27	0.70	1.3	3.4
1,3,5-Trimethylbenzene	0.27	0.29	1.3	1.4
1,2,4-Trimethylbenzene	0.27	0.67	1.3	3.3
TPH ref. to Gasoline (MW=100)	27	1300	110	5300

Client Sample ID: SV2

Lab ID#: 1909568A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.25	2.3	0.56	5.2
Ethanol	1.3	1.6	2.4	3.1
Acetone	2.5	3.9	6.0	9.3
Carbon Disulfide	1.3	2.3	3.9	7.1
Methyl tert-butyl ether	0.25	0.52	0.91	1.9
Hexane	1.3	3.1	4.4	11
2-Butanone (Methyl Ethyl Ketone)	1.3	1.7	3.7	5.0
Chloroform	0.25	3.5	1.2	17
Cyclohexane	0.25	4.3	0.87	15
2,2,4-Trimethylpentane	1.3	2.1	5.9	10
Benzene	0.25	7.1	0.80	23
Heptane	1.3	1.8	5.2	7.6
4-Methyl-2-pentanone	0.25	3.7	1.0	15
Toluene	0.25	4.5	0.95	17
Ethyl Benzene	0.25	1.3	1.1	5.5

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

Client Sample ID: SV2

Lab ID#: 1909568A-07A

m,p-Xylene	0.25	2.5	1.1	11
o-Xylene	0.25	1.1	1.1	4.9
Propylbenzene	0.25	0.35	1.2	1.7
4-Ethyltoluene	0.25	0.84	1.2	4.1
1,3,5-Trimethylbenzene	0.25	0.55	1.2	2.7
1,2,4-Trimethylbenzene	0.25	1.1	1.2	5.6
Naphthalene	1.3	1.5	6.6	8.0
TPH ref. to Gasoline (MW=100)	25	2300	100	9400

Client Sample ID: SV4

Lab ID#: 1909568A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	1.1	2.2	2.2	4.1
Acetone	2.3	7.3	5.4	17
Carbon Disulfide	1.1	2.7	3.6	8.3
Methylene Chloride	0.46	0.56	1.6	1.9
Hexane	1.1	7.5	4.0	26
2-Butanone (Methyl Ethyl Ketone)	1.1	3.2	3.4	9.4
Chloroform	0.23	1.5	1.1	7.2
Cyclohexane	0.23	0.43	0.79	1.5
Benzene	0.23	4.5	0.73	14
Heptane	1.1	2.8	4.7	11
1,4-Dioxane	0.23	1.6	0.82	5.7
4-Methyl-2-pentanone	0.23	0.66	0.94	2.7
Toluene	0.23	1.1	0.86	4.1
m,p-Xylene	0.23	0.85	0.99	3.7
o-Xylene	0.23	0.71	0.99	3.1
4-Ethyltoluene	0.23	0.52	1.1	2.5
1,3,5-Trimethylbenzene	0.23	0.23	1.1	1.1
1,2,4-Trimethylbenzene	0.23	0.66	1.1	3.2
Naphthalene	1.1	1.4	6.0	7.4
TPH ref. to Gasoline (MW=100)	23	290	94	1200

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

Client Sample ID: SV9

Lab ID#: 1909568A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.24	1.2	0.53	2.6
Ethanol	1.2	2.5	2.2	4.7
Acetone	2.4	5.1	5.6	12
Carbon Disulfide	1.2	2.5	3.7	7.8
Hexane	1.2	2.3	4.2	8.0
2-Butanone (Methyl Ethyl Ketone)	1.2	1.6	3.5	4.8
Chloroform	0.24	0.28	1.2	1.3
Cyclohexane	0.24	10	0.82	35
Benzene	0.24	0.60	0.76	1.9
4-Methyl-2-pentanone	0.24	0.90	0.97	3.7
Toluene	0.24	0.32	0.90	1.2
TPH ref. to Gasoline (MW=100)	24	320	97	1300

Client Sample ID: SV10

Lab ID#: 1909568A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,3-Butadiene	0.26	1.0	0.57	2.2
Ethanol	1.3	5.0	2.4	9.5
Acetone	2.6	67	6.1	160
Carbon Disulfide	1.3	3.1	4.0	9.8
Methyl tert-butyl ether	0.26	0.34	0.93	1.2
Hexane	1.3	1.6	4.5	5.7
2-Butanone (Methyl Ethyl Ketone)	1.3	21	3.8	62
Tetrahydrofuran	1.3	2.6	3.8	7.6
Chloroform	0.26	2.6	1.2	13
Cyclohexane	0.26	0.66	0.89	2.3
Benzene	0.26	0.96	0.82	3.0
4-Methyl-2-pentanone	0.26	8.6	1.0	35
Toluene	0.26	2.5	0.97	9.3
2-Hexanone	1.3	1.8	5.3	7.3
Ethyl Benzene	0.26	0.61	1.1	2.6
m,p-Xylene	0.26	2.6	1.1	11

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

Client Sample ID: SV10

Lab ID#: 1909568A-10A

o-Xylene	0.26	1.1	1.1	4.9
Propylbenzene	0.26	0.31	1.3	1.5
4-Ethyltoluene	0.26	1.4	1.3	7.0
1,3,5-Trimethylbenzene	0.26	0.73	1.3	3.6
1,2,4-Trimethylbenzene	0.26	1.7	1.3	8.4
Naphthalene	1.3	1.6	6.8	8.6
TPH ref. to Gasoline (MW=100)	26	380	100	1600

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Client Sample ID: SV1

Lab ID#: 1909568A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093010**	**Date of Collection:**	**9/25/19 11:05:00 AM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**9/30/19 01:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Freon 114	0.25	Not Detected	1.8	Not Detected
Chloromethane	1.3	Not Detected	2.6	Not Detected
Vinyl Chloride	0.25	Not Detected	0.64	Not Detected
1,3-Butadiene	0.25	7.7	0.56	17
Bromomethane	1.3	Not Detected	4.9	Not Detected
Chloroethane	1.3	Not Detected	3.3	Not Detected
Freon 11	0.25	Not Detected	1.4	Not Detected
Ethanol	1.3	25	2.4	46
Freon 113	0.25	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Acetone	2.5	150 E	6.0	360 E
2-Propanol	1.3	4.9	3.1	12
Carbon Disulfide	1.3	4.9	3.9	15
3-Chloropropene	1.3	Not Detected	3.9	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.25	Not Detected	0.91	Not Detected
trans-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Hexane	1.3	6.9	4.4	24
1,1-Dichloroethane	0.25	Not Detected	1.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	28	3.7	83
cis-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Tetrahydrofuran	1.3	1.5	3.7	4.5
Chloroform	0.25	0.38	1.2	1.8
1,1,1-Trichloroethane	0.25	Not Detected	1.4	Not Detected
Cyclohexane	0.25	19	0.87	64
Carbon Tetrachloride	0.25	Not Detected	1.6	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	5.9	Not Detected
Benzene	0.25	9.0	0.80	29
1,2-Dichloroethane	0.25	Not Detected	1.0	Not Detected
Heptane	1.3	5.8	5.2	24
Trichloroethene	0.25	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.25	Not Detected	1.2	Not Detected
1,4-Dioxane	0.25	Not Detected	0.91	Not Detected
Bromodichloromethane	0.25	Not Detected	1.7	Not Detected
cis-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.25	4.9	1.0	20
Toluene	0.25	2.8	0.95	11
trans-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.25	Not Detected	1.4	Not Detected
Tetrachloroethene	0.25	Not Detected	1.7	Not Detected
2-Hexanone	1.3	1.5	5.2	6.2

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Client Sample ID: SV1

Lab ID#: 1909568A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093010**	**Date of Collection:**	**9/25/19 11:05:00 AM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**9/30/19 01:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.25	Not Detected	2.1	Not Detected
1,2-Dibromoethane (EDB)	0.25	Not Detected	1.9	Not Detected
Chlorobenzene	0.25	Not Detected	1.2	Not Detected
Ethyl Benzene	0.25	0.43	1.1	1.9
m,p-Xylene	0.25	1.3	1.1	5.5
o-Xylene	0.25	0.78	1.1	3.4
Styrene	0.25	Not Detected	1.1	Not Detected
Bromoform	0.25	Not Detected	2.6	Not Detected
Cumene	0.25	Not Detected	1.2	Not Detected
1,1,2,2-Tetrachloroethane	0.25	Not Detected	1.7	Not Detected
Propylbenzene	0.25	Not Detected	1.2	Not Detected
4-Ethyltoluene	0.25	0.58	1.2	2.9
1,3,5-Trimethylbenzene	0.25	0.43	1.2	2.1
1,2,4-Trimethylbenzene	0.25	0.86	1.2	4.2
1,3-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,4-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
alpha-Chlorotoluene	0.25	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	9.4	Not Detected
Hexachlorobutadiene	1.3	Not Detected	13	Not Detected
Naphthalene	1.3	2.7	6.6	14
TPH ref. to Gasoline (MW=100)	25	470	100	1900

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: SV8

Lab ID#: 1909568A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093022**	**Date of Collection:**	**9/25/19 11:52:00 AM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**9/30/19 10:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.1	Not Detected
Freon 114	0.25	Not Detected	1.7	Not Detected
Chloromethane	1.2	Not Detected	2.6	Not Detected
Vinyl Chloride	0.25	Not Detected	0.63	Not Detected
1,3-Butadiene	0.25	0.94	0.55	2.1
Bromomethane	1.2	Not Detected	4.8	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	0.25	Not Detected	1.4	Not Detected
Ethanol	1.2	6.1	2.3	12
Freon 113	0.25	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.25	Not Detected	0.98	Not Detected
Acetone	2.5	80	5.9	190
2-Propanol	1.2	3.2	3.0	7.9
Carbon Disulfide	1.2	2.1	3.8	6.4
3-Chloropropene	1.2	Not Detected	3.9	Not Detected
Methylene Chloride	0.49	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.25	Not Detected	0.89	Not Detected
trans-1,2-Dichloroethene	0.25	Not Detected	0.98	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	0.25	Not Detected	1.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	31	3.6	92
cis-1,2-Dichloroethene	0.25	Not Detected	0.98	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	0.25	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.25	Not Detected	1.3	Not Detected
Cyclohexane	0.25	5.1	0.85	17
Carbon Tetrachloride	0.25	Not Detected	1.6	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.8	Not Detected
Benzene	0.25	1.3	0.79	4.0
1,2-Dichloroethane	0.25	Not Detected	1.0	Not Detected
Heptane	1.2	Not Detected	5.1	Not Detected
Trichloroethene	0.25	Not Detected	1.3	Not Detected
1,2-Dichloropropane	0.25	Not Detected	1.1	Not Detected
1,4-Dioxane	0.25	Not Detected	0.89	Not Detected
Bromodichloromethane	0.25	Not Detected	1.6	Not Detected
cis-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.25	2.9	1.0	12
Toluene	0.25	0.89	0.93	3.4
trans-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.25	Not Detected	1.3	Not Detected
Tetrachloroethene	0.25	Not Detected	1.7	Not Detected
2-Hexanone	1.2	Not Detected	5.0	Not Detected

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Client Sample ID: SV8

Lab ID#: 1909568A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093022**	**Date of Collection:**	**9/25/19 11:52:00 AM**
Dil. Factor:	**2.47**	**Date of Analysis:**	**9/30/19 10:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.25	Not Detected	2.1	Not Detected
1,2-Dibromoethane (EDB)	0.25	Not Detected	1.9	Not Detected
Chlorobenzene	0.25	Not Detected	1.1	Not Detected
Ethyl Benzene	0.25	0.25	1.1	1.1
m,p-Xylene	0.25	0.87	1.1	3.8
o-Xylene	0.25	0.53	1.1	2.3
Styrene	0.25	Not Detected	1.0	Not Detected
Bromoform	0.25	Not Detected	2.6	Not Detected
Cumene	0.25	Not Detected	1.2	Not Detected
1,1,2,2-Tetrachloroethane	0.25	Not Detected	1.7	Not Detected
Propylbenzene	0.25	Not Detected	1.2	Not Detected
4-Ethyltoluene	0.25	1.0	1.2	4.9
1,3,5-Trimethylbenzene	0.25	0.46	1.2	2.2
1,2,4-Trimethylbenzene	0.25	1.3	1.2	6.2
1,3-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,4-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
alpha-Chlorotoluene	0.25	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	9.2	Not Detected
Hexachlorobutadiene	1.2	Not Detected	13	Not Detected
Naphthalene	1.2	3.0	6.5	16
TPH ref. to Gasoline (MW=100)	25	220	100	900

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: SV5

Lab ID#: 1909568A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093011**	**Date of Collection: 9/25/19 1:28:00 PM**	
Dil. Factor:	**2.76**	**Date of Analysis: 9/30/19 02:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	Not Detected	6.8	Not Detected
Freon 114	0.28	Not Detected	1.9	Not Detected
Chloromethane	1.4	Not Detected	2.8	Not Detected
Vinyl Chloride	0.28	Not Detected	0.70	Not Detected
1,3-Butadiene	0.28	0.93	0.61	2.0
Bromomethane	1.4	Not Detected	5.4	Not Detected
Chloroethane	1.4	Not Detected	3.6	Not Detected
Freon 11	0.28	Not Detected	1.6	Not Detected
Ethanol	1.4	4.1	2.6	7.7
Freon 113	0.28	Not Detected	2.1	Not Detected
1,1-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Acetone	2.8	62	6.6	150
2-Propanol	1.4	1.9	3.4	4.8
Carbon Disulfide	1.4	9.3	4.3	29
3-Chloropropene	1.4	Not Detected	4.3	Not Detected
Methylene Chloride	0.55	Not Detected	1.9	Not Detected
Methyl tert-butyl ether	0.28	Not Detected	1.0	Not Detected
trans-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Hexane	1.4	Not Detected	4.9	Not Detected
1,1-Dichloroethane	0.28	Not Detected	1.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	15	4.1	45
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Tetrahydrofuran	1.4	1.5	4.1	4.3
Chloroform	0.28	2.8	1.3	14
1,1,1-Trichloroethane	0.28	Not Detected	1.5	Not Detected
Cyclohexane	0.28	0.47	0.95	1.6
Carbon Tetrachloride	0.28	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	1.4	Not Detected	6.4	Not Detected
Benzene	0.28	3.8	0.88	12
1,2-Dichloroethane	0.28	Not Detected	1.1	Not Detected
Heptane	1.4	Not Detected	5.6	Not Detected
Trichloroethene	0.28	Not Detected	1.5	Not Detected
1,2-Dichloropropane	0.28	Not Detected	1.3	Not Detected
1,4-Dioxane	0.28	Not Detected	0.99	Not Detected
Bromodichloromethane	0.28	Not Detected	1.8	Not Detected
cis-1,3-Dichloropropene	0.28	Not Detected	1.2	Not Detected
4-Methyl-2-pentanone	0.28	6.2	1.1	26
Toluene	0.28	7.8	1.0	29
trans-1,3-Dichloropropene	0.28	Not Detected	1.2	Not Detected
1,1,2-Trichloroethane	0.28	Not Detected	1.5	Not Detected
Tetrachloroethene	0.28	Not Detected	1.9	Not Detected
2-Hexanone	1.4	1.8	5.6	7.4

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Client Sample ID: SV5

Lab ID#: 1909568A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093011**	**Date of Collection: 9/25/19 1:28:00 PM**	
Dil. Factor:	**2.76**	**Date of Analysis: 9/30/19 02:40 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.28	Not Detected	2.4	Not Detected
1,2-Dibromoethane (EDB)	0.28	Not Detected	2.1	Not Detected
Chlorobenzene	0.28	Not Detected	1.3	Not Detected
Ethyl Benzene	0.28	1.0	1.2	4.5
m,p-Xylene	0.28	3.8	1.2	17
o-Xylene	0.28	1.5	1.2	6.3
Styrene	0.28	0.29	1.2	1.2
Bromoform	0.28	Not Detected	2.8	Not Detected
Cumene	0.28	Not Detected	1.4	Not Detected
1,1,2,2-Tetrachloroethane	0.28	Not Detected	1.9	Not Detected
Propylbenzene	0.28	0.34	1.4	1.7
4-Ethyltoluene	0.28	1.4	1.4	7.0
1,3,5-Trimethylbenzene	0.28	0.71	1.4	3.5
1,2,4-Trimethylbenzene	0.28	1.8	1.4	8.9
1,3-Dichlorobenzene	0.28	Not Detected	1.6	Not Detected
1,4-Dichlorobenzene	0.28	Not Detected	1.6	Not Detected
alpha-Chlorotoluene	0.28	Not Detected	1.4	Not Detected
1,2-Dichlorobenzene	0.28	Not Detected	1.6	Not Detected
1,2,4-Trichlorobenzene	1.4	Not Detected	10	Not Detected
Hexachlorobutadiene	1.4	Not Detected	15	Not Detected
Naphthalene	1.4	3.1	7.2	16
TPH ref. to Gasoline (MW=100)	28	310	110	1300

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: SV6

Lab ID#: 1909568A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093012**	**Date of Collection:**	**9/25/19 2:35:00 PM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**9/30/19 03:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Freon 114	0.26	Not Detected	1.8	Not Detected
Chloromethane	1.3	Not Detected	2.7	Not Detected
Vinyl Chloride	0.26	Not Detected	0.66	Not Detected
1,3-Butadiene	0.26	Not Detected	0.57	Not Detected
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	0.26	Not Detected	1.4	Not Detected
Ethanol	1.3	5.6	2.4	11
Freon 113	0.26	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Acetone	2.6	29	6.1	70
2-Propanol	1.3	2.1	3.2	5.1
Carbon Disulfide	1.3	4.9	4.0	15
3-Chloropropene	1.3	Not Detected	4.0	Not Detected
Methylene Chloride	0.52	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.26	Not Detected	0.93	Not Detected
trans-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Hexane	1.3	Not Detected	4.5	Not Detected
1,1-Dichloroethane	0.26	Not Detected	1.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	4.8	3.8	14
cis-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.8	Not Detected
Chloroform	0.26	0.42	1.2	2.1
1,1,1-Trichloroethane	0.26	Not Detected	1.4	Not Detected
Cyclohexane	0.26	0.27	0.89	0.94
Carbon Tetrachloride	0.26	Not Detected	1.6	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.0	Not Detected
Benzene	0.26	0.64	0.82	2.0
1,2-Dichloroethane	0.26	Not Detected	1.0	Not Detected
Heptane	1.3	Not Detected	5.3	Not Detected
Trichloroethene	0.26	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.26	Not Detected	1.2	Not Detected
1,4-Dioxane	0.26	Not Detected	0.93	Not Detected
Bromodichloromethane	0.26	Not Detected	1.7	Not Detected
cis-1,3-Dichloropropene	0.26	Not Detected	1.2	Not Detected
4-Methyl-2-pentanone	0.26	3.0	1.0	12
Toluene	0.26	2.6	0.97	9.6
trans-1,3-Dichloropropene	0.26	Not Detected	1.2	Not Detected
1,1,2-Trichloroethane	0.26	Not Detected	1.4	Not Detected
Tetrachloroethene	0.26	Not Detected	1.8	Not Detected
2-Hexanone	1.3	Not Detected	5.3	Not Detected

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Client Sample ID: SV6

Lab ID#: 1909568A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093012**	**Date of Collection:**	**9/25/19 2:35:00 PM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**9/30/19 03:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.26	Not Detected	2.2	Not Detected
1,2-Dibromoethane (EDB)	0.26	Not Detected	2.0	Not Detected
Chlorobenzene	0.26	Not Detected	1.2	Not Detected
Ethyl Benzene	0.26	0.55	1.1	2.4
m,p-Xylene	0.26	2.3	1.1	10
o-Xylene	0.26	1.0	1.1	4.5
Styrene	0.26	Not Detected	1.1	Not Detected
Bromoform	0.26	Not Detected	2.7	Not Detected
Cumene	0.26	Not Detected	1.3	Not Detected
1,1,2,2-Tetrachloroethane	0.26	Not Detected	1.8	Not Detected
Propylbenzene	0.26	0.38	1.3	1.9
4-Ethyltoluene	0.26	1.9	1.3	9.3
1,3,5-Trimethylbenzene	0.26	0.86	1.3	4.2
1,2,4-Trimethylbenzene	0.26	2.2	1.3	11
1,3-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
1,4-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
alpha-Chlorotoluene	0.26	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	9.6	Not Detected
Hexachlorobutadiene	1.3	Not Detected	14	Not Detected
Naphthalene	1.3	5.6	6.8	29
TPH ref. to Gasoline (MW=100)	26	210	100	860

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: SV7

Lab ID#: 1909568A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093020**	**Date of Collection:**	**9/26/19 7:58:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/30/19 09:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	0.23	Not Detected	1.6	Not Detected
Chloromethane	1.2	Not Detected	2.4	Not Detected
Vinyl Chloride	0.23	Not Detected	0.60	Not Detected
1,3-Butadiene	0.23	8.8	0.52	20
Bromomethane	1.2	Not Detected	4.5	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	0.23	Not Detected	1.3	Not Detected
Ethanol	1.2	7.6	2.2	14
Freon 113	0.23	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.92	Not Detected
Acetone	2.3	20	5.5	47
2-Propanol	1.2	2.6	2.9	6.4
Carbon Disulfide	1.2	4.0	3.6	12
3-Chloropropene	1.2	Not Detected	3.6	Not Detected
Methylene Chloride	0.47	Not Detected	1.6	Not Detected
Methyl tert-butyl ether	0.23	Not Detected	0.84	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.92	Not Detected
Hexane	1.2	52	4.1	180
1,1-Dichloroethane	0.23	Not Detected	0.94	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	6.1	3.4	18
cis-1,2-Dichloroethene	0.23	Not Detected	0.92	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	0.23	17	1.1	82
1,1,1-Trichloroethane	0.23	Not Detected	1.3	Not Detected
Cyclohexane	0.23	15	0.80	53
Carbon Tetrachloride	0.23	Not Detected	1.5	Not Detected
2,2,4-Trimethylpentane	1.2	14	5.4	64
Benzene	0.23	4.4	0.74	14
1,2-Dichloroethane	0.23	Not Detected	0.94	Not Detected
Heptane	1.2	19	4.8	79
Trichloroethene	0.23	Not Detected	1.2	Not Detected
1,2-Dichloropropane	0.23	Not Detected	1.1	Not Detected
1,4-Dioxane	0.23	0.37	0.84	1.3
Bromodichloromethane	0.23	Not Detected	1.6	Not Detected
cis-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
4-Methyl-2-pentanone	0.23	6.7	0.95	27
Toluene	0.23	1.8	0.88	6.7
trans-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
1,1,2-Trichloroethane	0.23	Not Detected	1.3	Not Detected
Tetrachloroethene	0.23	Not Detected	1.6	Not Detected
2-Hexanone	1.2	Not Detected	4.8	Not Detected

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Client Sample ID: SV7

Lab ID#: 1909568A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093020**	**Date of Collection:**	**9/26/19 7:58:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/30/19 09:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.23	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.23	Not Detected	1.8	Not Detected
Chlorobenzene	0.23	Not Detected	1.1	Not Detected
Ethyl Benzene	0.23	0.29	1.0	1.2
m,p-Xylene	0.23	0.90	1.0	3.9
o-Xylene	0.23	0.41	1.0	1.8
Styrene	0.23	Not Detected	0.99	Not Detected
Bromoform	0.23	Not Detected	2.4	Not Detected
Cumene	0.23	Not Detected	1.1	Not Detected
1,1,2,2-Tetrachloroethane	0.23	Not Detected	1.6	Not Detected
Propylbenzene	0.23	Not Detected	1.1	Not Detected
4-Ethyltoluene	0.23	0.51	1.1	2.5
1,3,5-Trimethylbenzene	0.23	0.28	1.1	1.4
1,2,4-Trimethylbenzene	0.23	0.76	1.1	3.7
1,3-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.23	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	8.6	Not Detected
Hexachlorobutadiene	1.2	Not Detected	12	Not Detected
Naphthalene	1.2	Not Detected	6.1	Not Detected
TPH ref. to Gasoline (MW=100)	23	3600	95	15000

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: SV3

Lab ID#: 1909568A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093013**	**Date of Collection:**	**9/26/19 8:34:00 AM**
Dil. Factor:	**2.69**	**Date of Analysis:**	**9/30/19 03:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.6	Not Detected
Freon 114	0.27	Not Detected	1.9	Not Detected
Chloromethane	1.3	Not Detected	2.8	Not Detected
Vinyl Chloride	0.27	Not Detected	0.69	Not Detected
1,3-Butadiene	0.27	1.9	0.60	4.2
Bromomethane	1.3	Not Detected	5.2	Not Detected
Chloroethane	1.3	Not Detected	3.5	Not Detected
Freon 11	0.27	Not Detected	1.5	Not Detected
Ethanol	1.3	2.5	2.5	4.7
Freon 113	0.27	Not Detected	2.1	Not Detected
1,1-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Acetone	2.7	41	6.4	97
2-Propanol	1.3	Not Detected	3.3	Not Detected
Carbon Disulfide	1.3	6.1	4.2	19
3-Chloropropene	1.3	Not Detected	4.2	Not Detected
Methylene Chloride	0.54	Not Detected	1.9	Not Detected
Methyl tert-butyl ether	0.27	Not Detected	0.97	Not Detected
trans-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Hexane	1.3	3.9	4.7	14
1,1-Dichloroethane	0.27	Not Detected	1.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	5.5	4.0	16
cis-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	0.27	6.0	1.3	29
1,1,1-Trichloroethane	0.27	0.47	1.5	2.6
Cyclohexane	0.27	9.3	0.92	32
Carbon Tetrachloride	0.27	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.3	Not Detected
Benzene	0.27	14	0.86	44
1,2-Dichloroethane	0.27	Not Detected	1.1	Not Detected
Heptane	1.3	1.8	5.5	7.5
Trichloroethene	0.27	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.27	Not Detected	1.2	Not Detected
1,4-Dioxane	0.27	Not Detected	0.97	Not Detected
Bromodichloromethane	0.27	Not Detected	1.8	Not Detected
cis-1,3-Dichloropropene	0.27	Not Detected	1.2	Not Detected
4-Methyl-2-pentanone	0.27	4.0	1.1	16
Toluene	0.27	5.7	1.0	22
trans-1,3-Dichloropropene	0.27	Not Detected	1.2	Not Detected
1,1,2-Trichloroethane	0.27	Not Detected	1.5	Not Detected
Tetrachloroethene	0.27	Not Detected	1.8	Not Detected
2-Hexanone	1.3	Not Detected	5.5	Not Detected

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Client Sample ID: SV3

Lab ID#: 1909568A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093013**	**Date of Collection:**	**9/26/19 8:34:00 AM**
Dil. Factor:	**2.69**	**Date of Analysis:**	**9/30/19 03:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.27	Not Detected	2.3	Not Detected
1,2-Dibromoethane (EDB)	0.27	Not Detected	2.1	Not Detected
Chlorobenzene	0.27	Not Detected	1.2	Not Detected
Ethyl Benzene	0.27	0.53	1.2	2.3
m,p-Xylene	0.27	1.3	1.2	5.5
o-Xylene	0.27	0.70	1.2	3.0
Styrene	0.27	Not Detected	1.1	Not Detected
Bromoform	0.27	Not Detected	2.8	Not Detected
Cumene	0.27	Not Detected	1.3	Not Detected
1,1,2,2-Tetrachloroethane	0.27	Not Detected	1.8	Not Detected
Propylbenzene	0.27	0.32	1.3	1.6
4-Ethyltoluene	0.27	0.70	1.3	3.4
1,3,5-Trimethylbenzene	0.27	0.29	1.3	1.4
1,2,4-Trimethylbenzene	0.27	0.67	1.3	3.3
1,3-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
1,4-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
alpha-Chlorotoluene	0.27	Not Detected	1.4	Not Detected
1,2-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	10	Not Detected
Hexachlorobutadiene	1.3	Not Detected	14	Not Detected
Naphthalene	1.3	Not Detected	7.0	Not Detected
TPH ref. to Gasoline (MW=100)	27	1300	110	5300

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: SV2

Lab ID#: 1909568A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093014**	**Date of Collection:**	**9/26/19 8:55:00 AM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**9/30/19 04:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Freon 114	0.25	Not Detected	1.8	Not Detected
Chloromethane	1.3	Not Detected	2.6	Not Detected
Vinyl Chloride	0.25	Not Detected	0.64	Not Detected
1,3-Butadiene	0.25	2.3	0.56	5.2
Bromomethane	1.3	Not Detected	4.9	Not Detected
Chloroethane	1.3	Not Detected	3.3	Not Detected
Freon 11	0.25	Not Detected	1.4	Not Detected
Ethanol	1.3	1.6	2.4	3.1
Freon 113	0.25	Not Detected	1.9	Not Detected
1,1-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Acetone	2.5	3.9	6.0	9.3
2-Propanol	1.3	Not Detected	3.1	Not Detected
Carbon Disulfide	1.3	2.3	3.9	7.1
3-Chloropropene	1.3	Not Detected	3.9	Not Detected
Methylene Chloride	0.50	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.25	0.52	0.91	1.9
trans-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Hexane	1.3	3.1	4.4	11
1,1-Dichloroethane	0.25	Not Detected	1.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	1.7	3.7	5.0
cis-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.7	Not Detected
Chloroform	0.25	3.5	1.2	17
1,1,1-Trichloroethane	0.25	Not Detected	1.4	Not Detected
Cyclohexane	0.25	4.3	0.87	15
Carbon Tetrachloride	0.25	Not Detected	1.6	Not Detected
2,2,4-Trimethylpentane	1.3	2.1	5.9	10
Benzene	0.25	7.1	0.80	23
1,2-Dichloroethane	0.25	Not Detected	1.0	Not Detected
Heptane	1.3	1.8	5.2	7.6
Trichloroethene	0.25	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.25	Not Detected	1.2	Not Detected
1,4-Dioxane	0.25	Not Detected	0.91	Not Detected
Bromodichloromethane	0.25	Not Detected	1.7	Not Detected
cis-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.25	3.7	1.0	15
Toluene	0.25	4.5	0.95	17
trans-1,3-Dichloropropene	0.25	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.25	Not Detected	1.4	Not Detected
Tetrachloroethene	0.25	Not Detected	1.7	Not Detected
2-Hexanone	1.3	Not Detected	5.2	Not Detected

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Client Sample ID: SV2

Lab ID#: 1909568A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093014**	**Date of Collection:**	**9/26/19 8:55:00 AM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**9/30/19 04:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.25	Not Detected	2.1	Not Detected
1,2-Dibromoethane (EDB)	0.25	Not Detected	1.9	Not Detected
Chlorobenzene	0.25	Not Detected	1.2	Not Detected
Ethyl Benzene	0.25	1.3	1.1	5.5
m,p-Xylene	0.25	2.5	1.1	11
o-Xylene	0.25	1.1	1.1	4.9
Styrene	0.25	Not Detected	1.1	Not Detected
Bromoform	0.25	Not Detected	2.6	Not Detected
Cumene	0.25	Not Detected	1.2	Not Detected
1,1,2,2-Tetrachloroethane	0.25	Not Detected	1.7	Not Detected
Propylbenzene	0.25	0.35	1.2	1.7
4-Ethyltoluene	0.25	0.84	1.2	4.1
1,3,5-Trimethylbenzene	0.25	0.55	1.2	2.7
1,2,4-Trimethylbenzene	0.25	1.1	1.2	5.6
1,3-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,4-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
alpha-Chlorotoluene	0.25	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.25	Not Detected	1.5	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	9.4	Not Detected
Hexachlorobutadiene	1.3	Not Detected	13	Not Detected
Naphthalene	1.3	1.5	6.6	8.0
TPH ref. to Gasoline (MW=100)	25	2300	100	9400

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: SV4

Lab ID#: 1909568A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093017**	**Date of Collection:**	**9/26/19 9:19:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**9/30/19 07:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	0.23	Not Detected	1.6	Not Detected
Chloromethane	1.1	Not Detected	2.4	Not Detected
Vinyl Chloride	0.23	Not Detected	0.58	Not Detected
1,3-Butadiene	0.23	Not Detected	0.51	Not Detected
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	0.23	Not Detected	1.3	Not Detected
Ethanol	1.1	2.2	2.2	4.1
Freon 113	0.23	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Acetone	2.3	7.3	5.4	17
2-Propanol	1.1	Not Detected	2.8	Not Detected
Carbon Disulfide	1.1	2.7	3.6	8.3
3-Chloropropene	1.1	Not Detected	3.6	Not Detected
Methylene Chloride	0.46	0.56	1.6	1.9
Methyl tert-butyl ether	0.23	Not Detected	0.82	Not Detected
trans-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Hexane	1.1	7.5	4.0	26
1,1-Dichloroethane	0.23	Not Detected	0.93	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	3.2	3.4	9.4
cis-1,2-Dichloroethene	0.23	Not Detected	0.91	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	0.23	1.5	1.1	7.2
1,1,1-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Cyclohexane	0.23	0.43	0.79	1.5
Carbon Tetrachloride	0.23	Not Detected	1.4	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	0.23	4.5	0.73	14
1,2-Dichloroethane	0.23	Not Detected	0.93	Not Detected
Heptane	1.1	2.8	4.7	11
Trichloroethene	0.23	Not Detected	1.2	Not Detected
1,2-Dichloropropane	0.23	Not Detected	1.0	Not Detected
1,4-Dioxane	0.23	1.6	0.82	5.7
Bromodichloromethane	0.23	Not Detected	1.5	Not Detected
cis-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
4-Methyl-2-pentanone	0.23	0.66	0.94	2.7
Toluene	0.23	1.1	0.86	4.1
trans-1,3-Dichloropropene	0.23	Not Detected	1.0	Not Detected
1,1,2-Trichloroethane	0.23	Not Detected	1.2	Not Detected
Tetrachloroethene	0.23	Not Detected	1.6	Not Detected
2-Hexanone	1.1	Not Detected	4.7	Not Detected

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Client Sample ID: SV4

Lab ID#: 1909568A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093017**	**Date of Collection:**	**9/26/19 9:19:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**9/30/19 07:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.23	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.23	Not Detected	1.8	Not Detected
Chlorobenzene	0.23	Not Detected	1.0	Not Detected
Ethyl Benzene	0.23	Not Detected	0.99	Not Detected
m,p-Xylene	0.23	0.85	0.99	3.7
o-Xylene	0.23	0.71	0.99	3.1
Styrene	0.23	Not Detected	0.98	Not Detected
Bromoform	0.23	Not Detected	2.4	Not Detected
Cumene	0.23	Not Detected	1.1	Not Detected
1,1,2,2-Tetrachloroethane	0.23	Not Detected	1.6	Not Detected
Propylbenzene	0.23	Not Detected	1.1	Not Detected
4-Ethyltoluene	0.23	0.52	1.1	2.5
1,3,5-Trimethylbenzene	0.23	0.23	1.1	1.1
1,2,4-Trimethylbenzene	0.23	0.66	1.1	3.2
1,3-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.23	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.23	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.1	Not Detected	8.5	Not Detected
Hexachlorobutadiene	1.1	Not Detected	12	Not Detected
Naphthalene	1.1	1.4	6.0	7.4
TPH ref. to Gasoline (MW=100)	23	290	94	1200

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: SV9

Lab ID#: 1909568A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093018**	**Date of Collection:**	**9/26/19 9:58:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/30/19 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	0.24	Not Detected	1.7	Not Detected
Chloromethane	1.2	Not Detected	2.4	Not Detected
Vinyl Chloride	0.24	Not Detected	0.61	Not Detected
1,3-Butadiene	0.24	1.2	0.53	2.6
Bromomethane	1.2	Not Detected	4.6	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	0.24	Not Detected	1.3	Not Detected
Ethanol	1.2	2.5	2.2	4.7
Freon 113	0.24	Not Detected	1.8	Not Detected
1,1-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Acetone	2.4	5.1	5.6	12
2-Propanol	1.2	Not Detected	2.9	Not Detected
Carbon Disulfide	1.2	2.5	3.7	7.8
3-Chloropropene	1.2	Not Detected	3.7	Not Detected
Methylene Chloride	0.48	Not Detected	1.6	Not Detected
Methyl tert-butyl ether	0.24	Not Detected	0.86	Not Detected
trans-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Hexane	1.2	2.3	4.2	8.0
1,1-Dichloroethane	0.24	Not Detected	0.96	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	1.6	3.5	4.8
cis-1,2-Dichloroethene	0.24	Not Detected	0.94	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	0.24	0.28	1.2	1.3
1,1,1-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Cyclohexane	0.24	10	0.82	35
Carbon Tetrachloride	0.24	Not Detected	1.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	0.24	0.60	0.76	1.9
1,2-Dichloroethane	0.24	Not Detected	0.96	Not Detected
Heptane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	0.24	Not Detected	1.3	Not Detected
1,2-Dichloropropane	0.24	Not Detected	1.1	Not Detected
1,4-Dioxane	0.24	Not Detected	0.86	Not Detected
Bromodichloromethane	0.24	Not Detected	1.6	Not Detected
cis-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
4-Methyl-2-pentanone	0.24	0.90	0.97	3.7
Toluene	0.24	0.32	0.90	1.2
trans-1,3-Dichloropropene	0.24	Not Detected	1.1	Not Detected
1,1,2-Trichloroethane	0.24	Not Detected	1.3	Not Detected
Tetrachloroethene	0.24	Not Detected	1.6	Not Detected
2-Hexanone	1.2	Not Detected	4.9	Not Detected

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Client Sample ID: SV9

Lab ID#: 1909568A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093018**	**Date of Collection:**	**9/26/19 9:58:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/30/19 08:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.24	Not Detected	2.0	Not Detected
1,2-Dibromoethane (EDB)	0.24	Not Detected	1.8	Not Detected
Chlorobenzene	0.24	Not Detected	1.1	Not Detected
Ethyl Benzene	0.24	Not Detected	1.0	Not Detected
m,p-Xylene	0.24	Not Detected	1.0	Not Detected
o-Xylene	0.24	Not Detected	1.0	Not Detected
Styrene	0.24	Not Detected	1.0	Not Detected
Bromoform	0.24	Not Detected	2.5	Not Detected
Cumene	0.24	Not Detected	1.2	Not Detected
1,1,2,2-Tetrachloroethane	0.24	Not Detected	1.6	Not Detected
Propylbenzene	0.24	Not Detected	1.2	Not Detected
4-Ethyltoluene	0.24	Not Detected	1.2	Not Detected
1,3,5-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
1,2,4-Trimethylbenzene	0.24	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,4-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
alpha-Chlorotoluene	0.24	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.24	Not Detected	1.4	Not Detected
1,2,4-Trichlorobenzene	1.2	Not Detected	8.8	Not Detected
Hexachlorobutadiene	1.2	Not Detected	13	Not Detected
Naphthalene	1.2	Not Detected	6.2	Not Detected
TPH ref. to Gasoline (MW=100)	24	320	97	1300

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: SV10

Lab ID#: 1909568A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093019**	**Date of Collection:**	**9/26/19 10:23:00 AM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**9/30/19 08:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Freon 114	0.26	Not Detected	1.8	Not Detected
Chloromethane	1.3	Not Detected	2.7	Not Detected
Vinyl Chloride	0.26	Not Detected	0.66	Not Detected
1,3-Butadiene	0.26	1.0	0.57	2.2
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	0.26	Not Detected	1.4	Not Detected
Ethanol	1.3	5.0	2.4	9.5
Freon 113	0.26	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Acetone	2.6	67	6.1	160
2-Propanol	1.3	Not Detected	3.2	Not Detected
Carbon Disulfide	1.3	3.1	4.0	9.8
3-Chloropropene	1.3	Not Detected	4.0	Not Detected
Methylene Chloride	0.52	Not Detected	1.8	Not Detected
Methyl tert-butyl ether	0.26	0.34	0.93	1.2
trans-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Hexane	1.3	1.6	4.5	5.7
1,1-Dichloroethane	0.26	Not Detected	1.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	21	3.8	62
cis-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Tetrahydrofuran	1.3	2.6	3.8	7.6
Chloroform	0.26	2.6	1.2	13
1,1,1-Trichloroethane	0.26	Not Detected	1.4	Not Detected
Cyclohexane	0.26	0.66	0.89	2.3
Carbon Tetrachloride	0.26	Not Detected	1.6	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.0	Not Detected
Benzene	0.26	0.96	0.82	3.0
1,2-Dichloroethane	0.26	Not Detected	1.0	Not Detected
Heptane	1.3	Not Detected	5.3	Not Detected
Trichloroethene	0.26	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.26	Not Detected	1.2	Not Detected
1,4-Dioxane	0.26	Not Detected	0.93	Not Detected
Bromodichloromethane	0.26	Not Detected	1.7	Not Detected
cis-1,3-Dichloropropene	0.26	Not Detected	1.2	Not Detected
4-Methyl-2-pentanone	0.26	8.6	1.0	35
Toluene	0.26	2.5	0.97	9.3
trans-1,3-Dichloropropene	0.26	Not Detected	1.2	Not Detected
1,1,2-Trichloroethane	0.26	Not Detected	1.4	Not Detected
Tetrachloroethene	0.26	Not Detected	1.8	Not Detected
2-Hexanone	1.3	1.8	5.3	7.3

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Client Sample ID: SV10

Lab ID#: 1909568A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093019**	**Date of Collection:**	**9/26/19 10:23:00 AM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**9/30/19 08:40 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.26	Not Detected	2.2	Not Detected
1,2-Dibromoethane (EDB)	0.26	Not Detected	2.0	Not Detected
Chlorobenzene	0.26	Not Detected	1.2	Not Detected
Ethyl Benzene	0.26	0.61	1.1	2.6
m,p-Xylene	0.26	2.6	1.1	11
o-Xylene	0.26	1.1	1.1	4.9
Styrene	0.26	Not Detected	1.1	Not Detected
Bromoform	0.26	Not Detected	2.7	Not Detected
Cumene	0.26	Not Detected	1.3	Not Detected
1,1,2,2-Tetrachloroethane	0.26	Not Detected	1.8	Not Detected
Propylbenzene	0.26	0.31	1.3	1.5
4-Ethyltoluene	0.26	1.4	1.3	7.0
1,3,5-Trimethylbenzene	0.26	0.73	1.3	3.6
1,2,4-Trimethylbenzene	0.26	1.7	1.3	8.4
1,3-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
1,4-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
alpha-Chlorotoluene	0.26	Not Detected	1.3	Not Detected
1,2-Dichlorobenzene	0.26	Not Detected	1.6	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	9.6	Not Detected
Hexachlorobutadiene	1.3	Not Detected	14	Not Detected
Naphthalene	1.3	1.6	6.8	8.6
TPH ref. to Gasoline (MW=100)	26	380	100	1600

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1909568A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 11:22 AM**	

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	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	1.0	Not Detected	2.4	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 1909568A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 11:22 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected
Naphthalene	0.50	Not Detected	2.6	Not Detected
TPH ref. to Gasoline (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1909568A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093002**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 07:14 AM**

Compound	%Recovery
Freon 12	101
Freon 114	100
Chloromethane	90
Vinyl Chloride	103
1,3-Butadiene	102
Bromomethane	116
Chloroethane	104
Freon 11	104
Ethanol	101
Freon 113	99
1,1-Dichloroethene	109
Acetone	93
2-Propanol	101
Carbon Disulfide	103
3-Chloropropene	109
Methylene Chloride	96
Methyl tert-butyl ether	116
trans-1,2-Dichloroethene	109
Hexane	109
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	108
Tetrahydrofuran	100
Chloroform	101
1,1,1-Trichloroethane	102
Cyclohexane	126
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	105
Benzene	99
1,2-Dichloroethane	90
Heptane	103
Trichloroethene	99
1,2-Dichloropropane	91
1,4-Dioxane	110
Bromodichloromethane	100
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	101
Toluene	104
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	101
Tetrachloroethene	103
2-Hexanone	110

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Client Sample ID: CCV

Lab ID#: 1909568A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093002**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 07:14 AM**

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	102
Chlorobenzene	104
Ethyl Benzene	112
m,p-Xylene	121
o-Xylene	116
Styrene	119
Bromoform	98
Cumene	115
1,1,2,2-Tetrachloroethane	90
Propylbenzene	110
4-Ethyltoluene	117
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	94
Naphthalene	89
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1909568A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 07:53 AM**	

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	102	70-130
Chloromethane	93	70-130
Vinyl Chloride	106	70-130
1,3-Butadiene	106	70-130
Bromomethane	116	70-130
Chloroethane	110	70-130
Freon 11	104	70-130
Ethanol	104	70-130
Freon 113	96	70-130
1,1-Dichloroethene	107	70-130
Acetone	92	70-130
2-Propanol	103	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	99	70-130
Methylene Chloride	95	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	115	70-130
Hexane	108	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	96	70-130
Tetrahydrofuran	103	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	124	70-130
Carbon Tetrachloride	74	70-130
2,2,4-Trimethylpentane	99	70-130
Benzene	95	70-130
1,2-Dichloroethane	85	70-130
Heptane	97	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	115	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	103	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	102	70-130
2-Hexanone	123	70-130

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Client Sample ID: LCS

Lab ID#: 1909568A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 07:53 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	109	70-130
m,p-Xylene	119	70-130
o-Xylene	113	70-130
Styrene	118	70-130
Bromoform	108	70-130
Cumene	114	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	111	70-130
4-Ethyltoluene	121	70-130
1,3,5-Trimethylbenzene	116	70-130
1,2,4-Trimethylbenzene	122	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	90	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	92	70-130
Naphthalene	102	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1909568A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 08:32 AM**	

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	100	70-130
Chloromethane	91	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	105	70-130
Bromomethane	111	70-130
Chloroethane	102	70-130
Freon 11	102	70-130
Ethanol	105	70-130
Freon 113	96	70-130
1,1-Dichloroethene	106	70-130
Acetone	90	70-130
2-Propanol	103	70-130
Carbon Disulfide	102	70-130
3-Chloropropene	98	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	116	70-130
Hexane	108	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	95	70-130
Tetrahydrofuran	104	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	113	70-130
Carbon Tetrachloride	75	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	94	70-130
1,2-Dichloroethane	87	70-130
Heptane	98	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	115	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	108	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	105	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	100	70-130
2-Hexanone	121	70-130

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Client Sample ID: LCSD

Lab ID#: 1909568A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**20093004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/30/19 08:32 AM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	112	70-130
m,p-Xylene	118	70-130
o-Xylene	115	70-130
Styrene	116	70-130
Bromoform	107	70-130
Cumene	112	70-130
1,1,2,2-Tetrachloroethane	88	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	118	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	89	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	86	70-130
Naphthalene	95	60-140
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: ~~190956~~ 1909568

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

page 1 of 1

Client: ~~[illegible]~~ Geocon
Project Name: San Bruno
Project Manager: J. Brake Project # 5838-03-01
Sampler: S. Nase
Site Name:

Special Instructions/Notes: Send report to hastings@geoconinc.com

Turnaround Time (Rush surcharges may apply)
Standard X Rush _____ (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15-Low Level	Helium	Oxygen	
01A	SV1	3034	10000 4	9/25/19	1057	9/25/19	1105	29.5	5.0			X	X	X	
02A	SV8	IL1804	22617		1146		1152	29.5	5.0			X	X	X	
03A	SV5	IL3092	20308		1318		1328	29.5	6.5			X	X	X	
04A	SV6	IL2339	20680		1426		1435	29.5	4.5			X	X	X	
05A	SV7	IL3827	22511	9/26/19	0750	9/26/19	0758	29.0	5.0			X	X	X	
06A	SV3	IL2594	22455		0822		0834	29.0	7.5			X	X	X	
07A	SV2	IL2664	22052		0850		0855	29.0	5.5			X	X	X	
08A	SV4	40888	22617		0913		0919	29.0	4.0			X	X	X	
09A	SV9	IL2983	30677		0950		0958	29.0	4.5			X	X	X	
10A	SV10	IL1519	20917		1017		1023	29.0	6.0			X	X	X	

	Date	Time		Date	Time
Relinquished by: (Signature/Affiliation)	9/26/19	1057	Received by: (Signature/Affiliation)	9/26/19	1051
Relinquished by: (Signature/Affiliation)	9/26/19	1355	Received by: (Signature/Affiliation)	9/26/19	1355
Relinquished by: (Signature/Affiliation)	9/26/19	1500	Received by: (Signature/Affiliation)	9-26-19	1500

Lab Use Only

Shipper Name: Courier | Custody Seals Intact? | Yes | No | None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

REC 9-26-19 1525 RECEIVED BY: ATL 9/26/19 1525

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10/7/2019

Ms. Nicole Hastings-Bethel
Geocon Consultants, Inc.
3160 Gold Valley Drive
Suite 800
Rancho Cordova CA 95742-7207

Project Name: San Bruno
Project #: 51838-03-01
Workorder #: 1909568B

Dear Ms. Nicole Hastings-Bethel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2019 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: Sarah Westerman at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Sarah Westerman

Project Manager

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WORK ORDER #: 1909568B

Work Order Summary

CLIENT:	Ms. Nicole Hastings-Bethel Geocon Consultants, Inc. 3160 Gold Valley Drive Suite 800 Rancho Cordova, CA 95742-7207	**BILL TO:**	Accounts Payable Geocon Consultants, Inc. 3160 Gold Valley Drive Suite 800 Rancho Cordova, CA 95742-7207
PHONE:	916-852-9118	**P.O. #**	
FAX:	916-852-9132	**PROJECT #**	51838-03-01 San Bruno
DATE RECEIVED:	09/26/2019	**CONTACT:**	Sarah Westerman
DATE COMPLETED:	10/07/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV1	Modified ASTM D-1946	6.0 "Hg	15 psi
02A	SV8	Modified ASTM D-1946	5.5 "Hg	15 psi
03A	SV5	Modified ASTM D-1946	8.0 "Hg	15 psi
04A	SV6	Modified ASTM D-1946	6.5 "Hg	15 psi
05A	SV7	Modified ASTM D-1946	4.0 "Hg	15 psi
06A	SV3	Modified ASTM D-1946	7.5 "Hg	15 psi
07A	SV2	Modified ASTM D-1946	6.0 "Hg	15 psi
08A	SV4	Modified ASTM D-1946	3.5 "Hg	15 psi
09A	SV9	Modified ASTM D-1946	4.5 "Hg	15 psi
10A	SV10	Modified ASTM D-1946	6.5 "Hg	15 psi
11A	Lab Blank	Modified ASTM D-1946	NA	NA
11B	Lab Blank	Modified ASTM D-1946	NA	NA
12A	LCS	Modified ASTM D-1946	NA	NA
12AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/07/19

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics Inc.. 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) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Geocon Consultants, Inc.
Workorder# 1909568B

Ten 1 Liter Summa Canister (100% Certified) samples were received on September 26, 2019. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

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.

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: SV1

Lab ID#: 1909568B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	18

Client Sample ID: SV8

Lab ID#: 1909568B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	20

Client Sample ID: SV5

Lab ID#: 1909568B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	19

Client Sample ID: SV6

Lab ID#: 1909568B-04A

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

Client Sample ID: SV7

Lab ID#: 1909568B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	19
Helium	0.12	0.17

Client Sample ID: SV3

Lab ID#: 1909568B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19

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

Client Sample ID: SV2

Lab ID#: 1909568B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19

Client Sample ID: SV4

Lab ID#: 1909568B-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	17

Client Sample ID: SV9

Lab ID#: 1909568B-09A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18

Client Sample ID: SV10

Lab ID#: 1909568B-10A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.6

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Client Sample ID: SV1

Lab ID#: 1909568B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100515b**	**Date of Collection: 9/25/19 11:05:00 AM**	
Dil. Factor:	**2.52**	**Date of Analysis: 10/4/19 11:00 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.25	18
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV8

Lab ID#: 1909568B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100516b**	**Date of Collection: 9/25/19 11:52:00 AM**	
Dil. Factor:	**2.47**	**Date of Analysis: 10/5/19 07:25 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.25	20
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV5

Lab ID#: 1909568B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100517b**	**Date of Collection: 9/25/19 1:28:00 PM**	
Dil. Factor:	**2.76**	**Date of Analysis: 10/5/19 07:54 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.28	19
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV6

Lab ID#: 1909568B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100518b**	**Date of Collection: 9/25/19 2:35:00 PM**	
Dil. Factor:	**2.58**	**Date of Analysis: 10/5/19 08:15 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	20
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV7

Lab ID#: 1909568B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100519b**	**Date of Collection: 9/26/19 7:58:00 AM**	
Dil. Factor:	**2.33**	**Date of Analysis: 10/5/19 08:40 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	19
Helium	0.12	0.17

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV3

Lab ID#: 1909568B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100520b**	**Date of Collection: 9/26/19 8:34:00 AM**	
Dil. Factor:	**2.69**	**Date of Analysis: 10/5/19 09:04 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	19
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV2

Lab ID#: 1909568B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100521b**	**Date of Collection: 9/26/19 8:55:00 AM**	
Dil. Factor:	**2.52**	**Date of Analysis: 10/5/19 09:47 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.25	19
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV4

Lab ID#: 1909568B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100522b**	**Date of Collection: 9/26/19 9:19:00 AM**	
Dil. Factor:	**2.29**	**Date of Analysis: 10/5/19 10:21 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.23	17
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: SV9

Lab ID#: 1909568B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100523b**	**Date of Collection: 9/26/19 9:58:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 10/5/19 11:18 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.24	18
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: SV10

Lab ID#: 1909568B-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100524b**	**Date of Collection: 9/26/19 10:23:00 AM**	
Dil. Factor:	**2.58**	**Date of Analysis: 10/5/19 12:47 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.26	1.6
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

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Client Sample ID: Lab Blank

Lab ID#: 1909568B-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100503b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/19 05:56 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.10	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: Lab Blank

Lab ID#: 1909568B-11B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100504c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/19 06:19 PM**	

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

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1909568B-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100502b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/4/19 05:30 PM**	

Compound	%Recovery	Method Limits
Oxygen	102	85-115
Helium	96	85-115

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1909568B-12AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10100525b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/5/19 01:41 PM**	

Compound	%Recovery	Method Limits
Oxygen	102	85-115
Helium	98	85-115

Container Type: NA - Not Applicable

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: ~~190956~~ 1909568

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

page 1 of 1

Client: ~~[illegible]~~ Geocon
Project Name: San Bruno
Project Manager: J. Brake Project # 5838-03-01
Sampler: S. Nase
Site Name:

Special Instructions/Notes: Send report to hastings@geoconinc.com

Turnaround Time (Rush surcharges may apply)
Standard X Rush _____ (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15-Low Level	Helium	Oxygen	
01A	SV1	3034	10000 4	9/25/19	1057	9/25/19	1105	29.5	5.0			X	X	X	
02A	SV8	IL1804	22617		1146		1152	29.5	5.0			X	X	X	
03A	SV5	IL3092	20308		1318		1328	29.5	6.5			X	X	X	
04A	SV6	IL2339	20680		1426		1435	29.5	4.5			X	X	X	
05A	SV7	IL3827	22511	9/26/19	0750	9/26/19	0758	29.0	5.0			X	X	X	
06A	SV3	IL2594	22455		0822		0834	29.0	7.5			X	X	X	
07A	SV2	IL2664	22052		0850		0855	29.0	5.5			X	X	X	
08A	SV4	40888	22617		0913		0919	29.0	4.0			X	X	X	
09A	SV9	IL2983	30677		0950		0958	29.0	4.5			X	X	X	
10A	SV10	IL1519	20917		1017		1023	29.0	6.0			X	X	X	

	Date	Time		Date	Time
Relinquished by: (Signature/Affiliation)	9/26/19	1057	Received by: (Signature/Affiliation)	9/26/19	1051
Relinquished by: (Signature/Affiliation)	9/26/19	1355	Received by: (Signature/Affiliation)	9/26/19	1355
Relinquished by: (Signature/Affiliation)	9/26/19	1500	Received by: (Signature/Affiliation)	9-26-19	1500

Lab Use Only

Shipper Name: Courier | Custody Seals Intact? | Yes | No | None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

REC 9-26-19 1525 RECEIVED BY: ATL 9/26/19 1525