Appendix B

CE Schmidt Technical Memorandum

Results of the May 2, Surface Flux Chamber Testing and Ambient Air Testing at the DSG Building Located in Sacramento, California

CE Schmidt, Ph.D.
Environmental Consultant

May 16, 2011

Mr. Chris Corpuz, MS, CIH
Western Regional Manager
La Croix Davis LLC
3685 Mt. Diablo Blvd., Suite 210
Lafayette, CA 94549

Dear Mr. Corpuz:

Enclosed please find a copy of the Technical Memorandum for the testing conducted on May 2, 2011 at the DSG building located in Sacramento, California.

If you have any questions, please feel free to call.

Sincerely,

CE Schmidt, Ph.D.

Attachments - Technical Memorandum

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TECHNICAL MEMORANDUM

Results of the May 2, Surface Flux Chamber
Testing and Ambient Air Testing at the DSG Building
Located in Sacramento, California

Prepared For:

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Prepared By:

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May 2011

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EXECUTIVE SUMMARY

An engineering evaluation was conducted at selected locations on the 19th, 21st and 22nd floors of the Department of General Services (DGS) building located in Sacramento, California on May 2, 2011. The testing was conducted in support of building remodeling activities in order to assist in identifying potential sources of odors detected and reported from different parts of the building. The primary test objectives were to:

o *Conduct source (USEAP flux chamber) testing on locations representative of the candidate odor sources including decomposing VCT adhesive and inner-wall mold, identifying the odor source(s) and quantifying the odor/odor related compounds emitted to the indoor building air;*

o Conduct ambient air testing in the areas where source testing is conducted in order to relate ambient odor/odor relate compounds to suspected odor sources, and

o Provide a valid data set of odor and odor related compounds, including source flux and ambient concentration data, that can be used to predict odor/compound levels throughout the building (using CIH ventilation modeling) and estimate exposure to compounds as related to these sources.

A site survey was conducted on April 28, 2011 and two potential sources of odors were identified: decomposing VCT and adhesive that may have been compromised as related to high pH cement slab, and mold in the interstitial wall spaces in selected locations in the core of the building. Although VCT locations and mold in the interstitial wall spaces was originally a target of the investigation, no suitable inner-wall surfaces with mold present could be found on the day of testing (four areas in the core wall were opened and inspected and mold was not found). As such, preselected VCT areas were tested and, in place of the mold source test, a surface of importance was identified and tested instead. Testing was conducted on undisturbed VCT which was used to represent air emissions from VCT showing signs of decomposition. Locations were selected for testing the decomposing VCT and adhesive on these floors, including:

o floor slab with the VCT removed and the adhesive scraped off;
o on decomposing VCT as found (tile not removed); and
o on locations with the decomposing VCT removed exposing adhesive.

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Project study compounds were detected using ASTM Method E679-94 for olfactory odor, USEPA Method TO-15 full scan for volatile organic compounds (VOCs) including tentatively identified compounds (TICs), USEPA Method TO-15 selective ion mode (SIM) for microbial volatile organic compounds (MVOCs), and USEPA Method TO-11 for aldehyde compounds (limited use only). The scope of work completed is provided in Table 1.

In addition, ambient air was collected in these selected rooms in the DGS building for the list of project compounds (odor, VOCs, MVOCs but not aldehydes). The work that was completed is show below with the reason for collecting the data at these locations:

Room 21B- VCT Removed and Adhesive scraped off: Flux chamber testing was conducted at two locations on bare slab post scraping, and one ambient air sample set was collected in Room 21B. The purpose of the testing was to assess the off-gassing of odors and odor related compounds from the slab post VCT and adhesive removal, demonstrating the effectiveness of the tile remedial activity.

Room 19B- VCT Freshly Removed: Flux chamber testing was conducted at two locations immediately after the removal of four VCT's exposing adhesive. One ambient air sample was also collected. The purpose of the testing was to assess the air emissions of odor and odor related compounds from the exposure of adhesive.

Room 22B- VCT Surface as Found: Flux chamber testing was conducted at two locations with VCT floor covering- locations selected had dark tile corners indicating tile decomposition. One ambient air sample was also collected. The purpose of the testing was to assess the air emissions of odor and odor related compounds from the tile in the undisturbed state.

Room 22B- VCT Freshly Removed: Flux chamber testing was conducted at two locations immediately after the removal of four VCT's exposing adhesive. One ambient air sample was also collected. The purpose of the testing was to assess the air emissions of odor and odor related compounds from the exposure of adhesive at the exact areas where undisturbed VCT testing had taken place. This test was the same as the testing done in Room 19B, just at a different location and spatially identified with undisturbed VCT testing.

The results of the ambient air testing in the rooms where flux chamber testing showed a total of three compounds detected above reporting limits for the TO-15 VOC full scan analysis: acetone, 2-butanone, and benzene. Levels of benzene and 2-butanone were elevated in the rooms with exposed adhesive as compared to the scrapped floor the testing with the VCT undisturbed. The highest levels

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of these compounds observed were: acetone at 29 ug/m3 (Room 22B, exposed adhesive), 2-butanone at 2.2 ug/m3 (Room 19B, exposed adhesive), and benzene at 5.7 ug/m3 (Room 22b, exposed adhesive). Odor levels were about the same in all test cases with odor ranging from 11 D/T to 16 D/T (method blank level at 10 D/T). The highest odor (16 D/T) was observed in Room 22B prior to the VCT removal. Note that this room was only infrequently used and the door was kept closed. Note that although the odor bag sample was not highest in this room post VCT removal, field personnel noted higher odor in Room 19 after the tile removal as compared to Room 22B. This might be related to the ventilation or traffic in and out of the room and when in the tile removal process the odor sample was taken as compared to the odor flux, which was highest in Room 19B.

The results of the flux chamber sampling showed at total of four compounds detected above reporting limits for the TO-15 VOC full scan analysis: acetone, carbon disulfide, 2-butanone, and benzene. The VOCs found above reporting limits in the ambient air samples strongly correlated to these data. Flux on freshly exposed adhesive surfaces were higher than on the scrapped surface and the undisturbed VCT surface. The highest levels of these compounds in the flux samples were: acetone at 0.82 ug/m2,min-1 (Room 22B, adhesive), carbon disulfide at 0.072 ug/m2,min-1 (Room 22 B, adhesive), 2-butanone at 0.41 ug/m2,min-1 (Room 19B, adhesive), and benzene at 2.1 ug/m2,min-1 (Room 22B, adhesive). Odor flux ranged from an average of 0.44 (D/T)/m2,min-1 on the undisturbed VCT and 0.64 (D/T)/m2,min-1 on the scraped slab surface to 3.7 (D/T)/m2,min-1 on the adhesive surface (Room 19B, adhesive).

Tentatively identified compound analysis showed a total of 14 TICs in the ambient air sample data set with acetonitrile the highest detected compound at 40 ppbv (estimated concentration), and 19 TICs in the surface flux sample data set with the highest detected compound at 57 ppbv (estimated concentration).

USEPA Method TO-11 was used to assess aldehyde compounds from two flux chamber tests conducted in Room 22B on freshly exposed adhesive. Three compounds were detected at moderately low levels: acetone, butyraldehyde, and valeraldehyde.
.
A 'finger print' type TO-15 analysis by SIM was also performed in an attempt to identify a pattern of VOCs associated with microbial respiration. No such patter was observed, with the exception of occasional and low level furnas and methyl furans as a class of organic compounds identified in some of the ambient air samples at low levels, and low level furnas and methyl furans as well as hexanones detected in some of the surface flux samples. These data were inconclusive for microbial respiration and somewhat agreed with the full scan hydrocarbon speciation data. A microbial source for odor and odorous compounds was not identified by the MVOC data.

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These data can be used to assist in identifying odor sources in the DGS building and quantifying emissions potential from undisturbed, decomposing VCT (Room 22Bb), scrapped floor (Room 21B), and freshly exposed adhesive immediately after VCT removal (Room 19B and Room 22B). These data indicated that a likely source of odor and odor compounds is the freshly exposed adhesive associated with decomposing tile and adhesive/high pH slab interactions. It appears that VCT removal and floor scrapping removing visible signs of adhesive aside from a slab staining, greatly reduces odor and VOC compound emissions. Predictions of potential impact to indoor air quality can be made using these flux data and surface area information along with ventilation data for: rooms with VCT removal and floor scraping to exposed slab, rooms with decomposing VCT (undisturbed VCT), and rooms with VCT removal and exposed adhesive as in a remedial activity.

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I. INTRODUCTION

This technical memorandum describes the field testing that was conducted in order to assess air emissions of odor and odor related compounds from various test surfaces in the DGS building and indoor air quality associated with potential sources of odor and odor related compounds. Testing was conducted by Dr. C.E. Schmidt on May 2, 2011. Site preparation conducted by LaCroix Davis LLC. This testing effort is considered to be a 'detailed screening effort' since only a limited data set was collected for the purposes of engineering and potential exposure evaluation.

This memorandum includes a discussion of the testing methodology, quality control procedures, results, discussion of the results, and summary statements.

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II. TEST METHODOLOGY

Testing for surface flux was conducted using the USEPA recommended Surface Isolation Flux Chamber technology (USEPA. Radian Corporation, February 1986) and standard indoor air sampling methods . Flux chamber sampling was performed on various test surfaces as per the testing protocol.

The operation of the surface flux chamber is given below:

1) Flux chamber, sweep air, sample collection equipment, and field documents were located on-site.

2) The site information, location information, equipment information, date, and proposed time of testing were documented on the Emissions Measurement Field Data Sheet.

3) The exact test location was selected and placed on the source sealing the chamber to the surface using a fabricated collar.

4) The sweep air flow our ultra high purity air was initiated and the rotometer, which regulates the flow rate to 5.0 liters per minute. A constant sweep air flow rate was maintained throughout the measurement for each sampling location.

5) Flux chamber data were recorded every residence interval (6 minutes) for five intervals, or 30 minutes.

6) At steady-state (assumed to be greater than 5 residence intervals sample collection was performed by interfacing the sample container (canister or tedlar bag-decompression lung) to the purged, sample line and filling the container with sample gas or collecting the desired sample following sample collection protocols as per the workplan.

7) After sample collection the sample collection information was documented on the data sheet.

8) After sampling, the flux measurement was discontinued by shutting off the sweep air, removing the chamber, and securing the equipment. The chamber was cleaned by dry wipe with a clean paper towel as needed and the sample lines were purged with UHP air.

9) Sampling locations were recorded on the field data sheet. The equipment was then relocated to the next test location and steps 1) through 8) were repeated.

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Indoor air testing was performed by filling either a tedlar bag with room air, collected at 5' above the floor using a decompression lung, or by opening the valve on an evacuated canister also held at 5' above the floor. Indoor air samples were collected as grab samples.

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III. QUALITY CONTROL

Control procedures that were used to assure that data of sufficient quality resulted from the engineering evaluation are described below. The application and frequency of these procedures were developed to meet the program data quality objectives as described in the prior project source test protocols or quality assurance project plans (Card, T. and Schmidt, C.E., July 2010).

Field Documentation -- A field notebook containing data forms, including sample chain-of-custody (COC) forms, was maintained for the testing program. Attachment A contains the Emission Measurement Data Sheets.

Chain-of-Custody -- COC forms were not used for field data collection. Field data were recorded on the Chain-of-Custody forms provided in Attachment B.

ASTM E-679-04 for Olfactory Odors

Field Blank Sample – One field blank sample was collected by filling a tedlar bag sample with high purity air and submitting the sample blind for analysis. The odor concentration was 10 D/T, which is common for the method. These data indicate acceptable method performance.

Replicate Sample- A second tedlar bag sample was collected from a flux chamber test and submitted for analysis as s replicate sample. The replicate sample pair (OSE-108/OSE-109) had a relative percent difference (RPD) of 41 (criteria of 50 RPD). These data indicate acceptable method performance.

USEPA Method TO-15 GC/MS; Full Scan Analysis

Laboratory Control Spike Recovery Analysis and Duplicate –Two control spike samples were analyzed using a standard containing sixteen of the study compounds. All spike compounds were reported for all spike samples within the QC criteria of 70%-to-130%. These data indicate acceptable method performance.

These samples were also analyzed in duplicate, and similar results were observed. All duplicate spike compound analyses were reported within QC criteria of 70%-to-130%. These data represent acceptable method performance.

Laboratory Duplicate QC Sample – Two laboratory control samples were analyzed in duplicate and all data were found within the precision criteria of 25 RPD. These data indicate acceptable method performance.

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Laboratory Method Blank – Two laboratory method blank samples were analyzed and no compounds were reported above method detection limits. These data indicate acceptable method performance.

Media Sample Blank – One media blank sample were collected by filling a canister sample with high purity air and submitting the sample blind for analysis. No compounds were detected in the blank sample above reporting limits. These data indicate acceptable method performance.

Field Replicate QC Sample – One field replicate sample was collected and analyzed. The precision criteria for field replicate samples is 50 RPD. The sample/replicate pairs had three compounds detected common to both the sample and the replicate above the reporting limit, and all three pairs either met or slightly exceeded the QC criteria (acetone 51 RPD, 2-butanone 47 RPD, and benzene 36 RPD). Note that with so few detections above the reporting limit and these low levels of detection, poor precision in terms of meeting the QC criteria near the method detection limit is expected. Note that the laboratory precision data demonstrated acceptable method performance. As such, these data demonstrate acceptable method performance with two of three pairs meeting the QC criteria, and one pair only slightly exceeding criteria.

USEPA Method TO-11 HPLC; Aldehyde Compounds

Laboratory Control Spike Recovery Analysis and Duplicate –One control spike sample was analyzed using a standard containing seventeen of the study compounds. All spike compounds were reported within the QC criteria of 70%-to-130%. These data indicate acceptable method performance.

This sample was also analyzed in duplicate, and similar results were observed. All duplicate spike compound analyses were reported within QC criteria of 70%-to-130%. These data represent acceptable method performance.

Laboratory Duplicate QC Sample – One laboratory control sample was analyzed in duplicate and all data were found within the precision criteria of 30 RPD. These data indicate acceptable method performance.

Laboratory Method Blank – No compounds were reported above method detection limits in the method blank sample. These data indicate acceptable method performance.

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IV. RESULTS AND DISCUSSIONS

A summary of the field sample collection activities is provided in Table 1. All field data for the on site surface flux chamber and ambient air testing along with sample identification and sample ID data are presented in Table 1. The results of the ambient air testing and analysis of VOCs are reported in Tables 2A, 2B, and 2C; all data are reported in Table 2A, and only those data found above the reporting limits are reported in Table 2B. TIC data are reported in Table 2C. Ambient air data are reported in the units of ppbv, ug/m3, and dilution-to-threshold (D/T) as appropriate. The results of the flux chamber testing and analysis of VOCs are reported in Tables 3A, 3B, and 3C; all data are reported in Table 3A, and only those data found above the reporting limits are reported in Table 3B. TIC data are reported in Table 3C. Flux units are reported in units of ug/m2,min-1 for VOCs and Odor Units/m2,min-1 (Odor Units are D/T). The results of the flux chamber testing and analysis of aldehyde compounds are reported in Table 4; only two samples were collected for aldehyde compounds by this method. Flux units are reported in units of ug/m2,min-1 for aldehyde compounds. The results of the ambient air testing and analysis for MVOCs are reported in Table 5, and for surface flux samples in Table 6. The TO-15 SIM analysis for MVOCs is intended as a finger print analysis for reparable VOCs.

One sample, SF-19B-02-C was inadvertently not collected and is indicated as such in the data tables (NS- not sampled).

Surface flux data for a surface area source are calculated using measured target compound concentrations and flux chamber operating parameter data (sweep air flow rate of 5.0 liters per minute [or 0.005 m3/min] plus advective flow [m3/min], surface area of 0.13 square meters [m^2]). The site emissions can be calculated by multiplying the flux by the surface area of the source. The flux is calculated from the sweep air flow rate Q (cubic meters per minute [m^3/min]), the species concentration Yi (micrograms per cubic meter [mg/m^3)], and exposure to the chamber surface area A (square meters [m^2]), as follows:

$$Fi = (Q)\ (Yi)\ /\ (A)$$

Emission rate of from the test pile can be calculated by multiplying unit or average flux data per compound by surface area and reported as a function of area source.

Photographs of the testing approach are provided.

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V. SUMMARY

An engineering evaluation was performed on selected test surfaces in the DGS building. Testing was conducted for the purpose of: evaluating the sources of and emissions from potential odor sources. The following is a summary of activities and results associated with this objective:

- Surface flux measurements of study compounds were measured from multiple locations on test using the USEPA recommended surface flux chamber technology. This technology quantitatively measures flux at the test surface of study compounds.

- Indoor air quality was sampled using conventional indoor air sampling methods in the rooms where flux chamber testing occurred.

- Field and laboratory quality control data indicate acceptable data quality for the methods used. System blank levels were acceptable and precision between replicate field samples were all within quality control limits.

- The results of the ambient air testing in the rooms where flux chamber testing showed a total of three compounds detected above reporting limits for the TO-15 VOC full scan analysis: acetone, 2-butanone, and benzene. Levels of benzene and 2-butanone were elevated in the rooms with exposed adhesive as compared to the scrapped floor the testing with the VCT undisturbed. The highest levels of these compounds observed were: acetone at 29 ug/m3 (Room 22B, exposed adhesive), 2-butanone at 2.2 ug/m3 (Room 19B, exposed adhesive), and benzene at 5.7 ug/m3 (Room 22b, exposed adhesive).

- Odor levels were about the same in all test cases with odor ranging from 11 D/T to 16 D/T (method blank level at 10 D/T). The highest odor (16 D/T) was observed in Room 22B prior to the VCT removal. Note that this room was only infrequently used and the door was kept closed. Note that although the odor bag sample was not highest in this room post VCT removal, field personnel noted higher odor in Room 19 after the tile removal as compared to Room 22B. This might be related to the ventilation or traffic in and out of the room and when in the tile removal process the odor sample was taken as compared to the odor flux, which was highest in Room 19B.

- The results of the flux chamber sampling showed at total of four compounds detected above reporting limits for the TO-15 VOC full scan analysis: acetone, carbon disulfide, 2-butanone, and benzene. The VOCs found above reporting limits in the ambient air samples strongly correlated to these data. Flux on freshly exposed adhesive surfaces were higher than on the scrapped surface and the undisturbed VCT surface. The highest levels of these compounds in the flux samples were: acetone at 0.82 ug/m2,min-1 (Room 22B, adhesive), carbon

disulfide at 0.072 ug/m2,min-1 (Room 22 B, adhesive), 2-butanone at 0.41 ug/m2,min-1 (Room 19B, adhesive), and benzene at 2.1 ug/m2,min-1 (Room 22B, adhesive). Odor flux ranged from an average of 0.44 (D/T)/m2,min-1 on the undisturbed VCT and 0.64 (D/T)/m2,min-1 on the scraped slab surface to 3.7 (D/T)/m2,min-1 on the adhesive surface (Room 19B, adhesive).

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- USEPA Method TO-11 was used to assess aldehyde compounds from two flux chamber tests conducted in Room 22B on freshly exposed adhesive. Three compounds were detected at moderately low levels: acetone, butyraldehyde, and valeraldehyde.

- A 'finger print' type TO-15 analysis by SIM was performed in an attempt to identify a pattern of VOCs associated with microbial respiration. No such patter was observed, with the exception of occasional and low level furnas and methyl furans as a class of organic compounds identified in some of the ambient air samples at low levels, and low level furnas and methyl furans as well as hexanones detected in some of the surface flux samples. These data were inconclusive for microbial respiration and somewhat agreed with the full scan hydrocarbon speciation data. A microbial source for odor and odorous compounds was not identified by the MVOC data.
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- These data can be used to assist in identifying odor sources in the DGS building and quantifying emissions potential from undisturbed, decomposing VCT (Room 22Bb), scrapped floor (Room 21B), and freshly exposed adhesive immediately after VCT removal (Room 19B and Room 22B).

- These data indicated that a likely source of odor and odor compounds is the freshly exposed adhesive associated with decomposing tile and adhesive/high pH slab interactions. It appears that VCT removal and floor scrapping removing visible signs of adhesive aside from a slab staining, greatly reduces odor and VOC compound emissions. Predictions of potential impact to indoor air quality can be made using these flux data and surface area information along with ventilation data for: rooms with VCT removal and floor scraping to exposed slab, rooms with decomposing VCT (undisturbed VCT), and rooms with VCT removal and exposed adhesive as in a remedial activity. Note that because very little data were collected, these data many not be representative of other portions of the building.

- The limited indoor air quality data can be used to evaluate exposure by comparing these data to health-based criteria. Note that this data set is very limited and certainly not meant to take the place of data from a detailed and robust air monitoring program.

REFERENCES

USEPA. 1986. "Measurement of Gaseous Emission Rates From Land Surfaces Using an Emission Isolation Flux Chamber, Users Guide." EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada, EPA Contract No. 68-02-3889, Work Assignment No. 18, Radian Corporation, February 1986. NTIS # PB 86-223161.

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Photo 1- Flux chamber testing in Room 21B- VCT removed and floor scrapped leaving only a slight staining of adhesive. Note- evacuated canister for TO-15 sample collection and decompression lung (white bucket) for odor bag sample collection.

Photo 2. Flux chamber testing in Room 19B- freshly exposed adhesive. Note canister sampling media for TO-15 and rolled-up tedlar bag for odor collection.

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Photo 3. Flux chamber testing on decomposing VCT in Room 22B.

Photo 4. Flux chamber testing in Room 22B- freshly exposed adhesive.

Table 1. Summary of Field Sample Collection Information and Field Data for Compost Testing; May 2, 2011.

DATE	TIME	SOURCE	CONDITION	LOCATION	Odor	TO-15	IN SURF	IN AIR	OUT SURF	OUT AIR	SLAB	COMMENT
					ID	ID	F	F	F	F	pH	
5/2/2011	836	Room 21B Scraped Slab	Remnant of Adhesive	Location 1	SF--21B-01-B	SF-21B-01-C	70	69	70	69	10+	No odor, pH retest showed >pH 10
5/2/2011	836	Room 21B Scraped Slab	Remnant of Adhesive	Location 2	SF--21B-02-B	SF-21B-02-C	70	70	70	70		
5/2/2011	914	Ambient Air Room 21B	Air Sample Post Tile Removal	Center of Room	AA-21B-01-B	AA-21B-01-C	NA	NA	NA	NA	NA	5' Sample taken 5' above the ground
5/2/2011	1015	Room 19B Floor Adhesive	Freshly Exposed Adhesive	Location 1	SF-19B-01-B	SF-19B-01-C	69	69	69	69		Tile removed at 0944; strong odor
5/2/2011	1024	Room 19B Floor Adhesive	Freshly Exposed Adhesive	Location 2	SF-19B-02-B	SF-19B-02-C	70	70	70	70		Tile removed at 0949; strong odor
5/2/2011	955	Ambient Air Room 19B	Air Sample Post Tile Removal	Center of Room	AA-19B-01-B	AA-19B-01-C	NA	NA	NA	NA	NA	5' Sample taken 5' above the ground
5/2/2011	1126	Room 22B Undisturbed Tile	Tiles With Sign of Decomposition	Location 1	SF--22B-01-B	SF-22B-01-C	71	71	71	70		No odor
5/2/2011	1126	Room 22B Undisturbed Tile	Tiles With Sign of Decomposition	Location 2	SF--22B-02-B	SF-22B-02-C	72	71	71	71		
5/2/2011	914	Ambient Air Room 22B	Air Sample; Tile Undisturbed	Center of Room	AA-22B-01-B	AA-22B-01-C	NA	NA	NA	NA	NA	5' Sample taken 5' above the ground
5/2/2011	1229	Room 22B Floor Adhesive	Freshly Exposed Adhesive	Location 1	SF-22B-03-B	SF-22B-03-C	71	72	71	72		Tile removed at 1159; strong odor, adhesive very sticky
5/2/2011	1229	Room 22B Floor Adhesive	Replicate Sample	Location 1	SF-22B-03R-B	SF-22B-03R-C	71	72	71	72		Field Replicate Sample
5/2/2011	1233	Room 22B Floor Adhesive	Freshly Exposed Adhesive	Location 2	SF-22B-04-B	SF-22B-04-C	71	71	71	71		Tile removed at 1203; strong odor
5/2/2011	1248	Ambient Air Room 22B	Air Sample Post Tile Removal	Center of Room	AA-22B-02-B	AA-22B-02-C	NA	NA	NA	NA	NA	5' Sample taken 5' above the ground
5/2/2011	1349	Method Blank Sample	Ultra High Purity Air in Media	NA	SF-BLK001-B	SF-BLK-01-C	NA	NA	NA	NA	NA	Pure Air Blank

Table 2A. Summary of All Ambient Air VOC and Odor Data (ppbv, ug/m3, and D/T).

METHOD	COMPOUND	AA-21B-01-C		AA-21B-01-C		AA-19B-01-C		AA-19B-01-C		AA-22B-01-C		AA-22B-01-C		AA-22B-02-C		AA-22B-02-C		SF-BLK-01-C		SF-BLK-01-C	
		21B Scraped		21B Scraped		19B Adhesive		19B Adhesive		22B Undisturb		22B Undisturb		22B Adhesive		22B Adhesive		Method Blk		Method Blk	
		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)	
Odor Panel	Odor (Dilution/Threshold)	13 D/T				11 D/T				16 D/T				12 D/T				10 D/T			
TO-15	Dichlorodifluoromethane	0.61	J	3.01	J	0.63	J	3.10	J	0.50	J	2.46	J	0.54	J	2.66	J	0.22	U	1.08	U
TO-15	Chloromethane	0.57	J	1.17	J	0.59	J	1.21	J	0.48	J	0.99	J	0.58	J	1.21	J	0.21	U	0.44	U
TO-15	Freon 114	0.25	U	1.76	U	0.25	U	1.76	U	0.25	U	1.74	U	0.26	U	1.79	U	0.22	U	1.51	U
TO-15	Vinyl chloride	0.25	U	0.64	U	0.25	U	0.64	U	0.25	U	0.64	U	0.26	U	0.65	U	0.22	U	0.55	U
TO-15	1,3-Butadiene	0.26	U	0.57	U	0.26	U	0.57	U	0.26	U	0.57	U	0.26	U	0.58	U	0.22	U	0.49	U
TO-15	Bromomethane	0.25	U	0.98	U	0.25	U	0.98	U	0.25	U	0.97	U	0.26	U	0.99	U	0.22	U	0.84	U
TO-15	Chloroethane	0.25	U	0.66	U	0.25	U	0.66	U	0.25	U	0.66	U	0.26	U	0.67	U	0.22	U	0.57	U
TO-15	Ethanol	0.83	U	1.57	U	0.83	U	1.57	U	0.83	U	1.56	U	0.85	U	1.59	U	0.72	U	1.35	U
TO-15	Trichlorofluoromethane	0.47	J	2.62	J	0.40	J	2.26	J	0.32	J	1.78	J	0.37	J	2.08	J	0.22	U	1.22	U
TO-15	Acetone	**10.12**		**24.04**		**10.14**		**24.09**		**8.08**		**19.19**		**12.19**		**28.94**		0.56	J	1.32	J
TO-15	2-propanol	0.63	U	1.56	U	0.63	U	1.56	U	0.63	U	1.54	U	0.64	U	1.58	U	0.54	U	1.34	U
TO-15	t-Butanol	0.18	U	0.55	U	0.18	U	0.55	U	0.18	U	0.55	U	0.19	U	0.56	U	0.16	U	0.47	U
TO-15	Methyl iodide	0.07	U	0.42	U	0.07	U	0.42	U	0.07	U	0.42	U	0.07	U	0.43	U	0.06	U	0.36	U
TO-15	1,1-Dichloroethene	0.49	U	1.94	U	0.49	U	1.94	U	0.48	U	1.92	U	0.50	U	1.97	U	0.42	U	1.66	U
TO-15	Acrylonitrile	0.28	U	0.61	U	0.28	U	0.61	U	0.28	U	0.60	U	0.29	U	0.62	U	0.24	U	0.52	U
TO-15	Freon 113	0.25	U	1.89	U	0.25	U	1.89	U	0.24	U	1.88	U	0.25	U	1.92	U	0.21	U	1.63	U
TO-15	Allyl chloride	0.21	U	0.67	U	0.21	U	0.67	U	0.21	U	0.66	U	0.22	U	0.68	U	0.18	U	0.58	U
TO-15	Dichloromethane	0.25	U	0.87	U	0.25	U	0.87	U	0.25	U	0.87	U	0.26	U	0.89	U	0.22	U	0.75	U
TO-15	Carbon disulfide	0.21	U	0.64	U	0.21	U	0.64	U	0.21	U	0.64	U	0.21	U	0.65	U	0.18	U	0.55	U
TO-15	trans-1,2-Dichloroethene	0.16	U	0.64	U	0.16	U	0.64	U	0.16	U	0.63	U	0.16	U	0.65	U	0.14	U	0.55	U
TO-15	Methyl tert butyl ether	0.16	U	0.59	U	0.16	U	0.59	U	0.16	U	0.59	U	0.17	U	0.60	U	0.14	U	0.51	U
TO-15	Propionitrile	0.23	U	0.52	U	0.23	U	0.52	U	0.23	U	0.51	U	0.23	U	0.53	U	0.20	U	0.45	U
TO-15	1,1-Dichloroethane	0.24	U	0.99	U	0.24	U	0.99	U	0.24	U	0.98	U	0.25	U	1.01	U	0.21	U	0.85	U
TO-15	Vinyl acetate	0.20	U	0.69	U	0.20	U	0.69	U	0.19	U	0.68	U	0.20	U	0.70	U	0.17	U	0.59	U
TO-15	2-Butanone	0.23	U	0.67	U	**0.74**		**2.17**		0.55	J	1.63	J	**0.61**		**1.81**		0.19	U	0.57	U
TO-15	Diisopropyl ether	0.15	U	0.63	U	0.15	U	0.63	U	0.15	U	0.63	U	0.15	U	0.65	U	0.13	U	0.55	U
TO-15	Hexane	0.17	J	0.60	J	0.16	U	0.58	U	0.16	U	0.58	U	0.17	U	0.59	U	0.14	U	0.50	U
TO-15	Methacrylonitrile	0.23	U	0.63	U	0.23	U	0.63	U	0.23	U	0.63	U	0.23	U	0.64	U	0.20	U	0.54	U
TO-15	Ethyl acetate	0.20	U	0.70	U	0.20	U	0.70	U	0.19	U	0.70	U	0.20	U	0.71	U	0.17	U	0.60	U
TO-15	Bromochloromethane	0.12	U	0.63	U	0.12	U	0.63	U	0.12	U	0.62	U	0.12	U	0.64	U	0.10	U	0.54	U
TO-15	Tetrahydrofuran	0.28	U	0.82	U	0.28	U	0.82	U	0.28	U	0.81	U	0.28	U	0.83	U	0.24	U	0.71	U
TO-15	Isobutyl alcohol	0.37	U	1.11	U	0.37	U	1.11	U	0.36	U	1.11	U	0.37	U	1.13	U	0.32	U	0.96	U
TO-15	cis-1,2-Dichloroethene	0.25	U	0.99	U	0.25	U	0.99	U	0.25	U	0.98	U	0.25	U	1.00	U	0.21	U	0.85	U
TO-15	2,2-Dichloropropane	0.20	U	0.92	U	0.20	U	0.92	U	0.20	U	0.91	U	0.20	U	0.93	U	0.17	U	0.79	U
TO-15	Chloroform	0.25	U	1.20	U	0.25	U	1.20	U	0.24	U	1.19	U	0.25	U	1.22	U	0.21	U	1.04	U
TO-15	1,1,1-Trichloroethane	0.25	U	1.35	U	0.25	U	1.35	U	0.24	U	1.33	U	0.25	U	1.37	U	0.21	U	1.16	U
TO-15	1,2-Dichloroethane	0.25	U	1.01	U	0.25	U	1.01	U	0.25	U	1.00	U	0.25	U	1.03	U	0.21	U	0.87	U
TO-15	1,1-Dichloropropene	0.15	U	0.67	U	0.15	U	0.67	U	0.15	U	0.66	U	0.15	U	0.68	U	0.13	U	0.57	U
TO-15	Cyclohexane	0.42	J	1.45	J	0.17	U	0.59	U	0.17	U	0.58	U	0.17	U	0.60	U	0.15	U	0.50	U
TO-15	Benzene	0.25	U	0.80	U	**1.73**		**5.54**		0.36	J	1.16	J	**1.78**		**5.68**		0.21	U	0.68	U
TO-15	Carbon tetrachloride	0.25	U	1.55	U	0.25	U	1.55	U	0.24	U	1.54	U	0.25	U	1.58	U	0.21	U	1.33	U
TO-15	2,2,4-Trimethylpentane	0.12	U	0.57	U	0.12	U	0.57	U	0.12	U	0.56	U	0.12	U	0.58	U	0.10	U	0.49	U
TO-15	n-Heptane	0.19	J	0.78	J	0.16	J	0.67	J	0.13	U	0.55	U	0.14	U	0.56	U	0.12	U	0.48	U
TO-15	1,2-Dichloropropane	0.25	U	1.15	U	0.25	U	1.15	U	0.25	U	1.14	U	0.25	U	1.17	U	0.21	U	0.99	U
TO-15	1,4 Dioxane	0.45	U	1.64	U	0.45	U	1.64	U	0.45	U	1.62	U	0.46	U	1.67	U	0.39	U	1.41	U
TO-15	Dibromomethane	0.08	U	0.59	U	0.08	U	0.59	U	0.08	U	0.59	U	0.09	U	0.60	U	0.07	U	0.51	U
TO-15	Trichloroethene	0.25	U	1.34	U	0.25	U	1.34	U	0.25	U	1.33	U	0.25	U	1.36	U	0.21	U	1.15	U
TO-15	Bromodichloromethane	0.09	U	0.60	U	0.09	U	0.60	U	0.09	U	0.59	U	0.09	U	0.61	U	0.08	U	0.52	U

Table 2A. Summary of All Ambient Air VOC and Odor Data (ppbv, ug/m3, and D/T).

TO-15	Methyl methacrylate	0.15	U	0.62	U	0.15	U	0.62	U	0.15	U	0.61	U	0.15	U	0.63	U	0.13	U	0.53	U
TO-15	4-Methyl-2-pentanone	0.17	U	0.69	U	0.17	U	0.69	U	0.17	U	0.68	U	0.17	U	0.70	U	0.14	U	0.59	U
TO-15	cis-1,3-Dichloropropene	0.26	U	1.16	U	0.26	U	1.16	U	0.25	U	1.15	U	0.26	U	1.18	U	0.22	U	1.00	U
TO-15	Toluene	0.54	J	2.05	J	0.50	J	1.87	J	0.49	J	1.84	J	0.55	J	2.06	J	0.21	U	0.81	U
TO-15	trans-1,3-Dichloropropene	0.25	U	1.14	U	0.25	U	1.14	U	0.25	U	1.13	U	0.26	U	1.16	U	0.22	U	0.98	U
TO-15	1,1,2-Trichloroethane	0.25	U	1.35	U	0.25	U	1.35	U	0.24	U	1.33	U	0.25	U	1.37	U	0.21	U	1.16	U
TO-15	Ethyl methacrylate	0.13	U	0.62	U	0.13	U	0.62	U	0.13	U	0.62	U	0.14	U	0.63	U	0.11	U	0.53	U
TO-15	2-Hexanone	0.16	U	0.65	U	0.16	U	0.65	U	0.16	U	0.64	U	0.16	U	0.66	U	0.14	U	0.56	U
TO-15	1,3-Dichloropropane	0.15	U	0.68	U	0.15	U	0.68	U	0.15	U	0.67	U	0.15	U	0.69	U	0.13	U	0.58	U
TO-15	Octane	0.12	U	0.57	U	0.12	U	0.57	U	0.12	U	0.56	U	0.12	U	0.58	U	0.10	U	0.49	U
TO-15	Dibromochloromethane	0.09	U	0.76	U	0.09	U	0.76	U	0.09	U	0.75	U	0.09	U	0.77	U	0.08	U	0.65	U
TO-15	1,2-Dibromoethane	0.25	U	1.93	U	0.25	U	1.93	U	0.25	U	1.92	U	0.26	U	1.97	U	0.22	U	1.66	U
TO-15	Tetrachloroethene	0.25	U	1.67	U	0.25	U	1.67	U	0.24	U	1.66	U	0.25	U	1.70	U	0.21	U	1.44	U
TO-15	Chlorobenzene	0.25	U	1.14	U	0.25	U	1.14	U	0.24	U	1.13	U	0.25	U	1.15	U	0.21	U	0.98	U
TO-15	1,1,1,2-Tetrachloroethane	0.09	U	0.63	U	0.09	U	0.63	U	0.09	U	0.63	U	0.09	U	0.64	U	0.08	U	0.54	U
TO-15	Ethylbenzene	0.25	U	1.09	U	0.25	U	1.09	U	0.25	U	1.08	U	0.26	U	1.11	U	0.22	U	0.94	U
TO-15	m,p-Xylenes	0.50	U	2.16	U	0.50	U	2.16	U	0.49	U	2.15	U	0.51	U	2.20	U	0.43	U	1.86	U
TO-15	Nonane	0.11	U	0.56	U	0.11	U	0.56	U	0.11	U	0.55	U	0.11	U	0.57	U	0.09	U	0.48	U
TO-15	Styrene	0.25	U	1.06	U	0.25	U	1.06	U	0.25	U	1.05	U	0.25	U	1.08	U	0.21	U	0.91	U
TO-15	Bromoform	0.06	U	0.62	U	0.06	U	0.62	U	0.06	U	0.61	U	0.06	U	0.63	U	0.05	U	0.53	U
TO-15	o-Xylene	0.25	U	1.07	U	0.25	U	1.07	U	0.24	U	1.06	U	0.25	U	1.09	U	0.21	U	0.92	U
TO-15	1,1,2,2-Tetrachloroethane	0.25	U	1.69	U	0.25	U	1.69	U	0.24	U	1.68	U	0.25	U	1.72	U	0.21	U	1.46	U
TO-15	1,2,3-Trichloropropane	0.11	U	0.66	U	0.11	U	0.66	U	0.11	U	0.66	U	0.11	U	0.67	U	0.09	U	0.57	U
TO-15	t-1,4-Dichloro-2-butene	0.15	U	0.77	U	0.15	U	0.77	U	0.15	U	0.76	U	0.15	U	0.78	U	0.13	U	0.66	U
TO-15	2-Chlorotoluene	0.12	U	0.61	U	0.12	U	0.61	U	0.12	U	0.61	U	0.12	U	0.62	U	0.10	U	0.53	U
TO-15	4-Chlorotoluene	0.12	U	0.60	U	0.12	U	0.60	U	0.12	U	0.60	U	0.12	U	0.61	U	0.10	U	0.52	U
TO-15	n-Propylbenzene	0.17	U	0.82	U	0.17	U	0.82	U	0.17	U	0.81	U	0.17	U	0.83	U	0.14	U	0.71	U
TO-15	Isopropylbenzene	0.17	U	0.83	U	0.17	U	0.83	U	0.17	U	0.83	U	0.17	U	0.85	U	0.15	U	0.72	U
TO-15	4-Ethyltoluene	0.14	U	0.68	U	0.14	U	0.68	U	0.14	U	0.67	U	0.14	U	0.69	U	0.12	U	0.58	U
TO-15	1,3,5-Trimethylbenzene	0.26	U	1.26	U	0.26	U	1.26	U	0.25	U	1.25	U	0.26	U	1.28	U	0.22	U	1.08	U
TO-15	Decane	0.11	U	0.66	U	0.11	U	0.66	U	0.11	U	0.65	U	0.11	U	0.67	U	0.10	U	0.56	U
TO-15	tert-butyl benzene	0.15	U	0.81	U	0.15	U	0.81	U	0.15	U	0.80	U	0.15	U	0.82	U	0.13	U	0.70	U
TO-15	1,2,4-Trimethylbenzene	0.25	U	1.21	U	0.25	U	1.21	U	0.24	U	1.20	U	0.25	U	1.23	U	0.21	U	1.04	U
TO-15	i-Butylbenzene	0.15	U	0.81	U	0.15	U	0.81	U	0.15	U	0.80	U	0.15	U	0.82	U	0.13	U	0.70	U
TO-15	sec-butylbenzene	0.16	U	0.86	U	0.16	U	0.86	U	0.16	U	0.86	U	0.16	U	0.88	U	0.14	U	0.74	U
TO-15	1,3-Dichlorobenzene	0.25	U	1.48	U	0.25	U	1.48	U	0.24	U	1.47	U	0.25	U	1.51	U	0.21	U	1.27	U
TO-15	Isopropyltoluene	0.15	U	0.85	U	0.15	U	0.85	U	0.15	U	0.84	U	0.16	U	0.86	U	0.13	U	0.73	U
TO-15	Benzyl chloride	0.14	U	0.74	U	0.14	U	0.74	U	0.14	U	0.73	U	0.14	U	0.75	U	0.12	U	0.63	U
TO-15	1,4-Dichlorobenzene	0.25	U	1.48	U	0.25	U	1.48	U	0.24	U	1.47	U	0.25	U	1.51	U	0.21	U	1.27	U
TO-15	n-Butylbenzene	0.15	U	0.80	U	0.15	U	0.80	U	0.14	U	0.79	U	0.15	U	0.81	U	0.12	U	0.68	U
TO-15	1,2-Dichlorobenzene	0.24	U	1.45	U	0.24	U	1.45	U	0.24	U	1.44	U	0.25	U	1.48	U	0.21	U	1.25	U
TO-15	1,2-Dibromo-3-chloropropane	0.32	U	3.13	U	0.32	U	3.13	U	0.32	U	3.11	U	0.33	U	3.18	U	0.28	U	2.69	U
TO-15	Tetraethyl lead	0.12	U	1.54	U	0.12	U	1.54	U	0.12	U	1.52	U	0.12	U	1.56	U	0.10	U	1.32	U
TO-15	1,2,4-Trichlorobenzene	1.00	U	7.39	U	1.00	U	7.39	U	0.99	U	7.33	U	1.01	U	7.52	U	0.86	U	6.35	U
TO-15	Naphthalene	0.21	U	1.12	U	0.21	U	1.12	U	0.21	U	1.11	U	0.25	J	1.29	J	0.18	U	0.96	U
TO-15	Hexachlorobutadiene	0.50	U	5.31	U	0.50	U	5.31	U	0.49	U	5.27	U	0.51	U	5.40	U	0.43	U	4.57	U

Bold- levels above reporting limits (RL)
J- level above MDL but below RL
U- level below MDL
B- compound found in lab blank
R- sample replicate
Yellow highlighted samples indicate one or more samples reported above RL for the data set.

Table 2B. Summary of Ambient Air VOC and Odor Data Above Reporting Limits (ppbv, ug/m3, D/T).

METHOD	COMPOUND	AA-21B-01-C		AA-21B-01-C		AA-19B-01-C		AA-19B-01-C		AA-22B-01-C		AA-22B-01-C		AA-22B-02-C		AA-22B-02-C		SF-BLK-01-C		SF-BLK-01-C	
		21B Scraped		21B Scraped		19B Adhesive		19B Adhesive		22B Undisturb		22B Undisturb		22B Adhesive		22B Adhesive		Method Blk		Method Blk	
		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)		(ppbv)		(ug/m3)	
Odor Panel	Odor (Dilution/Threshold)	13 D/T				11 D/T				16 D/T				12 D/T				10 D/T			
TO-15	Acetone	**10.12**		**24.04**		**10.14**		**24.09**		**8.08**		**19.19**		**12.19**		**28.94**		0.56	J	1.32	J
TO-15	2-Butanone	0.23	U	0.67	U	**0.74**		**2.17**		0.55	J	1.63	J	**0.61**		**1.81**		0.19	U	0.57	U
TO-15	Benzene	0.25	U	0.80	U	**1.73**		**5.54**		0.36	J	1.16	J	**1.78**		**5.68**		0.21	U	0.68	U

Bold- levels above reporting limits (RL)
J- level above MDL but below RL
U- level below MDL
R- sample replicate
Yellow highlighted samples indicate one or more samples reported above RL for the data set.

Table 2C. Summary of Tentatively Identified Compounds by TO-15 Full Scan; Estimated Concentrations (ppbv).

METHOD	COMPOUND	AA-21B-01-C		AA-19B-01-C		AA-22B-01-C		AA-22B-02-C		SF-BLK-01-C	
		21B Scraped		19B Adhesive		22B Undisturb		22B Adhesive		Method Blk	
		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)	
Odor Panel	Odor (Dilution/Threshold)	13 D/T		11 D/T		16 D/T		12 D/T		10 D/T	
TO-15 TIC	Acetonitrile	ND		1		ND		40		ND	
TO-15 TIC	1,3-Pentadiene	1		0.5		0.5		0.5		ND	
TO-15 TIC	Butanal	ND		ND		ND		ND		ND	
TO-15 TIC	2-Butanol	ND		ND		ND		ND		ND	
TO-15 TIC	Butyl Nitrite	ND		ND		ND		ND		ND	
TO-15 TIC	2-Propyfuran	ND		ND		ND		0.5		0.2	C
TO-15 TIC	2-Pentanone	ND		ND		ND		ND		ND	
TO-15 TIC	Hexanal	ND		0.5		0.5		0.5		ND	
TO-15 TIC	Butyl Acetate	ND		ND		ND		ND		ND	
TO-15 TIC	Hexamethycyclotrisiloxane	1		5		0.5		ND		ND	
TO-15 TIC	5-Methylhexanal or Hexanal	ND		0.5		0.2		ND		ND	
TO-15 TIC	3,5-Diphenyl-1,2,4-Trioxolane	ND		1		0.2		0.5		1	C
TO-15 TIC	Siloxane Type Compound	ND		0.5		ND		ND		ND	
TO-15 TIC	sec-Butyl Butyrate	ND		ND		ND		ND		ND	
TO-15 TIC	Octanal	0.5		0.5		0.2		ND		ND	
TO-15 TIC	2-Ethylhexanol	0.6		0.5		ND		ND		ND	
TO-15 TIC	d-Limonene	0.5		0.2		ND		0.5		ND	
TO-15 TIC	Nonanal	1		0.5		0.5		0.5		ND	
TO-15 TIC	Siloxane Type Compound	1		0.2		ND		ND		ND	
TO-15 TIC	bis(1-methylethyl) Benzene	ND		ND		ND		ND		ND	
TO-15 TIC	Decanal	0.5		0.5		0.2		0.2		ND	

Note- TICs are 'estimated concentrations'; not quantitative

C- Carry over from previous sample; false positive

Highlight indicates that the compound was identified in the data set in one or more samples

Table 3A. Summary of All Flux Data for VOCs and Odor (ug/m2,min-1 and D/T per m2,min-1).

METHOD	COMPOUND	SF-21B-01-C		SF-21B-02-C		SF-19B-01-C		SF-19B-02-C		SF-22B-01-C		SF-22B-02-C		SF-22B-03-C		SF-22B-03R-C		SF-22B-04-C		SF-BLK-01-C	
		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1	
		Scraped Floor Location #1		Scraped Floor Location #2		Adhesive Location #1		Adhesive Location #2		Tile Location #1		Tile Location #2		Adhesive Location #1		Adhesive Repl Sample		Adhesive Location #2		Method Blank	
Odor Panel	**Odor (D/T)/m2,min-1**	0.65		0.62		3.7		3.7		0.46		0.42		1.2		0.81		0.89		0.39	
TO-15	Dichlorodifluoromethane	0.047	U	0.047	U	0.048	U	NS		0.048	U	0.049	U	0.047	U	0.048	U	0.049	U	0.042	U
TO-15	Chloromethane	0.019	U	0.019	U	0.019	U	NS		0.019	U	0.020	U	0.019	U	0.019	U	0.020	U	0.017	U
TO-15	Freon 114	0.066	U	0.066	U	0.067	U	NS		0.067	U	0.068	U	0.066	U	0.067	U	0.068	U	0.058	U
TO-15	Vinyl chloride	0.024	U	0.024	U	0.024	U	NS		0.024	U	0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	1,3-Butadiene	0.022	U	0.022	U	0.022	U	NS		0.022	U	0.022	U	0.022	U	0.022	U	0.022	U	0.019	U
TO-15	Bromomethane	0.037	U	0.037	U	0.037	U	NS		0.037	U	0.038	U	0.037	U	0.037	U	0.038	U	0.032	U
TO-15	Chloroethane	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.026	U	0.025	U	0.025	U	0.026	U	0.022	U
TO-15	Ethanol	0.059	U	0.059	U	0.059	U	NS		0.059	U	0.061	U	0.109	J	0.059	U	0.061	U	0.052	U
TO-15	Trichlorofluoromethane	0.053	U	0.053	U	0.054	U	NS		0.054	U	0.055	U	0.053	U	0.054	U	0.055	U	0.047	U
TO-15	Acetone	**0.167**		**0.122**		**0.723**		NS		**0.607**		**0.124**		**0.819**		**0.486**		0.050	U	0.051	J
TO-15	2-propanol	0.059	U	0.059	U	0.059	U	NS		0.059	U	0.060	U	0.059	U	0.059	U	0.060	U	0.052	U
TO-15	t-Butanol	0.021	U	0.021	U	0.021	U	NS		0.021	U	0.022	U	0.047	J	0.021	U	0.022	U	0.018	U
TO-15	Methyl iodide	0.016	U	0.016	U	0.016	U	NS		0.016	U	0.017	U	0.016	U	0.016	U	0.017	U	0.014	U
TO-15	1,1-Dichloroethene	0.073	U	0.073	U	0.073	U	NS		0.073	U	0.075	U	0.073	U	0.073	U	0.075	U	0.064	U
TO-15	Acrylonitrile	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.020	U
TO-15	Freon 113	0.071	U	0.071	U	0.072	U	NS		0.072	U	0.074	U	0.071	U	0.072	U	0.074	U	0.063	U
TO-15	Allyl chloride	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.026	U	0.025	U	0.025	U	0.026	U	0.022	U
TO-15	Dichloromethane	0.033	U	0.033	U	0.033	U	NS		0.033	U	0.034	U	0.033	U	0.033	U	0.034	U	0.029	U
TO-15	Carbon disulfide	0.024	U	0.024	U	0.024	U	NS		**0.072**		0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	trans-1,2-Dichloroethene	0.024	U	0.024	U	0.024	U	NS		0.024	U	0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	Methyl tert butyl ether	0.022	U	0.022	U	0.022	U	NS		0.022	U	0.023	U	0.022	U	0.022	U	0.023	U	0.020	U
TO-15	Propionitrile	0.020	U	0.020	U	0.020	U	NS		0.020	U	0.020	U	0.020	U	0.020	U	0.020	U	0.017	U
TO-15	1,1-Dichloroethane	0.037	U	0.037	U	0.037	U	NS		0.037	U	0.039	U	0.037	U	0.037	U	0.039	U	0.033	U
TO-15	Vinyl acetate	0.026	U	0.026	U	0.026	U	NS		0.026	U	0.027	U	0.026	U	0.026	U	0.027	U	0.023	U
TO-15	2-Butanone	0.025	U	0.025	U	**0.405**		NS		**0.121**		0.026	U	**0.369**		**0.229**		0.026	U	0.022	U
TO-15	Diisopropyl ether	0.024	U	0.024	U	0.024	U	NS		0.024	U	0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	Hexane	0.022	U	0.022	U	0.022	U	NS		0.022	U	0.022	U	0.022	U	0.022	U	0.022	U	0.019	U
TO-15	Methacrylonitrile	0.023	U	0.023	U	0.024	U	NS		0.024	U	0.025	U	0.023	U	0.024	U	0.025	U	0.021	U
TO-15	Ethyl acetate	0.027	U	0.027	U	0.027	U	NS		0.027	U	0.027	U	0.027	U	0.027	U	0.027	U	0.023	U
TO-15	Bromochloromethane	0.023	U	0.023	U	0.024	U	NS		0.024	U	0.024	U	0.023	U	0.024	U	0.024	U	0.021	U
TO-15	Tetrahydrofuran	0.031	U	0.031	U	0.031	U	NS		0.031	U	0.032	U	0.031	U	0.031	U	0.032	U	0.027	U
TO-15	Isobutyl alcohol	0.042	U	0.042	U	0.042	U	NS		0.042	U	0.043	U	0.042	U	0.042	U	0.043	U	0.037	U
TO-15	cis-1,2-Dichloroethene	0.037	U	0.037	U	0.037	U	NS		0.037	U	0.039	U	0.037	U	0.037	U	0.039	U	0.033	U
TO-15	2,2-Dichloropropane	0.034	U	0.034	U	0.035	U	NS		0.035	U	0.035	U	0.034	U	0.035	U	0.035	U	0.030	U
TO-15	Chloroform	0.045	U	0.045	U	0.045	U	NS		0.045	U	0.047	U	0.045	U	0.045	U	0.047	U	0.040	U
TO-15	1,1,1-Trichloroethane	0.050	U	0.050	U	0.051	U	NS		0.051	U	0.052	U	0.050	U	0.051	U	0.052	U	0.045	U
TO-15	1,2-Dichloroethane	0.038	U	0.038	U	0.038	U	NS		0.038	U	0.039	U	0.038	U	0.038	U	0.039	U	0.033	U
TO-15	1,1-Dichloropropene	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.026	U	0.025	U	0.025	U	0.026	U	0.022	U
TO-15	Cyclohexane	0.022	U	0.022	U	0.022	U	NS		0.022	U	0.023	U	0.022	U	0.022	U	0.023	U	0.019	U
TO-15	Benzene	0.030	U	0.030	U	**1.447**		NS		0.060	J	0.055	J	**2.124**		**1.480**		0.042	J	0.026	U
TO-15	Carbon tetrachloride	0.058	U	0.058	U	0.059	U	NS		0.059	U	0.060	U	0.058	U	0.059	U	0.060	U	0.051	U
TO-15	2,2,4-Trimethylpentane	0.021	U	0.021	U	0.022	U	NS		0.022	U	0.022	U	0.021	U	0.022	U	0.022	U	0.019	U
TO-15	n-Heptane	0.021	U	0.021	U	0.021	U	NS		0.021	U	0.022	U	0.021	U	0.021	U	0.022	U	0.018	U
TO-15	1,2-Dichloropropane	0.043	U	0.043	U	0.044	U	NS		0.044	U	0.045	U	0.043	U	0.044	U	0.045	U	0.038	U
TO-15	1,4 Dioxane	0.062	U	0.062	U	0.062	U	NS		0.062	U	0.064	U	0.062	U	0.062	U	0.064	U	0.054	U
TO-15	Dibromomethane	0.022	U	0.022	U	0.023	U	NS		0.023	U	0.023	U	0.022	U	0.023	U	0.023	U	0.020	U
TO-15	Trichloroethene	0.050	U	0.050	U	0.051	U	NS		0.051	U	0.052	U	0.050	U	0.051	U	0.052	U	0.044	U
TO-15	Bromodichloromethane	0.022	U	0.022	U	0.023	U	NS		0.023	U	0.023	U	0.022	U	0.023	U	0.023	U	0.020	U
TO-15	Methyl methacrylate	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.024	U	0.023	U	0.023	U	0.024	U	0.020	U
TO-15	4-Methyl-2-pentanone	0.026	U	0.026	U	0.026	U	NS		0.026	U	0.027	U	0.034	J	0.026	U	0.027	U	0.023	U

Table 3A. Summary of All Flux Data for VOCs and Odor (ug/m2,min-1 and D/T per m2,min-1).

TO-15	cis-1,3-Dichloropropene	0.044	U	0.044	U	0.044	U	NS		0.044	U	0.045	U	0.044	U	0.044	U	0.045	U	0.039	U
TO-15	Toluene	0.038	J	0.035	U	0.035	U	NS		0.040	J	0.037	U	0.041	J	0.036	J	0.037	U	0.031	U
TO-15	trans-1,3-Dichloropropene	0.043	U	0.043	U	0.043	U	NS		0.043	U	0.044	U	0.043	U	0.043	U	0.044	U	0.038	U
TO-15	1,1,2-Trichloroethane	0.050	U	0.050	U	0.051	U	NS		0.051	U	0.052	U	0.050	U	0.051	U	0.052	U	0.045	U
TO-15	Ethyl methacrylate	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.024	U	0.023	U	0.023	U	0.024	U	0.020	U
TO-15	2-Hexanone	0.024	U	0.024	U	0.025	U	NS		0.025	U	0.035	J	0.044	J	0.037	J	0.025	U	0.022	U
TO-15	1,3-Dichloropropane	0.025	U	0.025	U	0.026	U	NS		0.026	U	0.026	U	0.025	U	0.026	U	0.026	U	0.022	U
TO-15	Octane	0.021	U	0.021	U	0.022	U	NS		0.022	U	0.022	U	0.041	J	0.022	U	0.022	U	0.019	U
TO-15	Dibromochloromethane	0.028	U	0.028	U	0.028	U	NS		0.028	U	0.029	U	0.028	U	0.028	U	0.029	U	0.025	U
TO-15	1,2-Dibromoethane	0.073	U	0.073	U	0.073	U	NS		0.073	U	0.075	U	0.073	U	0.073	U	0.075	U	0.064	U
TO-15	Tetrachloroethene	0.063	U	0.063	U	0.064	U	NS		0.064	U	0.065	U	0.063	U	0.064	U	0.065	U	0.055	U
TO-15	Chlorobenzene	0.043	U	0.043	U	0.043	U	NS		0.043	U	0.044	U	0.043	U	0.043	U	0.044	U	0.038	U
TO-15	1,1,1,2-Tetrachloroethane	0.024	U	0.024	U	0.024	U	NS		0.024	U	0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	Ethylbenzene	0.041	U	0.041	U	0.041	U	NS		0.041	U	0.042	U	0.041	U	0.041	U	0.042	U	0.036	U
TO-15	m,p-Xylenes	0.081	U	0.081	U	0.082	U	NS		0.082	U	0.084	U	0.081	U	0.082	U	0.084	U	0.072	U
TO-15	Nonane	0.021	U	0.021	U	0.021	U	NS		0.021	U	0.022	U	0.021	U	0.021	U	0.022	U	0.018	U
TO-15	Styrene	0.040	U	0.040	U	0.040	U	NS		0.040	U	0.041	U	0.040	U	0.040	U	0.041	U	0.035	U
TO-15	Bromoform	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.024	U	0.023	U	0.023	U	0.024	U	0.020	U
TO-15	o-Xylene	0.040	U	0.040	U	0.040	U	NS		0.040	U	0.042	U	0.040	U	0.040	U	0.042	U	0.035	U
TO-15	1,1,2,2-Tetrachloroethane	0.064	U	0.064	U	0.064	U	NS		0.064	U	0.066	U	0.064	U	0.064	U	0.066	U	0.056	U
TO-15	1,2,3-Trichloropropane	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.026	U	0.025	U	0.025	U	0.026	U	0.022	U
TO-15	t-1,4-Dichloro-2-butene	0.029	U	0.029	U	0.029	U	NS		0.029	U	0.030	U	0.029	U	0.029	U	0.030	U	0.025	U
TO-15	2-Chlorotoluene	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.024	U	0.023	U	0.023	U	0.024	U	0.020	U
TO-15	4-Chlorotoluene	0.023	U	0.023	U	0.023	U	NS		0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.020	U
TO-15	n-Propylbenzene	0.031	U	0.031	U	0.031	U	NS		0.031	U	0.032	U	0.031	U	0.031	U	0.032	U	0.027	U
TO-15	Isopropylbenzene	0.031	U	0.031	U	0.032	U	NS		0.032	U	0.032	U	0.031	U	0.032	U	0.032	U	0.028	U
TO-15	4-Ethyltoluene	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.026	U	0.025	U	0.025	U	0.026	U	0.022	U
TO-15	1,3,5-Trimethylbenzene	0.047	U	0.047	U	0.048	U	NS		0.048	U	0.049	U	0.047	U	0.048	U	0.049	U	0.042	U
TO-15	Decane	0.025	U	0.025	U	0.025	U	NS		0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.022	U
TO-15	tert-butyl benzene	0.030	U	0.030	U	0.031	U	NS		0.031	U	0.032	U	0.030	U	0.031	U	0.032	U	0.027	U
TO-15	1,2,4-Trimethylbenzene	0.045	U	0.045	U	0.046	U	NS		0.046	U	0.047	U	0.045	U	0.046	U	0.047	U	0.040	U
TO-15	i-Butylbenzene	0.030	U	0.030	U	0.031	U	NS		0.031	U	0.032	U	0.030	U	0.031	U	0.032	U	0.027	U
TO-15	sec-butylbenzene	0.032	U	0.032	U	0.033	U	NS		0.033	U	0.033	U	0.032	U	0.033	U	0.033	U	0.028	U
TO-15	1,3-Dichlorobenzene	0.056	U	0.056	U	0.056	U	NS		0.056	U	0.058	U	0.056	U	0.056	U	0.058	U	0.049	U
TO-15	Isopropyltoluene	0.032	U	0.032	U	0.032	U	NS		0.032	U	0.033	U	0.032	U	0.032	U	0.033	U	0.028	U
TO-15	Benzyl chloride	0.028	U	0.028	U	0.028	U	NS		0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.024	U
TO-15	1,4-Dichlorobenzene	0.056	U	0.056	U	0.056	U	NS		0.056	U	0.058	U	0.056	U	0.056	U	0.058	U	0.049	U
TO-15	n-Butylbenzene	0.030	U	0.030	U	0.030	U	NS		0.030	U	0.031	U	0.030	U	0.030	U	0.031	U	0.026	U
TO-15	1,2-Dichlorobenzene	0.055	U	0.055	U	0.055	U	NS		0.055	U	0.057	U	0.055	U	0.055	U	0.057	U	0.048	U
TO-15	1,2-Dibromo-3-chloropropane	0.117	U	0.117	U	0.119	U	NS		0.119	U	0.122	U	0.117	U	0.119	U	0.122	U	0.104	U
TO-15	Tetraethyl lead	0.058	U	0.058	U	0.058	U	NS		0.058	U	0.060	U	0.058	U	0.058	U	0.060	U	0.051	U
TO-15	1,2,4-Trichlorobenzene	0.278	U	0.278	U	0.280	U	NS		0.280	U	0.287	U	0.278	U	0.280	U	0.287	U	0.244	U
TO-15	Naphthalene	0.042	U	0.042	U	0.042	U	NS		0.042	U	0.044	U	0.042	U	0.042	U	0.044	U	0.037	U
TO-15	Hexachlorobutadiene	0.199	U	0.199	U	0.201	U	NS		0.201	U	0.206	U	0.199	U	0.201	U	0.206	U	0.176	U

Bold- levels above reporting limits (RL)
J- level above MDL but below RL
U- level below MDL
R- sample replicate
Yellow highlighted samples indicate one or more samples reported above RL for the data set.
Flux = (ug/m3)(0.005 m3/min)/(0.13 m2) = (ug/m3)(0.0385) ug/m2,min-1
NS- not sampled; sample collection error

Table 3B. Summary of All VOC and Odor Flux Data Above Reporting Limits (ug/m2,min-1, D/T per m2,min-1).

METHOD	COMPOUND	SF-21B-01-C		SF-21B-02-C		SF-19B-01-C		SF-19B-02-C		SF-22B-01-C		SF-22B-02-C		SF-22B-03-C		SF-22B-03R-C		SF-22B-04-C		SF-BLK-01-C	
		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1		ug/m2,min-1	
		Scraped Floor		Scraped Floor		Adhesive		Adhesive		Tile		Tile		Adhesive		Adhesive		Adhesive		Method	
		Location #1		Location #2		Location #1		Location #2		Location #1		Location #2		Location #1		Repl Sample		Location #2		Blank	
Odor Panel	Odor (D/T)/m2,min-1	0.65		0.62		3.7		3.7		0.46		0.42		1.2		0.81		0.89		0.39	
TO-15	Acetone	**0.167**		**0.122**		**0.723**		NS		**0.607**		**0.124**		**0.819**		**0.486**		0.050	U	0.051	J
TO-15	Carbon disulfide	0.024	U	0.024	U	0.024	U	NS		**0.072**		0.025	U	0.024	U	0.024	U	0.025	U	0.021	U
TO-15	2-Butanone	0.025	U	0.025	U	**0.405**		NS		**0.121**		0.026	U	**0.369**		**0.229**		0.026	U	0.022	U
TO-15	Benzene	0.030	U	0.030	U	**1.447**		NS		0.060	J	0.055	J	**2.124**		**1.480**		0.042	J	0.026	U

Bold- levels above reporting limits (RL)
J- level above MDL but below RL
U- level below MDL
B- compound found in lab blank
R- sample replicate
Yellow highlighted samples indicate one or more samples reported above RL for the data set.
Flux = (ug/m3)(0.005 m3/min)/(0.13 m2) = (ug/m3)(0.0385) ug/m2,min-1
NS- not sampled; sample collection error

Table 3C. Summary of Tentatively Identified Compounds by TO-15 Full Scan; Estimated Concentrations (ppbv).

METHOD	COMPOUND	SF-21B-01-C		SF-21B-02-C		SF-19B-01-C		SF-19B-02-C		SF-22B-01-C		SF-22B-02-C		SF-22B-03-C		SF-22B-03R-C		SF-22B-04-C		SF-BLK-01-C	
		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)	
		Scraped Floor		Scraped Floor		Adhesive		Adhesive		Tile		Tile		Adhesive		Adhesive		Adhesive		Method	
		Location #1		Location #2		Location #1		Location #2		Location #1		Location #2		Location #1		Repl Sample		Location #2		Blank	
Odor Panel	**Odor (D/T)**	17		16		97		97		12		11		32		21		23		10	
TO-15 TIC	Acetonitrile	ND		ND		ND		NS		ND		ND		57		42		ND		ND	
TO-15 TIC	1,3-Pentadiene	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 TIC	Butanal	ND		ND		0.2		NS		ND		ND		0.5		0.5		ND		ND	
TO-15 TIC	2-Butanol	ND		ND		ND		NS		ND		ND		0.5		ND		ND		ND	
TO-15 TIC	Butyl Nitrite	ND		ND		ND		NS		ND		ND		ND		30		ND		ND	
TO-15 TIC	2-Propyfuran	0.2		0.2		10		NS		0.2		0.2		30		40		ND		0.2	C
TO-15 TIC	2-Pentanone	ND		ND		0.5		NS		ND		ND		1		0.5		ND		ND	
TO-15 TIC	Hexanal	ND		0.2		ND		NS		0.2		ND		0.2		0.2		ND		ND	
TO-15 TIC	Butyl Acetate	ND		ND		1		NS		ND		ND		5		5		ND		ND	
TO-15 TIC	Hexamethycyclotrisiloxane	ND		0.2		ND		NS		0.5		ND		0.2		5		ND		ND	
TO-15 TIC	5-Methylhexanal or Hexanal	ND		ND		ND		NS		ND		ND		ND		0.2		ND		ND	
TO-15 TIC	3,5-Diphenyl-1,2,4-Trioxolane	ND		ND		0.2		NS		0.5		0.2		40		45		0.2		1	C
TO-15 TIC	Siloxane Type Compound	ND		ND		ND		NS		ND		ND		ND		1		ND		ND	
TO-15 TIC	sec-Butyl Butyrate	ND		ND		ND		NS		ND		ND		0.5		1		ND		ND	
TO-15 TIC	Octanal	ND		ND		ND		NS		0.2		ND		ND		ND		ND		ND	
TO-15 TIC	2-Ethylhexanol	ND		ND		ND		NS		2		0.2		0.2		ND		ND		ND	
TO-15 TIC	d-Limonene	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 TIC	Nonanal	0.2		0.2		ND		NS		0.5		ND		ND		ND		ND		ND	
TO-15 TIC	Siloxane Type Compound	ND		ND		ND		NS		ND		ND		ND		1		ND		ND	
TO-15 TIC	bis(1-methylethyl) Benzene	ND		ND		ND		NS		ND		ND		ND		0.2		ND		ND	
TO-15 TIC	Decanal	ND		ND		ND		NS		0.2		ND		ND		ND		ND		ND	

Note- TICs are 'estimated concentrations'; not quantitative
C- Carry over from previous sample; false positive
Highlight indicates that the compound was identified in the data set in one or more samples
NS- not sampled; sample collection error

Table 4. Summary of the Aldehyde Flux Data (ug/m2,min-1).

METHOD	COMPOUND	SF-22B-01-C		SF-22B-02-C	
		ug/m2,min-1		ug/m2,min-1	
		Tile		Tile	
		Location #1		Location #2	
Odor Panel	Odor (D/T)/m2,min-1	0.46		0.42	
TO-11	Formaldehyde	0.270	U	0.270	U
TO-11	Acetaldehyde	0.270	U	0.270	U
TO-11	Acrolein	0.270	U	0.270	U
TO-11	Acetone	**0.680**		**0.620**	
TO-11	Propionaldehyde	0.270	U	0.270	U
TO-11	Crotonaldehyde	0.270	U	0.270	U
TO-11	Butyraldehyde	**0.270**		**0.292**	
TO-11	Benzaldehyde	0.270	U	0.270	U
TO-11	Isoveraldehyde	0.270	U	0.270	U
TO-11	Valeraldehyde	**0.357**		**0.400**	
TO-11	o-Tolualdehyde	0.270	U	0.270	U
TO-11	m-Tolualdehyde	0.270	U	0.270	U
TO-11	p-Tolualdehyde	0.270	U	0.270	U
TO-11	Hexaldehyde	0.270	U	0.270	U
TO-11	2,5-Dimethylbenzaldehyde	0.270	U	0.270	U

Bold- levels above reporting limits (RL)
J- level above MDL but below RL
U- level below MDL
Yellow highlighted samples indicate one or more samples reported above RL for the data set.
Flux = (ug/m3)(0.005 m3/min)/(0.13 m2) = (ug/m3)(0.0385) ug/m2,min-1

Table 5. Summary of Ambient Air Data MVOC TO-15 SIM Analysis- Estimated Concentrations (ppbv).

METHOD	COMPOUND	AA-21B-01-C		AA-19B-01-C		AA-22B-01-C		AA-22B-02-C		SF-BLK-01-C	
		21B Scraped		19B Adhesive		22B Undisturb		22B Adhesive		Method Blk	
		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)	
Odor Panel	Odor (Dilution/Threshold)	13 D/T		11 D/T		16 D/T		12 D/T		10 D/T	
	Microbial VOCs (MVOCs)										
TO-15 SIM	Furans and Methyl Furans	ND		2		ND		1		ND	
TO-15 SIM	t-Amyl Alcohol	ND		ND		ND		ND		ND	
TO-15 SIM	Methyl Propanols	ND		ND		ND		ND		ND	
TO-15 SIM	Pentanols	ND		ND		ND		ND		ND	
TO-15 SIM	Butanols and Methy Butanols	ND		ND		ND		ND		ND	
TO-15 SIM	Pentanones	ND		ND		ND		ND		ND	
TO-15 SIM	Hexanones	ND		ND		ND		ND		ND	
TO-15 SIM	Heptanones	ND		ND		ND		ND		ND	
TO-15 SIM	Octenonis	ND		ND		ND		ND		ND	
TO-15 SIM	Octanones	ND		ND		ND		ND		ND	
TO-15 SIM	2-Isopropyl-3-Methoxypyrazine	ND		ND		ND		ND		ND	
TO-15 SIM	2-Methyl-Isoborneol	ND		ND		ND		ND		ND	

Note- MVOCs are 'estimated concentrations'; not quantitative- fingerprint type analysis

Highlight indicates that the compound was identified in the data set in one or more samples

Table 6. Summary of MVOC Data for the Surface Flux Samples, TO-15 SIM; Estimated Concentration (ppbv).

METHOD	COMPOUND	SF-21B-01-C		SF-21B-02-C		SF-19B-01-C		SF-19B-02-C		SF-22B-01-C		SF-22B-02-C		SF-22B-03-C		SF-22B-03R-C		SF-22B-04-C		SF-BLK-01-C	
		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)	
		Scraped Floor		Scraped Floor		Adhesive		Adhesive		Tile		Tile		Adhesive		Adhesive		Adhesive		Method	
		Location #1		Location #2		Location #1		Location #2		Location #1		Location #2		Location #1		Repl Sample		Location #2		Blank	
Odor Panel	Odor (D/T)	17		16		97		97		12		11		32		21		23		10	
	Microbial VOCs (MVOCs)																				
TO-15 SIM	Furans and Methyl Furans	0.5		0.5		>5		NS		0.5		ND		>5	a	>5	a	ND		ND	
TO-15 SIM	t-Amyl Alcohol	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Methyl Propanols	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Pentanols	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Butanols and Methy Butanols	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Pentanones	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Hexanones	ND		ND		ND		NS		ND		1		1	b	ND		ND		ND	
TO-15 SIM	Heptanones	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Octenonis	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	Octanones	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	2-Isopropyl-3-Methoxypyrazine	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	
TO-15 SIM	2-Methyl-Isoborneol	ND		ND		ND		NS		ND		ND		ND		ND		ND		ND	

Note- MVOCs are 'estimated concentrations'; not quantitative- fingerprint type analysis

Highlight indicates that the compound was identified in the data set in one or more samples

NS- not sampled; sample collection error

a- See full scan TIC

b- See full scan report

CE Schmidt, Ph.D.
Environmental Consultant

ATTACHMENT A

EMISSION MEASUREMENT DATA SHEETS

SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CES

LOCATION DGS BLDG ROOM 21B - MAIL ROOM LOCATION 1

SURFACE DESCRIPTION REMEDIATED FLOOR - TILE REMOVED SCRAPED SOME RESIDUAL GLUE

CURRENT ACTIVITY NA

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE _____

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☒

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. B PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y-COLLAR ONLY CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☒ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☒

SWEEP AIR UHP CC 12523 SUPPLIER SM PSIG START 2000 PSIG STOP _____

Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					
			Surf	Air	Surf	Air				
0806	5.0	0								-29'
0812	↓	1								
0818	↓	2								
0824	↓	3								
0830		4								
0836		5	70	69	70	69			SF-21B-01-C #737	
									SF-21B-01-B	

COMMENTS:

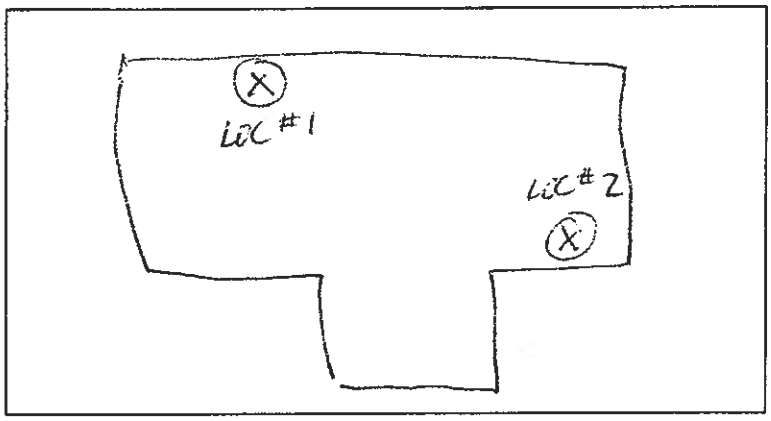
pH TEST 5/1

~~#2~~, 10+, 11, 10+

~~AA-21B-01-C~~

~~AA-21B-01-B~~ 0914 #698

SITE DIAGRAM



SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/7/11 SAMPLERS CCS

OCATION DGS BLDG ROOM 21B MAIL ROOM - LOCATION 2

SURFACE DESCRIPTION REMEDIATED FLOOR - TILE REMEDIATED FLOOR

CURRENT ACTIVITY NA SCRAPED, RESIDUAL GLUE

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE _____

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☒

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. F PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL V- COLLAR ONLY CONDENSATION: Yes ☐ No ☐ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☐ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☐ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☐

SWEEP AIR UHP CC 12523 SUPPLIER SM PSIG START 2000 PSIG STOP _____

Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					
			Surf	Air	Surf	Air				
0806	5.0	0								-29"
0812	↓	1								
0818		2								
0824	↓	3								
0830		4								
0836		5	70	70	70	70			SF-21B-02-C #697	
									SF-21B-02-B	

COMMENTS:

SITE DIAGRAM

LOC #2

SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CES

LOCATION DGS ROOM 193 - OTHER FLOOR - NO OR FEW

SURFACE DESCRIPTION TILE REMOVED (4' SQ) 0944! ODOR COMPLAINTS

CURRENT ACTIVITY ODOR FOUND ✓ ON THIS FLOOR

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE NA

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☐

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. B PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y-COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☐ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☒

SWEEP AIR UHP CC CC12523 SUPPLIER SM PSIG START 1550 PSIG STOP _____

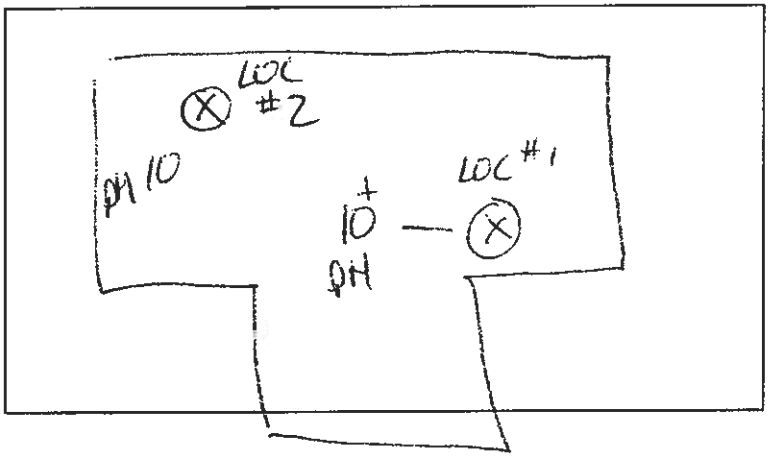
Time	Sweep Air (L/min)	Residence Number	Temperature (°F) Chamber Surf	Chamber Air	Ambient Surf	Ambient Air	Real-Time (ppmv)		Sample Number	Comments
0945	5.0	0								
0951	↓	1								
0957		2								
1003	↓	3								
1009		4								
1015		5	69	69	69	69			SF-19B-01-C	#547
									SF-19B-01-B	

COMMENTS:

TILE REMOVAL 0944

MOLD CHECK - REMOVED 2'X2' IN 4 AREAS LIKELY DAMAGE OLD AND FOUND NO MOLD

SITE DIAGRAM



SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CES

OCATION DGS ROOM 19B – REPRESENTS EXISTING FLOOR

SURFACE DESCRIPTION 4 SQ 1' TILE Remov (W/OUT ODOR

CURRENT ACTIVITY ODOR FOUND ✓

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE NA

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☐

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. F PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y - COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☒

SWEEP AIR UHP CC CC12523 SUPPLIER SM PSIG START 1550 PSIG STOP _____

	Time	Sweep Air (L/min)	Residence Number	Temperature (°F) Chamber Surf	Temperature (°F) Chamber Air	Temperature (°F) Ambient Surf	Temperature (°F) Ambient Air	Real-Time (ppmv)		Sample Number	Comments
	0949	5.0	0								-29"
	0954	↓	1								
000	~~0959~~		2								
1006	~~1006~~		3								
1012	~~1012~~		4								
1019	~~1018~~		5	70	70	70	70			SF-AB-02-C #789	
1024	~~1024~~									SF-AB-02-B	

COMMENTS:

TILE REMOVAL 0946
0949 START

AA-19B-01-C 0955
~~AA-19B-01-B~~ ~~0000~~

SITE DIAGRAM

SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CBS

LOCATION DGS BDG FLOOR ROOM 22B MAIL ROOM LOCATION #1

SURFACE DESCRIPTION LOCATION WITH TILE

CURRENT ACTIVITY TILE — BUT VISUAL/TAP TESTS FOR DECON P

INSTRUMENT TYPE _____ I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE _____

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☐

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. F PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y-COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☒

SWEEP AIR UHP CC 12523 SUPPLIER SM PSIG START 1400 PSIG STOP _____

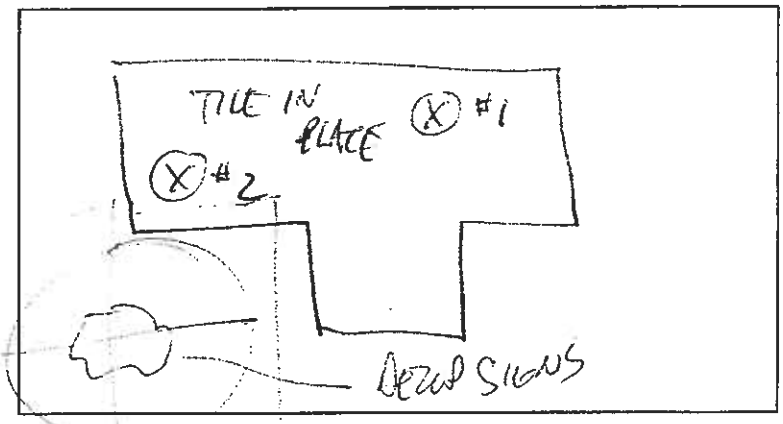
Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					-29"
			Surf	Air	Surf	Air				
1056	5.0	0								
1102	↓	1								
1108	↓	2								
1114	↓	3								
1120		4								
1126		5	71	71	71	70			SF-22B-01-C	740
									SF-22B-01-B	

COMMENTS:

TILE IN PLACE
— REPRESENTS CURRENT FLUX

1137 AA-22B-01-C # 734
1139 AA-22B-01-B

SITE DIAGRAM



SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CFS

OCATION DGS Room 22B LOCATION #2

SURFACE DESCRIPTION TILE ON

CURRENT ACTIVITY NA

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE _____

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☐

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. B PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y-COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☒ New ☐ Used ☒

SWEEP AIR UHP CC 12523 SUPPLIER SM PSIG START 1400 PSIG STOP _____

Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					
			Surf	Air	Surf	Air				
1056	5.0	0								
1102	↓	1								
1108	↓	2								
1114	↓	3								
1120		4								
1126		5	72	71	71	71			SF-22B-02-C	# Rel
									SF-22B-02-B	

COMMENTS:

SITE DIAGRAM

LOC #2

SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CES

OCATION DGS SAME ROOM SAME TILES - REMOVED 22B

SURFACE DESCRIPTION FRESH EXPOSED ADHESIVE

CURRENT ACTIVITY NA

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE ODOR FOUND @ TILE REMOVAL

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☒

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. F PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y-COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☐ Comment INDOOR

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☐ New ☐ Used ☒

SWEEP AIR UHP CC 12523 SUPPLIER SM PSIG START 1200 PSIG STOP _____

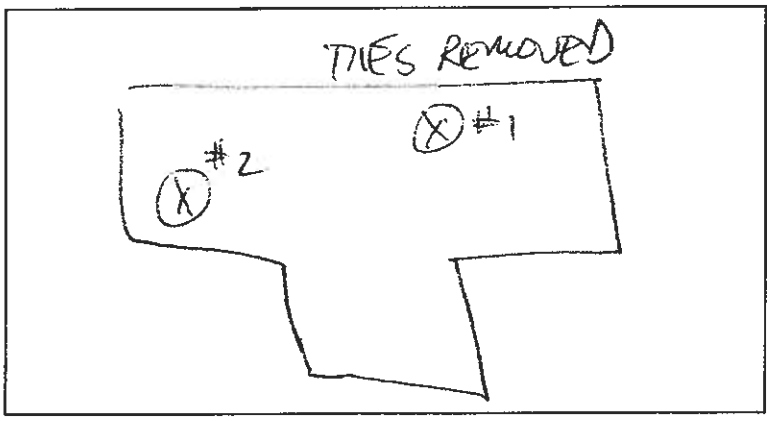
Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					
			Surf	Air	Surf	Air				
1159	5.0	0								
1205		1								
1211	↓	2								REPL
1217		3								
1223		4	71	72	71	72				
1229		5							SF-22B-03-C #663	
					SF-22B-03R-B				SF-22B-03-B	
1249					SF-22B-03R-C				SF-22B-01-S	
					# 798	#663				

COMMENTS:

TILE REMOVED 1152
START LOC #1
FINISHED 1159

AMBIENT 1248 AA-22B-01-B
AA-22B-02C
878

SITE DIAGRAM



SURFACE FLUX MEASUREMENT DATA FORM

DATE 5/2/11 SAMPLERS CPS

OCATION DGS TILE REMOVED ROOM 22B SAME LOC AS PRIOR

SURFACE DESCRIPTION ADHESIVE

CURRENT ACTIVITY NA

INSTRUMENT TYPE NA I.D. NO. _____ TYPE _____ ID NO. _____

INSTRUMENT BASELINE _____

PROJECT QC: BACKGROUND MEASUREMENTS ☐ BLANK MEASUREMENTS ☒ REPLICATE MEASUREMENTS ☒

AMBIENT CONCENTRATIONS _____

CHAMBER I.D. B PHOTO TAKEN: Yes ☒ No ☐ CHAMBER MATERIAL FEP ☐ PC ☐

CHAMBER SEAL Y - COLLAR CONDENSATION: Yes ☐ No ☒ BARM PRESS _____

AMBIENT CONDITIONS: Sun ☐ P.Sun ☐ Cloudy ☐ Wind at 5', ____ mph Wind at Seal, ____ mph

TEMP _____ RAIN: Yes ☐ No ☒ Comment _____

PRIOR CHAMBER CLEANING: Full Wash ☐ Wet Wipe ☐ Dry Wipe ☒ None ☐ _____

SAMPLE LINE: BACK FLUSHED PRIOR TO START ☒ PURGED PRIOR TO SAMPLING ☐ New ☐ Used ☒

SWEEP AIR UHP CC 12543 SUPPLIER SM PSIG START 1200 PSIG STOP _____

Time	Sweep Air (L/min)	Residence Number	Temperature (°F)				Real-Time (ppmv)		Sample Number	Comments
			Chamber		Ambient					
			Surf	Air	Surf	Air				
1203	5.0	0								
1209	↓	1								
1215		2								
1221		3								
1227		4								
1233		5	71	71	71	71			SF-22B-04-C #631	
									SF-22B-04-B	
1250									SF-22B-02-S	

COMMENTS:

TILE REMOVAL 1159 START
FINISH 1203

BLANKS

1349 ~~SF-BLK-01-C~~ #765

~~SF-BLK-01-B~~

NO "S" OR TO-11 BLK

SITE DIAGRAM

SAME LOCATIONS

INTEGRATED SAMPLE DATA COLLECTION FORM

DATE 5/2/11 PROJECT DGS SAMPLER CES

LOCATION LACROIX Room 22B

SAMPLE TYPE ALDEHYDES EQUIPMENT ID AL-1

CALIBRATION EQUIPMENT DC LITE

SAMPLE ID SF-22B-01-S MEDIA ID DNPH CARTRIDGE

QC DATA SUMMARY LOC #1

TIME	FLOW RATE	COMMENT
1249	488 cc/m	N=10
1333		

START TIME: 1249 11 33 INITIAL FLOW RATE: 488 cc/MIN

STOP TIME: 1333 44 FINAL FLOW RATE: 498 cc/MIN

SAMPLE TIME: SAMPLE VOLUME: 44 MIN X 493 cc/MIN

COMMENTS: = 21.69 L

INTEGRATED SAMPLE DATA COLLECTION FORM

DATE 5/2/4 PROJECT DGS SAMPLER CES

LOCATION LA CROIX

SAMPLE TYPE ALDEHYDES EQUIPMENT ID AL-5

CALIBRATION EQUIPMENT DC LITE

SAMPLE ID SF-22B-02-S MEDIA ID

QC DATA SUMMARY Lot #2

TIME	FLOW RATE	COMMENT
1250	428 cc/m	N=10
1338	418 cc/m	

START TIME: 1250 INITIAL FLOW RATE: 428 cc/min

STOP TIME: 1339 FINAL FLOW RATE: 418 cc/min

SAMPLE TIME: SAMPLE VOLUME: 48 min x 423 cc/min = 20,30

COMMENTS:

CE Schmidt, Ph.D.
Environmental Consultant

ATTACHMENT B

CHAIN OF CUSTODY

19200 Live Oak Road Red Bluff, CA 96080 (530) 529-4256 Fax- 4878

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

(1) FLW

CHAIN OF CUSTODY RECORD

Project Number | Project Name: | Quote Number:

REPORT TO:

Company
Address
City/State/Zip
Phone (FAX)
ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS						REMARKS

COMMENTS

BILLING INFORMATION

Company
Address
City/State/Zip
ATTENTION
Purchase Order/Billing Reference

SAMPLED BY:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received for lab by:	Date Time

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

(2) AMBIENT AIR

CHAIN OF CUSTODY RECORD

Project Number | Project Name: | Quote Number:

REPORT TO:

Company

Address

City/State/Zip

Phone (FAX)

ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS						REMARKS

COMMENTS

BILLING INFORMATION

Company

Address

City/State/Zip

ATTENTION

Purchase Order/Billing Reference

SAMPLED BY:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received for lab by:	Date Time

TD-4

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number | Project Name: | Quote Number:

REPORT TO:

Company

Address

City/State/Zip

Phone (FAX)

ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS						REMARKS

COMMENTS

BILLING INFORMATION

Company

Address

City/State/Zip

ATTENTION

Purchase Order/Billing Reference

SAMPLED BY:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received for lab by:	Date Time

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

DOOR

CHAIN OF CUSTODY RECORD

Project Number | Project Name: | Quote Number:

REPORT TO:

Company
Address
City/State/Zip
Phone (FAX)
ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	BAS LABORATORY ID	ANALYTICAL TESTS						REMARKS

COMMENTS

BILLING INFORMATION

Company
Address
City/State/Zip
ATTENTION
Purchase Order/Billing Reference

	Date	Time		Date	Time
SAMPLED BY:			Received by:		
Relinquished By:			Received by:		
Relinquished By:			Received by:		
Relinquished By:			Received for lab by:		

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number	Project Name:	Quote Number:

REPORT TO:

Company

Address

City/State/Zip

Phone (FAX)

ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS						REMARKS

COMMENTS

BILLING INFORMATION

Company

Address

City/State/Zip

ATTENTION

Purchase Order/Billing Reference

SAMPLED BY:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received by:	Date Time
Relinquished By:	Date	Time	Received for lab by:	Date Time

CE Schmidt, Ph.D.
Environmental Consultant

ATTACHMENT C

LABORATORY REPORTS

O
S&E
www.odorscience.com

Odor Science & Engineering, Inc.
1350 Blue Hills Avenue, Bloomfield, CT 06002
(860) 243-9380 Fax: (860) 243-9431

May 6, 2011

Chuck E. Schmidt
19200 Live Oak Road
Red Bluff, CA 96080

schmidtce@aol.com

RE: Odor Panel Analysis – May 3, 2011
OS&E Project No. 1844-M-00
Project Name: Chuck Schmidt - DGS

Dear Chuck:

This letter presents the results of the recent odor panel analyses conducted by Odor Science & Engineering, Inc. (OS&E) for your DGS project in California. On May 2nd, 2011 a total of fourteen (14) odor emission samples were collected by on-site personnel. The odor samples were collected into Tedlar gas sampling bags provided by OS&E. Immediately following sample collection the bags were shipped via overnight delivery service to OS&E's Olfactory Laboratory in Bloomfield, CT sensory analysis. All samples arrived intact under chain of custody requesting sensory analysis.

Upon arrival the samples were analyzed by dynamic dilution olfactometry using a trained and screened odor panel of 8 members. The odor panelists were chosen from OS&E's pool of panelists from the Greater Hartford area who actively participate in ongoing olfactory research and represent an average to above average sensitivity when compared to a large population. The samples were quantified in terms of dilution-to-threshold (D/T) ratio and odor intensity in accordance with ASTM Methods E-679-04 and E-544-99, respectively. The odor panelists were also asked to describe the odor character of the samples at varying dilution levels. The odor panel methodology is further described in Attachment A.

The results of the odor panel test are presented in the attached Table1.

We appreciate the opportunity to assist you on this project. Please feel free to call Martha O'Brien or me if you have any questions concerning these results.

Sincerely,
ODOR SCIENCE & ENGINEERING, INC.

Gary K. Grumley

Gary K. Grumley
Associate Scientist

Table 1. Results of dynamic dilution olfactometry analysis – May 3, 2011
Chuck E. Schmidt – DGS Project
OS&E Project No. 1844-M-00

Sampling Information			Odor Conc. D/T[1]	Stevens' Law Constants[2]		Odor Character[3]
Date	Time	ID		a	b	
05/02/11	10:15	SF-19B-01-B	97	.46	.80	sharp, chalky, alcohol, exhaust, milk, burning paint, burning plastic, smoky, ivory soap
05/02/11	10:24	SF-19B-02-B	97	.34	.80	sharp, chalky, alcohol, exhaust, glue, ether, milk, burning paint, burning plastic, smoky, milk, exhaust, kerosene, oily, greasy
05/02/11	09:55	AA-19B-01-B	11	--	--	sour, stale plastic, musty, paint, disinfectant, iodine, new leather
05/02/11	08:36	SF-21B-01-B	17	.49	.59	sour, plastic, exhaust, stale, wood burning, medicinal, disinfectant, iodine, motor oil, new linoleum, urine
05/02/11	N/A	SF-21B-02-B	16	.40	.98	sour exhaust, plastic, stale, pine, medicinal tape, disinfectant, iodine, damp basement, burnt wood, urine
05/02/11	09:14	AA-21B-01-B	13	--	--	sour, plastic, exhaust, smoky, stale, burnt wood, paint, new linoleum, urine
05/02/11	11:26	SF-22B-01-B	12	--	--	sour, exhaust, sewage, burnt wood, plastic, burnt wood, vegetation, new leather, urine
05/02/11	11:26	SF-22B-02-B	11	--	--	sour, stale plastic, disinfectant, iodine, vegetation, smoke, burnt wood, kerosene, urine
05/02/11	12:49	SF-22B-03-B	32	.49	.75	sour, chalky, sharp, glue, exhaust, stale, smoky, wood burning, burnt paint, burnt plastic, medicinal, disinfectant, iodine, motor oil, new linoleum, urine
05/02/11	12:49	SF-22B-03R-B	21	.47	.88	sour, turpentine, glue, plastic, vegetation, kerosene, smoky, exhaust, burnt file tiles
05/02/11	12:33	SF-22B-04-B	23	.65	.67	sour, plastic, floor wax, glue, exhaust, burning plastic, burning floor tiles, kerosene, urine, ivory soap
05/02/11	11:37	AA-22B-01-B	16	.51	.81	sour, plastic, milk, vegetation, exhaust, smoke, disinfectant, burnt wood, ivory soap
05/02/11	12:48	AA-22B-02-B	12	--	--	sour exhaust, plastic, stale, dandelions, medicinal tape, smoke, burnt plastic, burnt wood, urine
05/02/11	13:49	SF-BLK-01-B	10	--	--	sour plastic, paint, exhaust, smoke

1. D/T = dilutions-to-threshold
2. Stevens' Law correlates odor concentration (C) and odor intensity (I): $I = aC^b$. The constants a and b were determined by regression analysis based on the intensity ratings of the odor panel at varying dilution levels. I = 0-8 (based on the n-butanol intensity scale), C = odor concentration (D/T) typical of ambient odor levels.
3. Summary of all odor character descriptors used by the odor panelists at varying dilution levels.

-- Sample too low for Dose Response calculations

ATTACHMENT A
Odor Science & Engineering, Inc.
Odor Panel Methodology

Measurement of Odor Levels by Dynamic Dilution Olfactometry
Odor concentration is defined as the dilution of an odor sample with odor-free air, at which only a specified percent of an odor panel, typically 50%, will detect the odor. This point represents odor threshold and is expressed in terms of "dilutions-to-threshold" (D/T).

Odor concentration was determined by means of OS&E's forced choice dynamic dilution olfactometer. The members of the panel who have been screened for their olfactory sensitivity and their ability to match odor intensities, have participated in on-going olfactory research at OS&E for a number of years.

In olfactometry, known dilutions of the odor sample were prepared by mixing a stream of odor-free air with a stream of the odor sample. The odor-free air is generated in-situ by passing the air from a compressor pump through a bed of activated charcoal and a potassium permanganate medium for purification. A portion of the odor free air is diverted into two sniff ports for direct presentation to a panelist who compares them with the diluted odor sample.

Another portion of the odor-free air is mixed in a known ratio with the odor from the sample bag and is then introduced into the third sniff port. A panelist is thus presented with three identical sniff ports, two of which provide a stream of odor-free air and the third one a known dilution of the odor sample. Unaware of which is which, the panelist is asked to identify the sniff port which is different from the other two, i.e., which contains the odor. The flow rate at all three nose cups is maintained at 3 liters per minute.

The analysis starts at high odor dilutions. Odor concentration in each subsequent evaluation is increased by a factor of 2. Initially a panelist is unlikely to correctly identify the sniff port which contains an odor. As the concentration increases, the likelihood of error is reduced and at one point the response at every subsequently higher concentration becomes consistently correct. The lowest odor concentration at which this consistency is first noticed, represents the **detection odor threshold** for that panelist.

As the odor concentration is increased further in the subsequent steps, the panelist becomes aware of the odor character, i.e. becomes able to differentiate the analyzed odor from other odors. The lowest odor concentration at which odor differentiation first becomes possible, represent the **recognition odor threshold** for the panelist. Essentially all of OS&E's work is done with recognition odor threshold. By definition the threshold odor is equal to 1 D/T (i.e. the volume of odorous air after dilution divided by the volume before dilution equals one).

The panelists typically arrive at threshold values at different concentrations. To interpret the data statistically, the geometric mean of the individual panelist's thresholds is calculated.

The olfactometer and the odor presentation procedure meet the recommendations of ASTM Standard Practice for Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series of Limits (ASTM E679-04). The analysis will be carried out in the OS&E Olfactory Laboratory in Bloomfield, Connecticut.

Odor Intensity

Odor intensity is determined using reference sample method with n-butanol as the reference compound (ASTM Method E-544-99). The n-butanol odor intensity scale is based on n-butanol vapor as odorant at eight concentrations. The concentration increases by a factor of two at each intensity step, starting with approximately 15 ppm at step 1.

Odors of widely different types can be compared on that scale just like the intensities of the lights of different colors can be compared to the intensity of standard, e.g. white light. Odor character and hedonic tone are ignored in that comparison. Odor intensities are routinely measured as part of the dynamic dilution olfactometry measurements. The n-butanol vapor samples are presented to the panelists in closed jars containing the standard solutions of n-butanol in distilled water. The vapor pressure above the butanol solutions corresponds to the steps on the n-butanol scale. To observe the odor intensity, a panelist opens the jar and sniffs the air above the liquid. The panelist then closes the jar so that the equilibrium vapor pressure of butanol can be re-established before the next panelist uses the jar. The odor in the jar is compared with unknown odor present at the olfactometer sniff port.

The relationship between odor concentration and intensity can be expressed as a psychophysical power function also known as Steven's law (Dose-Response Function). The function is of the form:

$$I = aC^b$$

where:

I = odor intensity on the butanol scale
C = the odor level in dilution-to-threshold ratio (D/T)
a,b = constants specific for each odor

The major significance of the dose-response function in odor control work is that it determines the rate at which odor intensity decreases as the odor concentration is reduced (either by atmospheric dispersion or by an odor control device).

Odor emissions are used as input to an odor dispersion model, which predicts odor impacts downwind under a variety of meteorological conditions. Whether or not an odor is judged objectionable depends primarily in its intensity. The dose-response constants are used to convert predicted ambient odor concentration to intensity levels. OS&E experience has shown that odors are almost universally considered objectionable when their intensity is 3 or higher on the 8-point n-butanol scale. In general, the lower the intensity, the lower the probability of complaints.

Odor Character Description

Odor character refers to our ability to recognize the similarity of odors. It allows us to distinguish odors of different substances on the basis of experience. We use three types of descriptors, general such as "sweet", "pungent", "acrid", etc. or specific references to its source such as "orange", "skunk", "paint", "sewage", etc., or to a specific chemical, e.g. "methyl mercaptan", "butyric acid", or "cyclohexane". In the course of the dynamic dilution olfactometry measurements, the odor panelists are asked to describe the character of the odors they detect.

ENVIRONMENTAL
Analytical Service Inc.

May 4, 2010
Sample Delivery Group (SDG): 211183

Chuck Schmidt
C.E. Schmidt
19200 Live Oak Road
Red Bluff, CA 96080

Dear Chuck:

Enclosed is the analytical report for the sample(s) received and analyzed by Environmental Analytical Service, Inc. for the following project:

Project Name:	LaCroix Davis
Project Number:	None Given
Sample Dates:	5/2/10

The report consists of the following sections:

I. Sample Description
II. Laboratory Narrative and Chain of Custody Forms
III. Laboratory Certification
IV. Quality Control Reports
V. Analytical Results

If you have any questions on the report or the analytical data please contact me at (805) 781-3585.

Sincerely,

Steven D. Hoyt, Ph.D.
Laboratory Director

SDH/lims

Analytical Report

SDG Number 211183

Client: C.E. Schmidt **Date Received:** 5/3/2011

I. SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample No.	EAS Lab No	Analysis Requested	Date Sample
SF-22B-01-S	211183 1	EPA TO-11 Aldehydes and Ketones	5/2/2011
SF-22B-02-S	211183 2	EPA TO-11 Aldehydes and Ketones	5/2/2011

II. LABORATORY CASE NARRATIVE and CHAIN OF CUSTODY FORMS

SDG Number: 211183
Analysis performed for: C.E. Schmidt

All laboratory quality control criteria were met for the samples in this report.

III. LABORATORY CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the condition noted above.

Steven D. Hoyt, Ph.D.
Laboratory Director

TD-11

ENVIRONMENTAL
Analytical Service, Inc.

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

CHAIN OF CUSTODY RECORD

Project Number | Project Name: | Quote Number:

REPORT TO:

Company: CES
Address: SAME
City/State/Zip:
Phone (FAX)
ATTENTION

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE / VOLUME (L)	FINAL PRESSURE	EAS LABORATORY ID	ANALYTICAL TESTS: TD-11						REMARKS
SF-22B-01-S	5/2/11	1249	—				X			21.69 L		21193-01	X						
SF-22B-02-S	V	1250	—				X			20.30		-02	X						

COMMENTS

BILLING INFORMATION

Company: CES
Address:
City/State/Zip: SAME
ATTENTION
Purchase Order/Billing Reference

	Date	Time		Date	Time
SAMPLED BY: CESCHMIDT	5/2/11	1600	Received by: FED EX	5/02/11	1600
Relinquished By:			Received by:		
Relinquished By:			Received by:		
Relinquished By:			Received for lab by: [signature]	5/3/11	10:45

IV. QUALITY CONTROL REPORT

SDG Number: 211183
Client: C.E. Schmidt

LABORATORY QC REPORT

QC NARRATIVE

This report was run with the standard laboratory QC.

STANDARD LABORATORY QC REPORT

Unless project specific QC was requested, this Section contains the standard laboratory QC supplied with the analytical reports, which includes the daily method blank and the daily duplicate control samples as described below. Each day that samples are analyzed comprises a Daily Analytical Batch for a particular instrument. A Daily Analytical Batch QC report will be supplied for each method and each day samples from this SDG Group were analyzed.

METHOD BLANK

A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples. A copy of the batch blank is included with the report.

DUPLICATE CONTROL SAMPLES

A duplicate or duplicate control sample (DCS) was analyzed as part of each daily analytical batch. A DCS is a well-characterized matrix (blank water, ambient air, or actual sample) which may or may not be spiked and run in duplicate with your sample batch. The results are on the attached Duplicate Sample/Spike results. Precision is measured in a duplicate test by Relative Percent Difference (RPD) as in:

$$RPD = \frac{[\% \text{ Recovery Test 1} - \% \text{ Recovery Test 2}] \times 100}{(\text{Recovery Test 1} + \text{Recovery Test 2}) / 2}$$

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11 HPLC | **SDG:** **LABQC**
Analytical Method: **TO-11** | **Laboratory Number:** **B05031**

File:	B05031A.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	05/03/11	**Time:**	11:15
QC_Batch:	050311-HPT	**Dilution Factor:**	1.00		2
Ext Volume:	4 ml	**Not Detected Flag:**	ND		
Air Volume:	1000 L				

CAS#	Compound	MDL ug/sample	Amount ug/sample	MDL ug/m3	Amount ug/m3	MDL ppbv	Amount ppbv	Flag
50-00-0	Formaldehyde	0.15	ND	0.15	ND	0.12	ND	ND
75-07-0	Acetaldehyde	0.15	ND	0.15	ND	0.08	ND	ND
107-02-8	Acrolein	0.15	ND	0.15	ND	0.06	ND	ND
67-64-1	Acetone	0.15	ND	0.15	ND	0.06	ND	ND
123-38-6	Propionaldehyde	0.15	ND	0.15	ND	0.06	ND	ND
4170-30-3	Crotonaldehyde	0.15	ND	0.15	ND	0.05	ND	ND
123-72-8	Butyraldehyde	0.15	ND	0.15	ND	0.05	ND	ND
100-52-7	Benzaldehyde	0.15	ND	0.15	ND	0.03	ND	ND
590-86-3	Isovaleraldehyde	0.15	ND	0.15	ND	0.04	ND	ND
110-62-3	Valeraldehyde	0.15	ND	0.15	ND	0.04	ND	ND
529-20-4	o-Tolualdehyde	0.15	ND	0.15	ND	0.03	ND	ND
620-23-5	m-Tolualdehyde	0.15	ND	0.15	ND	0.03	ND	ND
104-87-0	p-Tolualdehyde	0.15	ND	0.15	ND	0.03	ND	ND
66-25-1	Hexaldehyde	0.15	ND	0.15	ND	0.04	ND	ND
5779-94-2	2,5-Dimethylbenzaldehyde	0.15	ND	0.15	ND	0.03	ND	ND

Notes: 1) Reported results are to be interpreted to two significant figures.
2) HPLC column: Restek Pinnacle TO-11 5um; Dimensions: 250 x 4.6 mm in series with an AXXION C18-RPODS 5um; Dimensions: 250 x 4.6 mm
3) U and ND are Flags used for Not Detected
4) Detector: Shimatzu SPD-6AV UV-VIS spectrophotometer

QUALITY CONTROL DUPLICATE

ENVIRONMENTAL
Analytical Service, Inc.

Duplicate of QC Sample

EPA Method TO-11 HPLC **SDG: LABQC**
Analytical Method: **TO-11**

Dup File: QC05031B.D
Description: ST60722
Can/Tube#:
QC_Batch: 050311-HPT

CAS#	Compound	LCD ppbv	LCS ppbv	RPD %D	Limit %	Flag * = Out
50-00-0	Formaldehyde	0.37	0.38	3	30	
75-07-0	Acetaldehyde	0.29	0.29	0	30	
107-02-8	Acrolein	0.38	0.34	13	30	
67-64-1	Acetone	0.23	0.26	10	30	
123-38-6	Propionaldehyde	0.27	0.27	0	30	
4170-30-3	Crotonaldehyde	0.30	0.28	7	30	
123-72-8	Butyraldehyde	0.27	0.29	7	30	
100-52-7	Benzaldehyde	0.29	0.30	3	30	
590-86-3	Isovaleraldehyde	0.27	0.31	13	30	
110-62-3	Valeraldehyde	0.26	0.31	17	30	
529-20-4	o-Tolualdehyde	0.28	0.29	3	30	
620-23-5	m-Tolualdehyde	0.25	0.27	7	30	
104-87-0	p-Tolualdehyde	0.28	0.29	3	30	
66-25-1	Hexaldehyde	0.26	0.29	10	30	
5779-94-2	2,5-Dimethylbenzaldehyde	0.25	0.24	3	30	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE

EPA Method TO-11 HPLC **SDG: LABQC**
Analytical Method: TO-11

File: QC05031A.D
Description: ST60722
Can/Tube#:
Sam_Type: LCS
QC_Batch: 050311-HPT
Volume: 4 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 05/03/11 **Time:** 9:53
Dilution Factor: 1.00 2
QC Duplicate: No

CAS#	Compound	MDL ug/sample	Spike Conc ug/sample	Amount ug/sample	Matrix Amt ug/sample	Spk Amt ug/sample	Percent Recovery	LCL %	UCL %	Flag
50-00-0	Formaldehyde	0.15	0.30	0.38	0.000	0.38	127	70	130	
75-07-0	Acetaldehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
107-02-8	Acrolein	0.15	0.30	0.34	0.000	0.34	113	70	130	
67-64-1	Acetone	0.15	0.30	0.26	0.000	0.26	87	70	130	
123-38-6	Propionaldehyde	0.15	0.30	0.27	0.000	0.27	90	70	130	
4170-30-3	Crotonaldehyde	0.15	0.30	0.28	0.000	0.28	93	70	130	
123-72-8	Butyraldehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
100-52-7	Benzaldehyde	0.15	0.30	0.30	0.000	0.30	100	70	130	
590-86-3	Isovaleraldehyde	0.15	0.30	0.31	0.000	0.31	103	70	130	
110-62-3	Valeraldehyde	0.15	0.30	0.31	0.000	0.31	103	70	130	
529-20-4	o-Tolualdehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
620-23-5	m-Tolualdehyde	0.15	0.30	0.27	0.000	0.27	90	70	130	
104-87-0	p-Tolualdehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
66-25-1	Hexaldehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
5779-94-2	2,5-Dimethylbenzaldehyde	0.15	0.30	0.24	0.000	0.24	80	70	130	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL DUPLICATE

EPA Method TO-11 HPLC **SDG: LABQC**
Analytical Method: **TO-11**

File: QC05031B.D
Description: ST60722
Can/Tube#:
Sam_Type: LCD
QC_Batch: 050311-HPT
Volume: 4 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 05/03/11 **Time:** 10:42
Dilution Factor: 1.00 2
QC Duplicate: Yes

CAS#	Compound	MDL ug/sample	Spike Conc ug/sample	Amount ug/sample	Matrix Amt ug/sample	Spk Amt ug/sample	Percent Recovery	LCL %	UCL %	Flag
50-00-0	Formaldehyde	0.15	0.30	0.37	0.000	0.37	123	70	130	
75-07-0	Acetaldehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
107-02-8	Acrolein	0.15	0.30	0.38	0.000	0.38	127	70	130	
67-64-1	Acetone	0.15	0.30	0.23	0.000	0.23	77	70	130	
123-38-6	Propionaldehyde	0.15	0.30	0.27	0.000	0.27	90	70	130	
4170-30-3	Crotonaldehyde	0.15	0.30	0.30	0.000	0.30	100	70	130	
123-72-8	Butyraldehyde	0.15	0.30	0.27	0.000	0.27	90	70	130	
100-52-7	Benzaldehyde	0.15	0.30	0.29	0.000	0.29	97	70	130	
590-86-3	Isovaleraldehyde	0.15	0.30	0.27	0.000	0.27	90	70	130	
110-62-3	Valeraldehyde	0.15	0.30	0.26	0.000	0.26	87	70	130	
529-20-4	o-Tolualdehyde	0.15	0.30	0.28	0.000	0.28	93	70	130	
620-23-5	m-Tolualdehyde	0.15	0.30	0.25	0.000	0.25	83	70	130	
104-87-0	p-Tolualdehyde	0.15	0.30	0.28	0.000	0.28	93	70	130	
66-25-1	Hexaldehyde	0.15	0.30	0.26	0.000	0.26	87	70	130	
5779-94-2	2,5-Dimethylbenzaldehyde	0.15	0.30	0.25	0.000	0.25	83	70	130	

V. ANALYTICAL RESULTS

SDG Number: 211183
Client: C.E. Schmidt

The following pages contain the certified reports for the analytical methods and the compounds requested. The reports are in order of analytical method then EAS ID number. A brief description of the units that appear on the reports is given below:

ppbV, ppmV, Percent

Parts per billion by volume (also known as mole ratio) and other related units. This is the primary reporting unit for all volatile organic compound analysis except the hydrocarbon speciation and total hydrocarbons. This unit is independent of temperature and pressure.

$$\text{ppbV} = \frac{\text{nanomoles of compound}}{\text{moles of air}}$$

ug/m3, mg/m3

Micrograms of compound per cubic meter of air and other related units. This is the primary reporting unit for semi volatile organic compounds. It is not a primary reporting unit for volatile organic compounds because it is temperature and pressure dependent, so the result will vary depending on the conditions when the sample was collected. EAS provides the units on its analytical reports as a convenience to the client, but they should be used with caution. The following equation can be used to convert from ppbV to ug/m3.

$$\text{ug/m3} = \frac{\text{ppbV x MW compound}}{23.68}$$

23.68 is the molar volume of a gas at 60 F and 1 atm pressure

ppbC, ppmC

Parts per billion by volume as carbon (methane) and other related units. This unit is the primary reporting unit for hydrocarbon analysis, even if it does not appear on the report. This unit is used because the flame ionization detector response is proportional to the number of carbons in the compound, so an accurate concentration can be reported even if the identification of the compound is not known.

$$\text{ppbC} = \text{ppbV x number of carbons in compound}$$

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11 HPLC **SDG: 211183**
Analytical Method: TO-11 **Laboratory Number: 01**

File:	1118301A.D	**Date Sampled:**	05/02/11	**Time:**	12:49
Description:	SF-22B-01-S	**Date Received:**	05/03/11		
Can/Tube#:	CART	**Date Extracted:**	05/03/11		
Sam_Type:	SA	**Date Analyzed:**	05/03/11	**Time:**	15:32
QC_Batch:	050311-HPT	**Dilution Factor:**	1.00		2
Ext Volume:	4 ml	**Not Detected Flag:**	ND		
Air Volume:	21.69 L				

CAS#	Compound	MDL ug/sample	Amount ug/sample	MDL ug/m3	Amount ug/m3	MDL ppbv	Amount ppbv	Flag
50-00-0	Formaldehyde	0.15	ND	6.92	ND	5.46	ND	ND
75-07-0	Acetaldehyde	0.15	ND	6.92	ND	3.71	ND	ND
107-02-8	Acrolein	0.15	ND	6.92	ND	2.92	ND	ND
67-64-1	Acetone	0.15	0.38	6.92	17.71	2.82	7.22	
123-38-6	Propionaldehyde	0.15	ND	6.92	ND	2.82	ND	ND
4170-30-3	Crotonaldehyde	0.15	ND	6.92	ND	2.34	ND	ND
123-72-8	Butyraldehyde	0.15	0.15	6.92	7.00	2.27	2.30	
100-52-7	Benzaldehyde	0.15	ND	6.92	ND	1.54	ND	ND
590-86-3	Isovaleraldehyde	0.15	ND	6.92	ND	1.90	ND	ND
110-62-3	Valeraldehyde	0.15	0.20	6.92	9.27	1.90	2.55	
529-20-4	o-Tolualdehyde	0.15	ND	6.92	ND	1.36	ND	ND
620-23-5	m-Tolualdehyde	0.15	ND	6.92	ND	1.36	ND	ND
104-87-0	p-Tolualdehyde	0.15	ND	6.92	ND	1.36	ND	ND
66-25-1	Hexaldehyde	0.15	ND	6.92	ND	1.63	ND	ND
5779-94-2	2,5-Dimethylbenzaldehyde	0.15	ND	6.92	ND	1.22	ND	ND

Notes: 1) Reported results are to be interpreted to two significant figures.
2) HPLC column: Restek Pinnacle TO-11 5um; Dimensions: 250 x 4.6 mm in series with an AXXION C18-RPODS 5um; Dimensions: 250 x 4.6 mm
3) U and ND are Flags used for Not Detected
4) Detector: Shimatzu SPD-6AV UV-VIS spectrophotometer

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-11 HPLC | **SDG:** 211183
Analytical Method: TO-11 | **Laboratory Number:** 02

File:	1118302A.D	**Date Sampled:**	05/02/11	**Time:**	12:50
Description:	SF-22B-02-S	**Date Received:**	05/03/11		
Can/Tube#:	CART	**Date Extracted:**	05/03/11		
Sam_Type:	SA	**Date Analyzed:**	05/03/11	**Time:**	16:31
QC_Batch:	050311-HPT	**Dilution Factor:**	1.00		2
Ext Volume:	4 ml	**Not Detected Flag:**	ND		
Air Volume:	20.3 L				

CAS#	Compound	MDL ug/sample	Amount ug/sample	MDL ug/m3	Amount ug/m3	MDL ppbv	Amount ppbv	Flag
50-00-0	Formaldehyde	0.15	ND	7.39	ND	5.83	ND	ND
75-07-0	Acetaldehyde	0.15	ND	7.39	ND	3.97	ND	ND
107-02-8	Acrolein	0.15	ND	7.39	ND	3.12	ND	ND
67-64-1	Acetone	0.15	0.33	7.39	16.08	3.01	6.55	
123-38-6	Propionaldehyde	0.15	ND	7.39	ND	3.01	ND	ND
4170-30-3	Crotonaldehyde	0.15	ND	7.39	ND	2.50	ND	ND
123-72-8	Butyraldehyde	0.15	0.15	7.39	7.58	2.43	2.49	
100-52-7	Benzaldehyde	0.15	ND	7.39	ND	1.65	ND	ND
590-86-3	Isovaleraldehyde	0.15	ND	7.39	ND	2.03	ND	ND
110-62-3	Valeraldehyde	0.15	0.21	7.39	10.40	2.03	2.86	
529-20-4	o-Tolualdehyde	0.15	ND	7.39	ND	1.46	ND	ND
620-23-5	m-Tolualdehyde	0.15	ND	7.39	ND	1.46	ND	ND
104-87-0	p-Tolualdehyde	0.15	ND	7.39	ND	1.46	ND	ND
66-25-1	Hexaldehyde	0.15	ND	7.39	ND	1.75	ND	ND
5779-94-2	2,5-Dimethylbenzaldehyde	0.15	ND	7.39	ND	1.30	ND	ND

Notes: 1) Reported results are to be interpreted to two significant figures.
2) HPLC column: Restek Pinnacle TO-11 5um; Dimensions: 250 x 4.6 mm in series with an AXXION C18-RPODS 5um; Dimensions: 250 x 4.6 mm
3) U and ND are Flags used for Not Detected
4) Detector: Shimatzu SPD-6AV UV-VIS spectrophotometer

Data Qualifiers, Abbreviations and Definitions

ENVIRONMENTAL
Analytical Service, Inc.

Qualifiers

*	See Case Narrative
B	This compound was detected in the blank above the Reporting Limit (RL)
D	This report was calculated from a secondary dilution factor
E	Compound exceeds the calibration range and is an estimated value
J	The amount reported is an estimated value because it is between the Reporting Limit (RL) and the Method Detection Limit (MDL)
F	Higher detection limit due to sample matrix
G	Higher detection limit due to limited sample size
Q	Compound secondary ion ratio qualifiers are outside the standard acceptance criteria
R	Compound secondary retention time (RT) is outside the acceptance criteria for the method
U	Compound is less than the Method Detection Limit (MDL)

Abbreviations

MDL Minimum Detection Limit – Instrument detection limit

The minimum detectable level (MDL) is the lowest concentration of a substance that can be measured with confidence. The MDL is calculated at the 99% confidence level from seven repetitive measurements on a sample whose concentration does not exceed 10 times the estimated MDL (Glasser et. al. 1981; Long and Winefordner, 1983). Generating an MDL study, a sample is prepared in the appropriate matrix with components near the estimated MDL, which is about 3 times the instrument noise level. This sample is run seven consecutive times and the standard deviation (S) is calculated. The MDL is determined using the following formula: MDL = 3.14*S

ND Not Detected – a reported limit
NA Not Applicable
RPD Relative Percent Difference

The relative percent difference for a pair of duplicate samples is calculated from repetitive runs on sample pairs representative of the types of samples that are analyzed. The RPD provides information on the precision or reproducibility of the actual measurement process. The RPD is calculated for a particular compound from the average using the following formula:

$$RPD(\%) = \frac{\text{Difference} * 100}{\text{Average}}$$

RSD Relative Standard Deviation

The relative standard deviation is reported as a percentage deviation at a particular concentration using the following equation:

$$RSD\ (\%) = \frac{S * 100}{\text{Average}}$$

Definitions

ppbV $= \frac{\text{\# nanomoles cmpd}}{\text{\# moles air}} = \frac{\text{ppbC}}{\text{\# carbons in cmpd}}$

Compound is reported as ppb of compound by Volume

This unit is temperature independent

ug/m^3 $= \text{ppbV} \times \frac{\text{MW compound}}{23.68}$

Compound is reported as ug of a compound in a m^3 of air

23.68 is the molar volume of a gas at 60 ° F and 1 atm pressure

MW = molecular weight

This unit is temperature dependent

ppbC = ppbV x # carbons in compound

ENVIRONMENTAL
Analytical Service Inc.

May 16, 2010
Sample Delivery Group (SDG): 211185

Chuck Schmidt
C.E. Schmidt
19200 Live Oak Road
Red Bluff, CA 96080

Dear Chuck:

Enclosed is the analytical report for the sample(s) received and analyzed by Environmental Analytical Service, Inc. for the following project:

Project Name:	LaCroix Davis
Project Number:	None Given
Sample Dates:	5/2/10

The report consists of the following sections:

I. Sample Description
II. Laboratory Narrative and Chain of Custody Forms
III. Laboratory Certification
IV. Quality Control Reports
V. Analytical Results

If you have any questions on the report or the analytical data please contact me at (805) 781-3585.

Sincerely,

Steven D. Hoyt, Ph.D.
Laboratory Director

SDH/lims

Analytical Report

SDG Number 211185

Client: C.E. Schmidt **Date Received:** 5/3/2011

I. SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample No.	EAS Lab No	Analysis Requested	Date Sample
SF-21B-01-C	211185 1	EPA TO-15 SIM MVOC	5/2/2011
SF-21B-01-C	211185 1	EPA TO-15 Extended List + TIC	5/2/2011
SF-21B-02-C	211185 2	EPA TO-15 Extended List + TIC	5/2/2011
SF-21B-02-C	211185 2	EPA TO-15 SIM MVOC	5/2/2011
SF-19B-01-C	211185 3	EPA TO-15 Extended List + TIC	5/2/2011
SF-19B-01-C	211185 3	EPA TO-15 SIM MVOC	5/2/2011
SF-19B-02-C	211185 4	RECEIVED UNDER VAC	5/2/2011
SF-22B-01-C	211185 5	EPA TO-15 SIM MVOC	5/2/2011
SF-22B-01-C	211185 5	EPA TO-15 Extended List + TIC	5/2/2011
SF-22B-02-C	211185 6	EPA TO-15 SIM MVOC	5/2/2011
SF-22B-02-C	211185 6	EPA TO-15 Extended List + TIC	5/2/2011
SF-22B-03-C	211185 7	EPA TO-15 Extended List + TIC	5/2/2011
SF-22B-03-C	211185 7	EPA TO-15 SIM MVOC	5/2/2011
SF-22B-03R-C	211185 8	EPA TO-15 Extended List +TIC	5/2/2011
SF-22B-03R-C	211185 8	EPA TO-15 SIM MVOC	5/2/2011
SF-BLK-01-C	211185 9	EPA TO-15 Extended List + TIC	5/2/2011
SF-BLK-01-C	211185 9	EPA TO-15 SIM MVOC	5/2/2011
SF-22B-04-C	211185 10	EPA TO-15 SIM MVOC	5/2/2011
SF-22B-04-C	211185 10	EPA TO-15 Extended List +TIC	5/2/2011

II. LABORATORY CASE NARRATIVE and CHAIN OF CUSTODY FORMS

SDG Number: 211185
Analysis performed for: C.E. Schmidt

All laboratory quality control criteria were met for the samples in this report.

III. LABORATORY CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the condition noted above.

Steven D. Hoyt, Ph.D.
Laboratory Director

ENVIRONMENTAL
Analytical Service, Inc.

① FLUX

CHAIN OF CUSTODY RECORD

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

Project Number:
Project Name: LACROIX DAVIS
Quote Number:

REPORT TO:

Company: CE SCHMIDT
Address: 19200 LONE OAK RD
City/State/Zip: RED BLUFF, CA 96080
Phone: 530 529 4276 -4878
ATTENTION: CES

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	EAS LABORATORY ID	N2	TO-15 FULL SCAN VOCs	TO-15 SIM P1	TO-15 SIM P2	REMARKS Shelf
SF-21B-01-C	5/2/11	0836	737		X	X				-29"	0"	211185-01	X	X	767	908	LOW B
SF-21B-02-C		"	697									-02			769	904	LOW B
SF-19B-01-C		1015	547									-03			772	915	MODERATE B
SF-19B-02-C		1024	789									-04					Received under VAC. E
SF-22B-01-C		1126	740									-05			771	918	LOW C
SF-22B-02-C		1126	761									-06			761	926	LOW C
SF-22B-03-C		1229	663									-07			767	907	MODERATE C
SF-22B-03R-C		1249	788									-08			758	925	" C
SF-BLK-01-C		1349	765									-09			882	920	LOW C

COMMENTS
PLS REPORT PPBV, µg/m3, FLUX µg/m2, min-1

BILLING INFORMATION

Company: CES
Address: SAME
City/State/Zip:
ATTENTION:
Purchase Order/Billing Reference:

		Date	Time		Date	Time
SAMPLED BY:	CE SCHMIDT	5/2/11	1600	Received by: FED EX	5/2/11	1600
Relinquished By:				Received by:		
Relinquished By:				Received by:		
Relinquished By:				Received for lab by: K. Lucken	5/3/11	10:45

△ SF-22B-04-C #631 @ 1233 211185-10 758 921 shelf C

IV. QUALITY CONTROL REPORT

SDG Number: 211185
Client: C.E. Schmidt

LABORATORY QC REPORT

QC NARRATIVE

This report was run with the standard laboratory QC.

STANDARD LABORATORY QC REPORT

Unless project specific QC was requested, this Section contains the standard laboratory QC supplied with the analytical reports, which includes the daily method blank and the daily duplicate control samples as described below. Each day that samples are analyzed comprises a Daily Analytical Batch for a particular instrument. A Daily Analytical Batch QC report will be supplied for each method and each day samples from this SDG Group were analyzed.

METHOD BLANK

A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples. A copy of the batch blank is included with the report.

DUPLICATE CONTROL SAMPLES

A duplicate or duplicate control sample (DCS) was analyzed as part of each daily analytical batch. A DCS is a well-characterized matrix (blank water, ambient air, or actual sample) which may or may not be spiked and run in duplicate with your sample batch. The results are on the attached Duplicate Sample/Spike results. Precision is measured in a duplicate test by Relative Percent Difference (RPD) as in:

$$RPD = \frac{[\% \text{ Recovery Test 1} - \% \text{ Recovery Test 2}] \times 100}{(\text{Recovery Test 1} + \text{Recovery Test 2}) / 2}$$

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS | **SDG: LABQC**
Analytical Method: TO15 | **Laboratory ID: B05061**

Description: METHOD BLANK | **Date Sampled:** | **Time:**
Can/Tube#: | **Date Received:** | **Time:**
QC_Batch: 050611-MSC | **Date Analyzed:** 05/06/11 | **Time:** 12:16
Air Volume: 500 ml | **Can Dilution Factor:** 1.00

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.21	0.53	0.21	1.04	2.60	1.04	U
74-87-3	Chloromethane	0.20	0.51	0.20	0.42	1.05	0.42	U
76-14-2	Freon 114	0.21	0.52	0.21	1.45	3.63	1.45	U
75-01-4	Vinyl chloride	0.21	0.52	0.21	0.53	1.33	0.53	U
106-99-0	1,3-Butadiene	0.21	0.54	0.21	0.47	1.19	0.47	U
74-83-9	Bromomethane	0.21	0.52	0.21	0.81	2.02	0.81	U
75-00-3	Chloroethane	0.21	0.52	0.21	0.55	1.37	0.55	U
64-17-5	Ethanol	0.69	1.72	0.69	1.30	3.24	1.30	U
75-69-4	Trichlorofluoromethane	0.21	0.52	0.21	1.17	2.92	1.17	U
67-64-1	Acetone	0.45	0.57	0.45	1.08	1.34	1.08	U
67-63-0	2-propanol	0.52	2.62	0.52	1.29	6.44	1.29	U
75-65-0	t-Butanol	0.15	0.38	0.15	0.46	1.14	0.46	U
4227-95-6	Methyl iodide	0.06	0.15	0.06	0.35	0.88	0.35	U
75-35-4	1,1-Dichloroethene	0.40	1.01	0.40	1.60	4.01	1.60	U
107-13-1	Acrylonitrile	0.23	0.58	0.23	0.50	1.26	0.50	U
76-13-1	Freon 113	0.20	0.51	0.20	1.56	3.91	1.56	U
107-05-1	Allyl chloride	0.18	0.45	0.18	0.55	1.41	0.55	U
75-09-2	Dichloromethane	0.21	0.52	0.21	0.72	1.80	0.72	U
75-15-0	Carbon disulfide	0.17	0.43	0.17	0.53	1.33	0.53	U
156-60-5	trans-1,2-Dichloroethene	0.13	0.33	0.13	0.53	1.32	0.53	U
1634-04-4	Methyl tert butyl ether	0.14	0.34	0.14	0.49	1.22	0.49	U
107-12-0	Propionitrile	0.19	0.48	0.19	0.43	1.07	0.43	U
75-34-3	1,1-Dichloroethane	0.20	0.51	0.20	0.82	2.05	0.82	U
108-05-4	Vinyl acetate	0.16	0.40	0.16	0.57	1.42	0.57	U
78-93-3	2-Butanone	0.19	0.47	0.19	0.55	1.38	0.55	U
108-20-3	Diisopropyl ether	0.13	0.31	0.13	0.52	1.31	0.52	U
110-54-3	Hexane	0.14	0.34	0.14	0.48	1.20	0.48	U
126-98-7	Methacrylonitrile	0.19	0.48	0.19	0.52	1.31	0.52	U
141-78-6	Ethyl acetate	0.16	0.40	0.16	0.58	1.45	0.58	U
74-97-5	Bromochloromethane	0.10	0.25	0.10	0.52	1.30	0.52	U
109-99-9	Tetrahydrofuran	0.23	0.58	0.23	0.68	1.70	0.68	U
78-83-1	Isobutyl alcohol	0.30	1.52	0.30	0.92	4.60	0.92	U
156-59-2	cis-1,2-Dichloroethene	0.21	0.52	0.21	0.82	2.04	0.82	U
594-20-7	2,2-Dichloropropane	0.16	0.41	0.16	0.76	1.89	0.76	U
67-66-3	Chloroform	0.20	0.51	0.20	1.00	2.49	1.00	U
71-55-6	1,1,1-Trichloroethane	0.20	0.51	0.20	1.11	2.78	1.11	U
107-06-2	1,2-Dichloroethane	0.21	0.52	0.21	0.83	2.09	0.83	U
563-58-6	1,1-Dichloropropene	0.12	0.30	0.12	0.55	1.38	0.55	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.14	0.35	0.14	0.49	1.21	0.49	U
71-43-2	Benzene	0.21	0.52	0.21	0.66	1.65	0.66	U
56-23-5	Carbon tetrachloride	0.20	0.51	0.20	1.28	3.21	1.28	U
540-84-1	2,2,4-Trimethylpentane	0.10	0.25	0.10	0.47	1.17	0.47	U
142-82-5	n-Heptane	0.11	0.28	0.11	0.46	1.15	0.46	U
78-87-5	1,2-Dichloropropane	0.21	0.52	0.21	0.95	2.38	0.95	U
123-91-1	1,4 Dioxane	0.38	0.94	0.38	1.35	3.39	1.35	U
74-95-3	Dibromomethane	0.07	0.17	0.07	0.49	1.22	0.49	U
79-01-6	Trichloroethene	0.21	0.52	0.21	1.11	2.77	1.11	U
75-27-4	Bromodichloromethane	0.07	0.19	0.07	0.50	1.25	0.50	U
80-62-6	Methyl methacrylate	0.12	0.31	0.12	0.51	1.28	0.51	U
108-10-1	4-Methyl-2-pentanone	0.14	0.35	0.14	0.57	1.43	0.57	U
10061-01-5	cis-1,3-Dichloropropene	0.21	0.53	0.21	0.96	2.40	0.96	U
108-88-3	Toluene	0.21	0.52	0.21	0.78	1.94	0.78	U
10061-02-6	trans-1,3-Dichloropropene	0.21	0.52	0.21	0.94	2.36	0.94	U
79-00-5	1,1,2-Trichloroethane	0.20	0.51	0.20	1.11	2.78	1.11	U
97-63-2	Ethyl methacrylate	0.11	0.27	0.11	0.51	1.28	0.51	U
591-78-6	2-Hexanone	0.13	0.33	0.13	0.53	1.34	0.53	U
142-28-9	1,3-Dichloropropane	0.12	0.30	0.12	0.56	1.40	0.56	U
111-65-9	Octane	0.10	0.25	0.10	0.47	1.18	0.47	U
124-48-1	Dibromochloromethane	0.07	0.18	0.07	0.63	1.57	0.63	U
106-93-4	1,2-Dibromoethane	0.21	0.52	0.21	1.60	3.99	1.60	U
127-18-4	Tetrachloroethene	0.20	0.51	0.20	1.38	3.46	1.38	U
108-90-7	Chlorobenzene	0.20	0.51	0.20	0.94	2.35	0.94	U
630-20-6	1,1,1,2-Tetrachloroethane	0.08	0.19	0.08	0.52	1.30	0.52	U
100-41-4	Ethylbenzene	0.21	0.52	0.21	0.90	2.26	0.90	U
1330-20-7	m,p-Xylenes	0.41	1.03	0.41	1.79	4.47	1.79	U
111-84-2	Nonane	0.09	0.22	0.09	0.46	1.15	0.46	U
100-42-5	Styrene	0.21	0.52	0.21	0.88	2.20	0.88	U
75-25-2	Bromoform	0.05	0.12	0.05	0.51	1.28	0.51	U
95-47-6	o-Xylene	0.20	0.51	0.20	0.89	2.21	0.89	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	0.51	0.20	1.40	3.50	1.40	U
96-18-4	1,2,3-Trichloropropane	0.09	0.23	0.09	0.55	1.36	0.55	U
110-57-6	t-1,4-Dichloro-2-butene	0.12	0.31	0.12	0.63	1.58	0.63	U
95-49-8	2-Chlorotoluene	0.10	0.25	0.10	0.51	1.27	0.51	U
106-43-4	4-Chlorotoluene	0.10	0.24	0.10	0.50	1.24	0.50	U
103-65-1	n-Propylbenzene	0.14	0.35	0.14	0.68	1.70	0.68	U
98-82-8	Isopropylbenzene	0.14	0.35	0.14	0.69	1.72	0.69	U
622-96-8	4-Ethyltoluene	0.11	0.28	0.11	0.56	1.40	0.56	U
108-67-8	1,3,5-Trimethylbenzene	0.21	0.53	0.21	1.04	2.60	1.04	U
124-18-5	Decane	0.09	0.23	0.09	0.54	1.36	0.54	U
98-06-6	tert-butyl benzene	0.12	0.31	0.12	0.67	1.68	0.67	U
95-63-6	1,2,4-Trimethylbenzene	0.20	0.51	0.20	1.00	2.51	1.00	U
538-93-2	i-Butylbenzene	0.12	0.31	0.12	0.67	1.68	0.67	U
135-98-8	sec-butylbenzene	0.13	0.33	0.13	0.71	1.79	0.71	U
541-73-1	1,3-Dichlorobenzene	0.20	0.51	0.20	1.23	3.06	1.23	U
99-87-6	Isopropyltoluene	0.13	0.32	0.13	0.70	1.76	0.70	U
100-44-7	Benzyl chloride	0.12	0.29	0.12	0.61	1.52	0.61	U
106-46-7	1,4-Dichlorobenzene	0.20	0.51	0.20	1.23	3.06	1.23	U
104-51-8	n-Butylbenzene	0.12	0.30	0.12	0.66	1.65	0.66	U
95-50-1	1,2-Dichlorobenzene	0.20	0.50	0.20	1.20	3.00	1.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.27	1.34	0.27	2.59	12.94	2.59	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.10	0.48	0.10	1.27	6.35	1.27	U
120-82-1	1,2,4-Trichlorobenzene	0.82	2.06	0.82	6.11	15.28	6.11	U
91-20-3	Naphthalene	0.18	0.44	0.18	0.92	2.31	0.92	U
87-68-3	Hexachlorobutadiene	0.41	2.06	0.41	4.39	21.96	4.39	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.94	99	70	130	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: LABQC
Laboratory ID: B05091

Description: METHOD BLANK
Can/Tube#:
QC_Batch: 050911-MSC
Air Volume: 500 ml

Date Sampled: **Time:**
Date Received: **Time:**
Date Analyzed: 05/09/11 **Time:** 13:33
Can Dilution Factor: 1.00

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.21	0.53	0.21	1.04	2.60	1.04	U
74-87-3	Chloromethane	0.20	0.51	0.20	0.42	1.05	0.42	U
76-14-2	Freon 114	0.21	0.52	0.21	1.45	3.63	1.45	U
75-01-4	Vinyl chloride	0.21	0.52	0.21	0.53	1.33	0.53	U
106-99-0	1,3-Butadiene	0.21	0.54	0.21	0.47	1.19	0.47	U
74-83-9	Bromomethane	0.21	0.52	0.21	0.81	2.02	0.81	U
75-00-3	Chloroethane	0.21	0.52	0.21	0.55	1.37	0.55	U
64-17-5	Ethanol	0.69	1.72	0.69	1.30	3.24	1.30	U
75-69-4	Trichlorofluoromethane	0.21	0.52	0.21	1.17	2.92	1.17	U
67-64-1	Acetone	0.45	0.57	0.45	1.08	1.34	1.08	U
67-63-0	2-propanol	0.52	2.62	0.52	1.29	6.44	1.29	U
75-65-0	t-Butanol	0.15	0.38	0.15	0.46	1.14	0.46	U
4227-95-6	Methyl iodide	0.06	0.15	0.06	0.35	0.88	0.35	U
75-35-4	1,1-Dichloroethene	0.40	1.01	0.40	1.60	4.01	1.60	U
107-13-1	Acrylonitrile	0.23	0.58	0.23	0.50	1.26	0.50	U
76-13-1	Freon 113	0.20	0.51	0.20	1.56	3.91	1.56	U
107-05-1	Allyl chloride	0.18	0.45	0.18	0.55	1.41	0.55	U
75-09-2	Dichloromethane	0.21	0.52	0.21	0.72	1.80	0.72	U
75-15-0	Carbon disulfide	0.17	0.43	0.17	0.53	1.33	0.53	U
156-60-5	trans-1,2-Dichloroethene	0.13	0.33	0.13	0.53	1.32	0.53	U
1634-04-4	Methyl tert butyl ether	0.14	0.34	0.14	0.49	1.22	0.49	U
107-12-0	Propionitrile	0.19	0.48	0.19	0.43	1.07	0.43	U
75-34-3	1,1-Dichloroethane	0.20	0.51	0.20	0.82	2.05	0.82	U
108-05-4	Vinyl acetate	0.16	0.40	0.16	0.57	1.42	0.57	U
78-93-3	2-Butanone	0.19	0.47	0.19	0.55	1.38	0.55	U
108-20-3	Diisopropyl ether	0.13	0.31	0.13	0.52	1.31	0.52	U
110-54-3	Hexane	0.14	0.34	0.14	0.48	1.20	0.48	U
126-98-7	Methacrylonitrile	0.19	0.48	0.19	0.52	1.31	0.52	U
141-78-6	Ethyl acetate	0.16	0.40	0.16	0.58	1.45	0.58	U
74-97-5	Bromochloromethane	0.10	0.25	0.10	0.52	1.30	0.52	U
109-99-9	Tetrahydrofuran	0.23	0.58	0.23	0.68	1.70	0.68	U
78-83-1	Isobutyl alcohol	0.30	1.52	0.30	0.92	4.60	0.92	U
156-59-2	cis-1,2-Dichloroethene	0.21	0.52	0.21	0.82	2.04	0.82	U
594-20-7	2,2-Dichloropropane	0.16	0.41	0.16	0.76	1.89	0.76	U
67-66-3	Chloroform	0.20	0.51	0.20	1.00	2.49	1.00	U
71-55-6	1,1,1-Trichloroethane	0.20	0.51	0.20	1.11	2.78	1.11	U
107-06-2	1,2-Dichloroethane	0.21	0.52	0.21	0.83	2.09	0.83	U
563-58-6	1,1-Dichloropropene	0.12	0.30	0.12	0.55	1.38	0.55	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.14	0.35	0.14	0.49	1.21	0.49	U
71-43-2	Benzene	0.21	0.52	0.21	0.66	1.65	0.66	U
56-23-5	Carbon tetrachloride	0.20	0.51	0.20	1.28	3.21	1.28	U
540-84-1	2,2,4-Trimethylpentane	0.10	0.25	0.10	0.47	1.17	0.47	U
142-82-5	n-Heptane	0.11	0.28	0.11	0.46	1.15	0.46	U
78-87-5	1,2-Dichloropropane	0.21	0.52	0.21	0.95	2.38	0.95	U
123-91-1	1,4 Dioxane	0.38	0.94	0.38	1.35	3.39	1.35	U
74-95-3	Dibromomethane	0.07	0.17	0.07	0.49	1.22	0.49	U
79-01-6	Trichloroethene	0.21	0.52	0.21	1.11	2.77	1.11	U
75-27-4	Bromodichloromethane	0.07	0.19	0.07	0.50	1.25	0.50	U
80-62-6	Methyl methacrylate	0.12	0.31	0.12	0.51	1.28	0.51	U
108-10-1	4-Methyl-2-pentanone	0.14	0.35	0.14	0.57	1.43	0.57	U
10061-01-5	cis-1,3-Dichloropropene	0.21	0.53	0.21	0.96	2.40	0.96	U
108-88-3	Toluene	0.21	0.52	0.21	0.78	1.94	0.78	U
10061-02-6	trans-1,3-Dichloropropene	0.21	0.52	0.21	0.94	2.36	0.94	U
79-00-5	1,1,2-Trichloroethane	0.20	0.51	0.20	1.11	2.78	1.11	U
97-63-2	Ethyl methacrylate	0.11	0.27	0.11	0.51	1.28	0.51	U
591-78-6	2-Hexanone	0.13	0.33	0.13	0.53	1.34	0.53	U
142-28-9	1,3-Dichloropropane	0.12	0.30	0.12	0.56	1.40	0.56	U
111-65-9	Octane	0.10	0.25	0.10	0.47	1.18	0.47	U
124-48-1	Dibromochloromethane	0.07	0.18	0.07	0.63	1.57	0.63	U
106-93-4	1,2-Dibromoethane	0.21	0.52	0.21	1.60	3.99	1.60	U
127-18-4	Tetrachloroethene	0.20	0.51	0.20	1.38	3.46	1.38	U
108-90-7	Chlorobenzene	0.20	0.51	0.20	0.94	2.35	0.94	U
630-20-6	1,1,1,2-Tetrachloroethane	0.08	0.19	0.08	0.52	1.30	0.52	U
100-41-4	Ethylbenzene	0.21	0.52	0.21	0.90	2.26	0.90	U
1330-20-7	m,p-Xylenes	0.41	1.03	0.41	1.79	4.47	1.79	U
111-84-2	Nonane	0.09	0.22	0.09	0.46	1.15	0.46	U
100-42-5	Styrene	0.21	0.52	0.21	0.88	2.20	0.88	U
75-25-2	Bromoform	0.05	0.12	0.05	0.51	1.28	0.51	U
95-47-6	o-Xylene	0.20	0.51	0.20	0.89	2.21	0.89	U
79-34-5	1,1,2,2-Tetrachloroethane	0.20	0.51	0.20	1.40	3.50	1.40	U
96-18-4	1,2,3-Trichloropropane	0.09	0.23	0.09	0.55	1.36	0.55	U
110-57-6	t-1,4-Dichloro-2-butene	0.12	0.31	0.12	0.63	1.58	0.63	U
95-49-8	2-Chlorotoluene	0.10	0.25	0.10	0.51	1.27	0.51	U
106-43-4	4-Chlorotoluene	0.10	0.24	0.10	0.50	1.24	0.50	U
103-65-1	n-Propylbenzene	0.14	0.35	0.14	0.68	1.70	0.68	U
98-82-8	Isopropylbenzene	0.14	0.35	0.14	0.69	1.72	0.69	U
622-96-8	4-Ethyltoluene	0.11	0.28	0.11	0.56	1.40	0.56	U
108-67-8	1,3,5-Trimethylbenzene	0.21	0.53	0.21	1.04	2.60	1.04	U
124-18-5	Decane	0.09	0.23	0.09	0.54	1.36	0.54	U
98-06-6	tert-butyl benzene	0.12	0.31	0.12	0.67	1.68	0.67	U
95-63-6	1,2,4-Trimethylbenzene	0.20	0.51	0.20	1.00	2.51	1.00	U
538-93-2	i-Butylbenzene	0.12	0.31	0.12	0.67	1.68	0.67	U
135-98-8	sec-butylbenzene	0.13	0.33	0.13	0.71	1.79	0.71	U
541-73-1	1,3-Dichlorobenzene	0.20	0.51	0.20	1.23	3.06	1.23	U
99-87-6	Isopropyltoluene	0.13	0.32	0.13	0.70	1.76	0.70	U
100-44-7	Benzyl chloride	0.12	0.29	0.12	0.61	1.52	0.61	U
106-46-7	1,4-Dichlorobenzene	0.20	0.51	0.20	1.23	3.06	1.23	U
104-51-8	n-Butylbenzene	0.12	0.30	0.12	0.66	1.65	0.66	U
95-50-1	1,2-Dichlorobenzene	0.20	0.50	0.20	1.20	3.00	1.20	U
96-12-8	1,2-Dibromo-3-chloropropane	0.27	1.34	0.27	2.59	12.94	2.59	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.10	0.48	0.10	1.27	6.35	1.27	U
120-82-1	1,2,4-Trichlorobenzene	0.82	2.06	0.82	6.11	15.28	6.11	U
91-20-3	Naphthalene	0.18	0.44	0.18	0.92	2.31	0.92	U
87-68-3	Hexachlorobutadiene	0.41	2.06	0.41	4.39	21.96	4.39	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.76	98	70	130	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: LABQC**
Analytical Method: TIC **Laboratory Number: B05061**

File:	B05061A.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	05/06/11	**Time:**	9:29
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.00		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG:** **LABQC**
Analytical Method: **TIC** **Laboratory Number:** **B05091**

File:	B05091A.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	05/09/11	**Time:**	10:18
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.00		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE
EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: LABQC
Laboratory ID: QC05061A

File: QC05061A.D
Description ST60025
Sam_Type: LCS
QC_Batch: 050611-MSC
Air Volume 1000 ml

Date Analyzed: 05/06/11
Time: 10:06

CAS#	Compound	Spike PPBV	LCS PPBV	LCD PPBV	Rec %	LCL %	UCL %	Rec Flag	D %	Limit %	Flag %
75-01-4	Vinyl chloride	5.10	4.92	4.83	97	70	130		2	25	
75-35-4	1,1-Dichloroethene	5.15	4.14	3.82	80	70	130		8	25	
75-09-2	Dichloromethane	5.20	4.91	4.67	94	70	130		5	25	
75-34-3	1,1-Dichloroethane	5.15	4.50	4.32	87	70	130		4	25	
67-66-3	Chloroform	5.15	4.87	4.87	95	70	130		0	25	
71-55-6	1,1,1-Trichloroethane	5.15	4.82	4.90	94	70	130		2	25	
107-06-2	1,2-Dichloroethane	5.15	4.73	4.98	92	70	130		5	25	
71-43-2	Benzene	5.15	4.88	4.92	95	70	130		1	25	
56-23-5	Carbon tetrachloride	5.15	4.82	5.12	94	70	130		6	25	
79-01-6	Trichloroethene	5.15	4.27	4.42	83	70	130		4	25	
108-88-3	Toluene	5.15	4.57	4.75	89	70	130		4	25	
127-18-4	Tetrachloroethene	5.15	4.91	5.02	95	70	130		2	25	
100-41-4	Ethylbenzene	5.15	5.52	5.61	107	70	130		2	25	
1330-20-7	m,p-Xylenes	10.30	11.13	11.40	108	70	130		2	25	
95-47-6	o-Xylene	5.15	5.56	5.58	108	70	130		0	25	
108-67-8	1,3,5-Trimethylbenzene	5.20	5.90	5.99	114	70	130		1	25	

	Surrogate Recovery	Spike ppbV	Measured ppbV	Limit LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	10.11	70	130	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE
EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: LABQC
Laboratory ID: QC05091A

File: QC05091A.D
Description ST60025
Sam_Type: LCS
QC_Batch: 050911-MSC
Air Volume 1000 ml

Date Analyzed: 05/09/11
Time: 10:33

CAS#	Compound	Spike PPBV	LCS PPBV	LCD PPBV	Rec %	LCL %	UCL %	Rec Flag	D %	Limit %	Flag %
75-01-4	Vinyl chloride	5.10	4.23	4.33	83	70	130		2	25	
75-35-4	1,1-Dichloroethene	5.15	4.03	3.84	78	70	130		5	25	
75-09-2	Dichloromethane	5.20	4.74	4.54	91	70	130		4	25	
75-34-3	1,1-Dichloroethane	5.15	4.37	4.66	85	70	130		7	25	
67-66-3	Chloroform	5.15	4.70	4.75	91	70	130		1	25	
71-55-6	1,1,1-Trichloroethane	5.15	4.64	4.72	90	70	130		2	25	
107-06-2	1,2-Dichloroethane	5.15	4.55	4.73	88	70	130		4	25	
71-43-2	Benzene	5.15	4.63	4.64	90	70	130		0	25	
56-23-5	Carbon tetrachloride	5.15	4.60	4.76	89	70	130		4	25	
79-01-6	Trichloroethene	5.15	4.15	4.33	81	70	130		4	25	
108-88-3	Toluene	5.15	4.32	4.52	84	70	130		5	25	
127-18-4	Tetrachloroethene	5.15	4.42	4.73	86	70	130		7	25	
100-41-4	Ethylbenzene	5.15	4.28	4.49	83	70	130		5	25	
1330-20-7	m,p-Xylenes	10.30	8.54	8.88	83	70	130		4	25	
95-47-6	o-Xylene	5.15	4.29	4.53	83	70	130		6	25	
108-67-8	1,3,5-Trimethylbenzene	5.20	4.53	4.90	87	70	130		8	25	

	Surrogate Recovery	Spike ppbV	Measured ppbV	Limit LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.48	70	130	

V. ANALYTICAL RESULTS

SDG Number: 211185
Client: C.E. Schmidt

The following pages contain the certified reports for the analytical methods and the compounds requested. The reports are in order of analytical method then EAS ID number. A brief description of the units that appear on the reports is given below:

ppbV, ppmV, Percent

Parts per billion by volume (also known as mole ratio) and other related units. This is the primary reporting unit for all volatile organic compound analysis except the hydrocarbon speciation and total hydrocarbons. This unit is independent of temperature and pressure.

$$\text{ppbV} = \frac{\text{nanomoles of compound}}{\text{moles of air}}$$

ug/m3, mg/m3

Micrograms of compound per cubic meter of air and other related units. This is the primary reporting unit for semi volatile organic compounds. It is not a primary reporting unit for volatile organic compounds because it is temperature and pressure dependent, so the result will vary depending on the conditions when the sample was collected. EAS provides the units on its analytical reports as a convenience to the client, but they should be used with caution. The following equation can be used to convert from ppbV to ug/m3.

$$\text{ug/m3} = \frac{\text{ppbV x MW compound}}{23.68}$$

23.68 is the molar volume of a gas at 60 F and 1 atm pressure

ppbC, ppmC

Parts per billion by volume as carbon (methane) and other related units. This unit is the primary reporting unit for hydrocarbon analysis, even if it does not appear on the report. This unit is used because the flame ionization detector response is proportional to the number of carbons in the compound, so an accurate concentration can be reported even if the identification of the compound is not known.

$$\text{ppbC} = \text{ppbV x number of carbons in compound}$$

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 01

File: 1118501A.D
Description: SF-21B-01-C
Can/Tube#: 737
QC_Batch: 050611-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 8:36
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/06/11 **Time:** 13:05
Can Dilution Factor: 1.18 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.22	3.07	1.22	0.047	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.24	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.71	4.29	1.71	0.066	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.57	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.40	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.95	2.38	0.95	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.62	0.65	0.025	U
64-17-5	Ethanol	0.81	0.81	1.53	3.82	1.53	0.059	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.38	3.45	1.38	0.053	U
67-64-1	Acetone	0.53	1.83	1.27	1.59	4.34	0.167	
67-63-0	2-propanol	0.62	0.62	1.52	7.60	1.52	0.059	U
75-65-0	t-Butanol	0.18	0.18	0.54	1.34	0.54	0.021	U
4227-95-6	Methyl iodide	0.07	0.07	0.41	1.03	0.41	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.89	4.73	1.89	0.073	U
107-13-1	Acrylonitrile	0.27	0.27	0.59	1.49	0.59	0.023	U
76-13-1	Freon 113	0.24	0.24	1.84	4.61	1.84	0.071	U
107-05-1	Allyl chloride	0.21	0.21	0.65	1.66	0.65	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.85	2.13	0.85	0.033	U
75-15-0	Carbon disulfide	0.20	0.20	0.63	1.57	0.63	0.024	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.62	1.55	0.62	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.44	0.58	0.022	U
107-12-0	Propionitrile	0.22	0.22	0.51	1.27	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.96	2.42	0.96	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.67	1.68	0.67	0.026	U
78-93-3	2-Butanone	0.22	0.22	0.65	1.63	0.65	0.025	U
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.55	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.41	0.57	0.022	U
126-98-7	Methacrylonitrile	0.22	0.22	0.61	1.54	0.61	0.023	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.72	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.61	1.54	0.61	0.023	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.80	2.00	0.80	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.09	5.43	1.09	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.24	0.24	0.96	2.41	0.96	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.89	2.23	0.89	0.034	U
67-66-3	Chloroform	0.24	0.24	1.17	2.94	1.17	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
107-06-2	1,2-Dichloroethane	0.24	0.24	0.98	2.46	0.98	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.63	0.65	0.025	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.57	1.43	0.57	0.022	U
71-43-2	Benzene	0.24	0.24	0.78	1.94	0.78	0.030	U
56-23-5	Carbon tetrachloride	0.24	0.24	1.51	3.78	1.51	0.058	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.55	1.38	0.55	0.021	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.35	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.24	0.24	1.12	2.81	1.12	0.043	U
123-91-1	1,4 Dioxane	0.44	0.44	1.60	3.99	1.60	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.58	1.44	0.58	0.022	U
79-01-6	Trichloroethene	0.24	0.24	1.31	3.27	1.31	0.050	U
75-27-4	Bromodichloromethane	0.09	0.09	0.58	1.47	0.58	0.022	U
80-62-6	Methyl methacrylate	0.15	0.15	0.60	1.51	0.60	0.023	U
108-10-1	4-Methyl-2-pentanone	0.16	0.16	0.67	1.68	0.67	0.026	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.84	1.14	0.044	U
108-88-3	Toluene	0.24	0.26	0.92	2.29	0.98	0.038	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.11	2.78	1.11	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.60	1.51	0.60	0.023	U
591-78-6	2-Hexanone	0.15	0.15	0.63	1.58	0.63	0.024	U
142-28-9	1,3-Dichloropropane	0.14	0.14	0.66	1.65	0.66	0.025	U
111-65-9	Octane	0.12	0.12	0.55	1.39	0.55	0.021	U
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.85	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.89	4.71	1.89	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.63	4.08	1.63	0.063	U
108-90-7	Chlorobenzene	0.24	0.24	1.11	2.77	1.11	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.54	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.66	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.11	5.28	2.11	0.081	U
111-84-2	Nonane	0.10	0.10	0.54	1.36	0.54	0.021	U
100-42-5	Styrene	0.24	0.24	1.04	2.59	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.60	1.51	0.60	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.61	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.65	4.13	1.65	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.64	1.61	0.64	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.87	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.50	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.47	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.80	2.01	0.80	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.81	2.03	0.81	0.031	U
622-96-8	4-Ethyltoluene	0.13	0.13	0.66	1.65	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.23	3.07	1.23	0.047	U
124-18-5	Decane	0.11	0.11	0.64	1.61	0.64	0.025	U
98-06-6	tert-butyl benzene	0.14	0.14	0.79	1.98	0.79	0.030	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.18	2.96	1.18	0.045	U
538-93-2	i-Butylbenzene	0.14	0.14	0.79	1.98	0.79	0.030	U
135-98-8	sec-butylbenzene	0.15	0.15	0.84	2.11	0.84	0.032	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.83	2.07	0.83	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.80	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.94	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.42	3.55	1.42	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.05	15.27	3.05	0.117	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.11	0.11	1.50	7.49	1.50	0.058	U
120-82-1	1,2,4-Trichlorobenzene	0.97	0.97	7.21	18.03	7.21	0.278	U
91-20-3	Naphthalene	0.21	0.21	1.09	2.72	1.09	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.18	25.92	5.18	0.199	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	10.36	104	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211185
Laboratory Number: 01

File:	1118501A.D	**Date Sampled:**	05/02/11	**Time:**	8:36
Description:	SF-21B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	737	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	13:05
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.2	
13.6	2-Pentanone	ND	
18.4	Hexanal	ND	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	ND	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	0.2	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 01**

File:	1118501A.D	**Date Sampled:**	05/02/11	**Time:**	8:36
Description:	SF-21B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	737	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	11:59
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	0.5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 02

File: 1118502A.D
Description: SF-21B-02-C
Can/Tube#: 697
QC_Batch: 050611-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 8:36
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/06/11 **Time:** 13:48
Can Dilution Factor: 1.18 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.22	3.07	1.22	0.047	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.24	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.71	4.29	1.71	0.066	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.57	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.40	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.95	2.38	0.95	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.62	0.65	0.025	U
64-17-5	Ethanol	0.81	0.81	1.53	3.82	1.53	0.059	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.38	3.45	1.38	0.053	U
67-64-1	Acetone	0.53	1.34	1.27	1.59	3.17	0.122	
67-63-0	2-propanol	0.62	0.62	1.52	7.60	1.52	0.059	U
75-65-0	t-Butanol	0.18	0.18	0.54	1.34	0.54	0.021	U
4227-95-6	Methyl iodide	0.07	0.07	0.41	1.03	0.41	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.89	4.73	1.89	0.073	U
107-13-1	Acrylonitrile	0.27	0.27	0.59	1.49	0.59	0.023	U
76-13-1	Freon 113	0.24	0.24	1.84	4.61	1.84	0.071	U
107-05-1	Allyl chloride	0.21	0.21	0.65	1.66	0.65	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.85	2.13	0.85	0.033	U
75-15-0	Carbon disulfide	0.20	0.20	0.63	1.57	0.63	0.024	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.62	1.55	0.62	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.44	0.58	0.022	U
107-12-0	Propionitrile	0.22	0.22	0.51	1.27	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.96	2.42	0.96	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.67	1.68	0.67	0.026	U
78-93-3	2-Butanone	0.22	0.22	0.65	1.63	0.65	0.025	U
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.55	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.41	0.57	0.022	U
126-98-7	Methacrylonitrile	0.22	0.22	0.61	1.54	0.61	0.023	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.72	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.61	1.54	0.61	0.023	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.80	2.00	0.80	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.09	5.43	1.09	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.24	0.24	0.96	2.41	0.96	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.89	2.23	0.89	0.034	U
67-66-3	Chloroform	0.24	0.24	1.17	2.94	1.17	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
107-06-2	1,2-Dichloroethane	0.24	0.24	0.98	2.46	0.98	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.63	0.65	0.025	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.57	1.43	0.57	0.022	U
71-43-2	Benzene	0.24	0.24	0.78	1.94	0.78	0.030	U
56-23-5	Carbon tetrachloride	0.24	0.24	1.51	3.78	1.51	0.058	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.55	1.38	0.55	0.021	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.35	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.24	0.24	1.12	2.81	1.12	0.043	U
123-91-1	1,4 Dioxane	0.44	0.44	1.60	3.99	1.60	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.58	1.44	0.58	0.022	U
79-01-6	Trichloroethene	0.24	0.24	1.31	3.27	1.31	0.050	U
75-27-4	Bromodichloromethane	0.09	0.09	0.58	1.47	0.58	0.022	U
80-62-6	Methyl methacrylate	0.15	0.15	0.60	1.51	0.60	0.023	U
108-10-1	4-Methyl-2-pentanone	0.16	0.16	0.67	1.68	0.67	0.026	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.84	1.14	0.044	U
108-88-3	Toluene	0.24	0.24	0.92	2.29	0.92	0.035	U
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.11	2.78	1.11	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.60	1.51	0.60	0.023	U
591-78-6	2-Hexanone	0.15	0.15	0.63	1.58	0.63	0.024	U
142-28-9	1,3-Dichloropropane	0.14	0.14	0.66	1.65	0.66	0.025	U
111-65-9	Octane	0.12	0.12	0.55	1.39	0.55	0.021	U
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.85	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.89	4.71	1.89	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.63	4.08	1.63	0.063	U
108-90-7	Chlorobenzene	0.24	0.24	1.11	2.77	1.11	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.54	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.66	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.11	5.28	2.11	0.081	U
111-84-2	Nonane	0.10	0.10	0.54	1.36	0.54	0.021	U
100-42-5	Styrene	0.24	0.24	1.04	2.59	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.60	1.51	0.60	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.61	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.65	4.13	1.65	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.64	1.61	0.64	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.87	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.50	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.47	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.80	2.01	0.80	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.81	2.03	0.81	0.031	U
622-96-8	4-Ethyltoluene	0.13	0.13	0.66	1.65	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.23	3.07	1.23	0.047	U
124-18-5	Decane	0.11	0.11	0.64	1.61	0.64	0.025	U
98-06-6	tert-butyl benzene	0.14	0.14	0.79	1.98	0.79	0.030	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.18	2.96	1.18	0.045	U
538-93-2	i-Butylbenzene	0.14	0.14	0.79	1.98	0.79	0.030	U
135-98-8	sec-butylbenzene	0.15	0.15	0.84	2.11	0.84	0.032	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.83	2.07	0.83	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.80	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.94	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.42	3.55	1.42	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.05	15.27	3.05	0.117	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.11	0.11	1.50	7.49	1.50	0.058	U
120-82-1	1,2,4-Trichlorobenzene	0.97	0.97	7.21	18.03	7.21	0.278	U
91-20-3	Naphthalene	0.21	0.21	1.09	2.72	1.09	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.18	25.92	5.18	0.199	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.41	94	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211185
Laboratory Number: 02

File:	1118502A.D	**Date Sampled:**	05/02/11	**Time:**	8:36
Description:	SF-21B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	697	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	13:48
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.2	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.2	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	0.2	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	ND	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	0.2	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC)
Analytical Method: TIC

SDG: 211185
Laboratory Number: 02

File:	1118502A.D	**Date Sampled:**	05/02/11	**Time:**	8:36
Description:	SF-21B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	697	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	12:57
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	0.5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 03

File: 1118503A.D
Description: SF-19B-01-C
Can/Tube#: 547
QC_Batch: 050611-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 10:15
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/06/11 **Time:** 14:33
Can Dilution Factor: 1.19 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.24	3.09	1.24	0.048	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.25	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.73	4.32	1.73	0.067	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.58	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.41	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.96	2.40	0.96	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.63	0.65	0.025	U
64-17-5	Ethanol	0.82	0.82	1.54	3.86	1.54	0.059	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.39	3.48	1.39	0.054	U
67-64-1	Acetone	0.54	7.91	1.28	1.60	18.79	0.723	
67-63-0	2-propanol	0.62	0.62	1.53	7.66	1.53	0.059	U
75-65-0	t-Butanol	0.18	0.18	0.54	1.36	0.54	0.021	U
4227-95-6	Methyl iodide	0.07	0.07	0.42	1.04	0.42	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.90	4.77	1.90	0.073	U
107-13-1	Acrylonitrile	0.28	0.28	0.60	1.50	0.60	0.023	U
76-13-1	Freon 113	0.24	0.24	1.86	4.65	1.86	0.072	U
107-05-1	Allyl chloride	0.21	0.21	0.66	1.67	0.66	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.86	2.15	0.86	0.033	U
75-15-0	Carbon disulfide	0.20	0.20	0.63	1.58	0.63	0.024	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.63	1.56	0.63	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.46	0.58	0.022	U
107-12-0	Propionitrile	0.23	0.23	0.51	1.28	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.97	2.44	0.97	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.68	1.69	0.68	0.026	U
78-93-3	2-Butanone	0.22	3.57	0.66	1.64	10.52	0.405	
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.56	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.43	0.57	0.022	U
126-98-7	Methacrylonitrile	0.23	0.23	0.62	1.55	0.62	0.024	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.73	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.62	1.55	0.62	0.024	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.81	2.02	0.81	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.10	5.48	1.10	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.25	0.97	2.43	0.97	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.90	2.25	0.90	0.035	U
67-66-3	Chloroform	0.24	0.24	1.18	2.96	1.18	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
107-06-2	1,2-Dichloroethane	0.25	0.25	0.99	2.49	0.99	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.64	0.65	0.025	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.58	1.44	0.58	0.022	U
71-43-2	Benzene	0.25	11.77	0.78	1.96	37.58	1.447	
56-23-5	Carbon tetrachloride	0.24	0.24	1.53	3.82	1.53	0.059	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.56	1.39	0.56	0.022	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.36	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.25	0.25	1.13	2.84	1.13	0.044	U
123-91-1	1,4 Dioxane	0.45	0.45	1.61	4.03	1.61	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.59	1.45	0.59	0.023	U
79-01-6	Trichloroethene	0.25	0.25	1.32	3.30	1.32	0.051	U
75-27-4	Bromodichloromethane	0.09	0.09	0.59	1.48	0.59	0.023	U
80-62-6	Methyl methacrylate	0.15	0.15	0.61	1.52	0.61	0.023	U
108-10-1	4-Methyl-2-pentanone	0.17	0.17	0.68	1.70	0.68	0.026	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.86	1.14	0.044	U
108-88-3	Toluene	0.25	0.25	0.92	2.31	0.92	0.035	U
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.12	2.81	1.12	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.61	1.52	0.61	0.023	U
591-78-6	2-Hexanone	0.16	0.16	0.64	1.59	0.64	0.025	U
142-28-9	1,3-Dichloropropane	0.14	0.14	0.67	1.66	0.67	0.026	U
111-65-9	Octane	0.12	0.12	0.56	1.40	0.56	0.022	U
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.86	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.90	4.75	1.90	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.65	4.11	1.65	0.064	U
108-90-7	Chlorobenzene	0.24	0.24	1.12	2.79	1.12	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.55	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.69	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.13	5.32	2.13	0.082	U
111-84-2	Nonane	0.10	0.10	0.55	1.37	0.55	0.021	U
100-42-5	Styrene	0.25	0.25	1.04	2.62	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.61	1.52	0.61	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.63	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.67	4.16	1.67	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.65	1.62	0.65	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.89	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.52	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.48	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.81	2.02	0.81	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.82	2.05	0.82	0.032	U
622-96-8	4-Ethyltoluene	0.14	0.14	0.66	1.66	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.24	3.10	1.24	0.048	U
124-18-5	Decane	0.11	0.11	0.65	1.62	0.65	0.025	U
98-06-6	tert-butyl benzene	0.15	0.15	0.80	2.00	0.80	0.031	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.19	2.98	1.19	0.046	U
538-93-2	i-Butylbenzene	0.15	0.15	0.80	2.00	0.80	0.031	U
135-98-8	sec-butylbenzene	0.15	0.15	0.85	2.13	0.85	0.033	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.84	2.09	0.84	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.81	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.96	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.43	3.58	1.43	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.08	15.40	3.08	0.119	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.11	0.11	1.51	7.55	1.51	0.058	U
120-82-1	1,2,4-Trichlorobenzene	0.98	0.98	7.27	18.18	7.27	0.280	U
91-20-3	Naphthalene	0.21	0.21	1.10	2.74	1.10	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.23	26.14	5.23	0.201	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	8.69	87	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211185
Analytical Method: TIC | **Laboratory Number:** 03

File:	1118503A.D	**Date Sampled:**	05/02/11	**Time:**	10:15
Description:	SF-19B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	547	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	14:33
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	0.2	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	10	
13.6	2-Pentanone	0.5	
18.4	Hexanal	ND	
18.8	Butyl acetate	1	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.2	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 03**

File:	1118503A.D	**Date Sampled:**	05/02/11	**Time:**	10:15
Description:	SF-19B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	547	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	13:39
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	> 5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 05

File: 1118505A.D
Description: SF-22B-01-C
Can/Tube#: 740
QC_Batch: 050611-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 Time: 11:26
Date Received: 05/03/11 Time: 10:45
Date Analyzed: 05/06/11 Time: 15:20
Can Dilution Factor: 1.19 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.24	3.09	1.24	0.048	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.25	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.73	4.32	1.73	0.067	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.58	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.41	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.96	2.40	0.96	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.63	0.65	0.025	U
64-17-5	Ethanol	0.82	0.82	1.54	3.86	1.54	0.059	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.39	3.48	1.39	0.054	U
67-64-1	Acetone	0.54	6.63	1.28	1.60	15.76	0.607	
67-63-0	2-propanol	0.62	0.62	1.53	7.66	1.53	0.059	U
75-65-0	t-Butanol	0.18	0.18	0.54	1.36	0.54	0.021	U
4227-95-6	Methyl iodide	0.07	0.07	0.42	1.04	0.42	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.90	4.77	1.90	0.073	U
107-13-1	Acrylonitrile	0.28	0.28	0.60	1.50	0.60	0.023	U
76-13-1	Freon 113	0.24	0.24	1.86	4.65	1.86	0.072	U
107-05-1	Allyl chloride	0.21	0.21	0.66	1.67	0.66	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.86	2.15	0.86	0.033	U
75-15-0	Carbon disulfide	0.20	0.61	0.63	1.58	1.88	0.072	
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.63	1.56	0.63	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.46	0.58	0.022	U
107-12-0	Propionitrile	0.23	0.23	0.51	1.28	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.97	2.44	0.97	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.68	1.69	0.68	0.026	U
78-93-3	2-Butanone	0.22	1.07	0.66	1.64	3.15	0.121	
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.56	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.43	0.57	0.022	U
126-98-7	Methacrylonitrile	0.23	0.23	0.62	1.55	0.62	0.024	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.73	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.62	1.55	0.62	0.024	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.81	2.02	0.81	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.10	5.48	1.10	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.25	0.97	2.43	0.97	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.90	2.25	0.90	0.035	U
67-66-3	Chloroform	0.24	0.24	1.18	2.96	1.18	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
107-06-2	1,2-Dichloroethane	0.25	0.25	0.99	2.49	0.99	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.64	0.65	0.025	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.58	1.44	0.58	0.022	U
71-43-2	Benzene	0.25	0.49	0.78	1.96	1.57	0.061	J
56-23-5	Carbon tetrachloride	0.24	0.24	1.53	3.82	1.53	0.059	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.56	1.39	0.56	0.022	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.36	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.25	0.25	1.13	2.84	1.13	0.044	U
123-91-1	1,4 Dioxane	0.45	0.45	1.61	4.03	1.61	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.59	1.45	0.59	0.023	U
79-01-6	Trichloroethene	0.25	0.25	1.32	3.30	1.32	0.051	U
75-27-4	Bromodichloromethane	0.09	0.09	0.59	1.48	0.59	0.023	U
80-62-6	Methyl methacrylate	0.15	0.15	0.61	1.52	0.61	0.023	U
108-10-1	4-Methyl-2-pentanone	0.17	0.17	0.68	1.70	0.68	0.026	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.86	1.14	0.044	U
108-88-3	Toluene	0.25	0.28	0.92	2.31	1.04	0.040	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.12	2.81	1.12	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.61	1.52	0.61	0.023	U
591-78-6	2-Hexanone	0.16	0.16	0.64	1.59	0.64	0.025	U
142-28-9	1,3-Dichloropropane	0.14	0.14	0.67	1.66	0.67	0.026	U
111-65-9	Octane	0.12	0.12	0.56	1.40	0.56	0.022	U
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.86	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.90	4.75	1.90	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.65	4.11	1.65	0.064	U
108-90-7	Chlorobenzene	0.24	0.24	1.12	2.79	1.12	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.55	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.69	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.13	5.32	2.13	0.082	U
111-84-2	Nonane	0.10	0.10	0.55	1.37	0.55	0.021	U
100-42-5	Styrene	0.25	0.25	1.04	2.62	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.61	1.52	0.61	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.63	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.67	4.16	1.67	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.65	1.62	0.65	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.89	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.52	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.48	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.81	2.02	0.81	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.82	2.05	0.82	0.032	U
622-96-8	4-Ethyltoluene	0.14	0.14	0.66	1.66	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.24	3.10	1.24	0.048	U
124-18-5	Decane	0.11	0.11	0.65	1.62	0.65	0.025	U
98-06-6	tert-butyl benzene	0.15	0.15	0.80	2.00	0.80	0.031	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.19	2.98	1.19	0.046	U
538-93-2	i-Butylbenzene	0.15	0.15	0.80	2.00	0.80	0.031	U
135-98-8	sec-butylbenzene	0.15	0.15	0.85	2.13	0.85	0.033	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.84	2.09	0.84	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.81	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.96	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.43	3.58	1.43	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.08	15.40	3.08	0.119	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.11	0.11	1.51	7.55	1.51	0.058	U
120-82-1	1,2,4-Trichlorobenzene	0.98	0.98	7.27	18.18	7.27	0.280	U
91-20-3	Naphthalene	0.21	0.21	1.10	2.74	1.10	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.23	26.14	5.23	0.201	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.25	92	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 05**

File:	1118505A.D	**Date Sampled:**	05/02/11	**Time:**	11:26
Description:	SF-22B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	740	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	15:20
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.2	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.2	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	0.5	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.5	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	0.2	
26.7	2-Ethylhexanol	2	
27.2	D-Limonene	ND	
29.2	Nonanal	0.5	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	0.2	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 05**

File:	1118505A.D	**Date Sampled:**	05/02/11	**Time:**	11:26
Description:	SF-22B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	740	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	13:31
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	0.5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 06

File: 1118506A.D
Description: SF-22B-02-C
Can/Tube#: 761
QC_Batch: 050611-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 11:26
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/06/11 **Time:** 16:02
Can Dilution Factor: 1.22 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.26	0.26	1.27	3.17	1.27	0.049	U
74-87-3	Chloromethane	0.25	0.25	0.51	1.28	0.51	0.020	U
76-14-2	Freon 114	0.25	0.25	1.77	4.43	1.77	0.068	U
75-01-4	Vinyl chloride	0.25	0.25	0.65	1.62	0.65	0.025	U
106-99-0	1,3-Butadiene	0.26	0.26	0.58	1.45	0.58	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.98	2.46	0.98	0.038	U
75-00-3	Chloroethane	0.25	0.25	0.67	1.67	0.67	0.026	U
64-17-5	Ethanol	0.84	0.84	1.58	3.95	1.58	0.061	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.43	3.56	1.43	0.055	U
67-64-1	Acetone	0.55	1.35	1.31	1.64	3.22	0.124	
67-63-0	2-propanol	0.64	0.64	1.57	7.85	1.57	0.060	U
75-65-0	t-Butanol	0.18	0.18	0.56	1.39	0.56	0.022	U
4227-95-6	Methyl iodide	0.07	0.07	0.43	1.07	0.43	0.017	U
75-35-4	1,1-Dichloroethene	0.49	0.49	1.95	4.89	1.95	0.075	U
107-13-1	Acrylonitrile	0.28	0.28	0.61	1.54	0.61	0.023	U
76-13-1	Freon 113	0.25	0.25	1.91	4.77	1.91	0.074	U
107-05-1	Allyl chloride	0.22	0.22	0.68	1.72	0.68	0.026	U
75-09-2	Dichloromethane	0.25	0.25	0.88	2.20	0.88	0.034	U
75-15-0	Carbon disulfide	0.21	0.21	0.65	1.62	0.65	0.025	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.64	1.60	0.64	0.025	U
1634-04-4	Methyl tert butyl ether	0.17	0.17	0.60	1.49	0.60	0.023	U
107-12-0	Propionitrile	0.23	0.23	0.52	1.31	0.52	0.020	U
75-34-3	1,1-Dichloroethane	0.25	0.25	1.00	2.50	1.00	0.039	U
108-05-4	Vinyl acetate	0.20	0.20	0.69	1.73	0.69	0.027	U
78-93-3	2-Butanone	0.23	0.23	0.67	1.68	0.67	0.026	U
108-20-3	Diisopropyl ether	0.15	0.15	0.64	1.60	0.64	0.025	U
110-54-3	Hexane	0.17	0.17	0.58	1.46	0.58	0.022	U
126-98-7	Methacrylonitrile	0.23	0.23	0.64	1.59	0.64	0.025	U
141-78-6	Ethyl acetate	0.20	0.20	0.71	1.78	0.71	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.63	1.59	0.63	0.024	U
109-99-9	Tetrahydrofuran	0.28	0.28	0.83	2.07	0.83	0.032	U
78-83-1	Isobutyl alcohol	0.37	0.37	1.12	5.62	1.12	0.043	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.25	1.00	2.49	1.00	0.039	U
594-20-7	2,2-Dichloropropane	0.20	0.20	0.92	2.31	0.92	0.035	U
67-66-3	Chloroform	0.25	0.25	1.21	3.04	1.21	0.047	U
71-55-6	1,1,1-Trichloroethane	0.25	0.25	1.36	3.39	1.36	0.052	U
107-06-2	1,2-Dichloroethane	0.25	0.25	1.02	2.55	1.02	0.039	U
563-58-6	1,1-Dichloropropene	0.15	0.15	0.67	1.68	0.67	0.026	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.59	1.48	0.59	0.023	U
71-43-2	Benzene	0.25	0.45	0.80	2.01	1.42	0.055	J
56-23-5	Carbon tetrachloride	0.25	0.25	1.56	3.91	1.56	0.060	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.57	1.42	0.57	0.022	U
142-82-5	n-Heptane	0.14	0.14	0.56	1.40	0.56	0.022	U
78-87-5	1,2-Dichloropropane	0.25	0.25	1.16	2.91	1.16	0.045	U
123-91-1	1,4 Dioxane	0.46	0.46	1.65	4.13	1.65	0.064	U
74-95-3	Dibromomethane	0.08	0.08	0.60	1.49	0.60	0.023	U
79-01-6	Trichloroethene	0.25	0.25	1.35	3.38	1.35	0.052	U
75-27-4	Bromodichloromethane	0.09	0.09	0.60	1.52	0.60	0.023	U
80-62-6	Methyl methacrylate	0.15	0.15	0.62	1.56	0.62	0.024	U
108-10-1	4-Methyl-2-pentanone	0.17	0.17	0.70	1.74	0.70	0.027	U
10061-01-5	cis-1,3-Dichloropropene	0.26	0.26	1.17	2.93	1.17	0.045	U
108-88-3	Toluene	0.25	0.25	0.95	2.37	0.95	0.037	U
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.15	2.88	1.15	0.044	U
79-00-5	1,1,2-Trichloroethane	0.25	0.25	1.36	3.39	1.36	0.052	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.63	1.56	0.63	0.024	U
591-78-6	2-Hexanone	0.16	0.22	0.65	1.63	0.91	0.035	J
142-28-9	1,3-Dichloropropane	0.15	0.15	0.68	1.70	0.68	0.026	U
111-65-9	Octane	0.12	0.12	0.57	1.44	0.57	0.022	U
124-48-1	Dibromochloromethane	0.09	0.09	0.76	1.91	0.76	0.029	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.95	4.87	1.95	0.075	U
127-18-4	Tetrachloroethene	0.25	0.25	1.69	4.22	1.69	0.065	U
108-90-7	Chlorobenzene	0.25	0.25	1.15	2.86	1.15	0.044	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.64	1.59	0.64	0.025	U
100-41-4	Ethylbenzene	0.25	0.25	1.10	2.75	1.10	0.042	U
1330-20-7	m,p-Xylenes	0.50	0.50	2.18	5.46	2.18	0.084	U
111-84-2	Nonane	0.11	0.11	0.56	1.41	0.56	0.022	U
100-42-5	Styrene	0.25	0.25	1.07	2.68	1.07	0.041	U
75-25-2	Bromoform	0.06	0.06	0.62	1.56	0.62	0.024	U
95-47-6	o-Xylene	0.25	0.25	1.08	2.70	1.08	0.042	U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	0.25	1.71	4.27	1.71	0.066	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.67	1.66	0.67	0.026	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.77	1.93	0.77	0.030	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.62	1.55	0.62	0.024	U
106-43-4	4-Chlorotoluene	0.12	0.12	0.61	1.52	0.61	0.023	U
103-65-1	n-Propylbenzene	0.17	0.17	0.83	2.07	0.83	0.032	U
98-82-8	Isopropylbenzene	0.17	0.17	0.84	2.10	0.84	0.032	U
622-96-8	4-Ethyltoluene	0.14	0.14	0.68	1.70	0.68	0.026	U
108-67-8	1,3,5-Trimethylbenzene	0.26	0.26	1.27	3.18	1.27	0.049	U
124-18-5	Decane	0.11	0.11	0.66	1.66	0.66	0.025	U
98-06-6	tert-butyl benzene	0.15	0.15	0.82	2.05	0.82	0.032	U
95-63-6	1,2,4-Trimethylbenzene	0.25	0.25	1.22	3.06	1.22	0.047	U
538-93-2	i-Butylbenzene	0.15	0.15	0.82	2.05	0.82	0.032	U
135-98-8	sec-butylbenzene	0.16	0.16	0.87	2.18	0.87	0.033	U
541-73-1	1,3-Dichlorobenzene	0.25	0.25	1.50	3.74	1.50	0.058	U
99-87-6	Isopropyltoluene	0.16	0.16	0.86	2.14	0.86	0.033	U
100-44-7	Benzyl chloride	0.14	0.14	0.74	1.86	0.74	0.028	U
106-46-7	1,4-Dichlorobenzene	0.25	0.25	1.50	3.74	1.50	0.058	U
104-51-8	n-Butylbenzene	0.15	0.15	0.80	2.01	0.80	0.031	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.47	3.67	1.47	0.057	U
96-12-8	1,2-Dibromo-3-chloropropane	0.33	0.33	3.16	15.79	3.16	0.122	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.12	0.12	1.55	7.74	1.55	0.060	U
120-82-1	1,2,4-Trichlorobenzene	1.01	1.01	7.45	18.64	7.45	0.287	U
91-20-3	Naphthalene	0.21	0.21	1.13	2.81	1.13	0.044	U
87-68-3	Hexachlorobutadiene	0.50	0.50	5.36	26.79	5.36	0.206	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	8.89	89	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211185
Laboratory Number: 06

File:	1118506A.D	**Date Sampled:**	05/02/11	**Time:**	11:26
Description:	SF-22B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	761	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	16:02
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.22		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.2	
13.6	2-Pentanone	ND	
18.4	Hexanal	ND	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.2	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	0.2	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 06**

File:	1118506A.D	**Date Sampled:**	05/02/11	**Time:**	11:26
Description:	SF-22B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	761	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	14:50
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.22		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	1	See Full Scan Report
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS | **SDG:** 211185
Analytical Method: TO15 | **Laboratory Number:** 07

File:	1118507A.D	**Date Sampled:**	05/02/11	**Time:**	12:29
Description:	SF-22B-03-C	**Date Received:**	05/03/11	**Time:**	10:45
Can/Tube#:	663	**Date Analyzed:**	05/06/11	**Time:**	16:48
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.18		2
Air Volume:	500 ml	**Flux Factor:**		0.0385	0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.22	3.07	1.22	0.047	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.24	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.71	4.29	1.71	0.066	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.57	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.40	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.95	2.38	0.95	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.62	0.65	0.025	U
64-17-5	Ethanol	0.81	1.49	1.53	3.82	2.82	0.108	J
75-69-4	Trichlorofluoromethane	0.25	0.25	1.38	3.45	1.38	0.053	U
67-64-1	Acetone	0.53	8.95	1.27	1.59	21.26	0.819	
67-63-0	2-propanol	0.62	0.62	1.52	7.60	1.52	0.059	U
75-65-0	t-Butanol	0.18	0.41	0.54	1.34	1.23	0.047	J
4227-95-6	Methyl iodide	0.07	0.07	0.41	1.03	0.41	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.89	4.73	1.89	0.073	U
107-13-1	Acrylonitrile	0.27	0.27	0.59	1.49	0.59	0.023	U
76-13-1	Freon 113	0.24	0.24	1.84	4.61	1.84	0.071	U
107-05-1	Allyl chloride	0.21	0.21	0.65	1.66	0.65	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.85	2.13	0.85	0.033	U
75-15-0	Carbon disulfide	0.20	0.20	0.63	1.57	0.63	0.024	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.62	1.55	0.62	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.44	0.58	0.022	U
107-12-0	Propionitrile	0.22	0.22	0.51	1.27	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.96	2.42	0.96	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.67	1.68	0.67	0.026	U
78-93-3	2-Butanone	0.22	3.26	0.65	1.63	9.59	0.369	
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.55	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.41	0.57	0.022	U
126-98-7	Methacrylonitrile	0.22	0.22	0.61	1.54	0.61	0.023	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.72	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.61	1.54	0.61	0.023	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.80	2.00	0.80	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.09	5.43	1.09	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.24	0.24	0.96	2.41	0.96	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.89	2.23	0.89	0.034	U
67-66-3	Chloroform	0.24	0.24	1.17	2.94	1.17	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
107-06-2	1,2-Dichloroethane	0.24	0.24	0.98	2.46	0.98	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.63	0.65	0.025	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
110-82-7	Cyclohexane	0.17	0.17	0.57	1.43	0.57	0.022	U
71-43-2	Benzene	0.24	17.28	0.78	1.94	55.18	2.124	
56-23-5	Carbon tetrachloride	0.24	0.24	1.51	3.78	1.51	0.058	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.55	1.38	0.55	0.021	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.35	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.24	0.24	1.12	2.81	1.12	0.043	U
123-91-1	1,4 Dioxane	0.44	0.44	1.60	3.99	1.60	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.58	1.44	0.58	0.022	U
79-01-6	Trichloroethene	0.24	0.24	1.31	3.27	1.31	0.050	U
75-27-4	Bromodichloromethane	0.09	0.09	0.58	1.47	0.58	0.022	U
80-62-6	Methyl methacrylate	0.15	0.15	0.60	1.51	0.60	0.023	U
108-10-1	4-Methyl-2-pentanone	0.16	0.22	0.67	1.68	0.89	0.034	J
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.84	1.14	0.044	U
108-88-3	Toluene	0.24	0.28	0.92	2.29	1.06	0.041	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.11	2.78	1.11	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.31	3.28	1.31	0.050	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.60	1.51	0.60	0.023	U
591-78-6	2-Hexanone	0.15	0.28	0.63	1.58	1.14	0.044	J
142-28-9	1,3-Dichloropropane	0.14	0.14	0.66	1.65	0.66	0.025	U
111-65-9	Octane	0.12	0.23	0.55	1.39	1.06	0.041	J
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.85	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.89	4.71	1.89	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.63	4.08	1.63	0.063	U
108-90-7	Chlorobenzene	0.24	0.24	1.11	2.77	1.11	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.54	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.66	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.11	5.28	2.11	0.081	U
111-84-2	Nonane	0.10	0.10	0.54	1.36	0.54	0.021	U
100-42-5	Styrene	0.24	0.24	1.04	2.59	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.60	1.51	0.60	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.61	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.65	4.13	1.65	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.64	1.61	0.64	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.87	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.50	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.47	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.80	2.01	0.80	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.81	2.03	0.81	0.031	U
622-96-8	4-Ethyltoluene	0.13	0.13	0.66	1.65	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.23	3.07	1.23	0.047	U
124-18-5	Decane	0.11	0.11	0.64	1.61	0.64	0.025	U
98-06-6	tert-butyl benzene	0.14	0.14	0.79	1.98	0.79	0.030	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.18	2.96	1.18	0.045	U
538-93-2	i-Butylbenzene	0.14	0.14	0.79	1.98	0.79	0.030	U
135-98-8	sec-butylbenzene	0.15	0.15	0.84	2.11	0.84	0.032	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.83	2.07	0.83	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.80	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.45	3.62	1.45	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.94	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.42	3.55	1.42	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.05	15.27	3.05	0.117	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
78-00-2	Tetraethyl lead	0.11	0.11	1.50	7.49	1.50	0.058	U
120-82-1	1,2,4-Trichlorobenzene	0.97	0.97	7.21	18.03	7.21	0.278	U
91-20-3	Naphthalene	0.21	0.21	1.09	2.72	1.09	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.18	25.92	5.18	0.199	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.23	92	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211185
Analytical Method: TIC | **Laboratory Number:** 07

File:	1118507A.D	**Date Sampled:**	05/02/11	**Time:**	12:29
Description:	SF-22B-03-C	**Date Received:**	05/03/11		
Can/Tube#:	663	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	16:48
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	57	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	0.5	
9.9	2-Butanol	0.5	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	30	
13.6	2-Pentanone	1	
18.4	Hexanal	0.2	
18.8	Butyl acetate	5	
19.0	Hexamethylcyclotrisiloxane	0.2	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	40	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	0.5	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	0.2	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 07**

File:	1118507A.D	**Date Sampled:**	05/02/11	**Time:**	12:29
Description:	SF-22B-03-C	**Date Received:**	05/03/11		
Can/Tube#:	663	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	15:24
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.18		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	> 5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	1	See Full Scan Report
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS | **SDG:** 211185
Analytical Method: TO15 | **Laboratory Number:** 08

File:	1118508A.D	**Date Sampled:**	05/02/11	**Time:**	12:49
Description:	SF-22B-03R-C	**Date Received:**	05/03/11	**Time:**	
Can/Tube#:	788	**Date Analyzed:**	05/09/11	**Time:**	14:17
QC_Batch:	050911-MSC	**Can Dilution Factor:**	1.19		2
Air Volume:	500 ml	**Flux Factor:**		0.0385	0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.25	1.24	3.09	1.24	0.048	U
74-87-3	Chloromethane	0.24	0.24	0.50	1.25	0.50	0.019	U
76-14-2	Freon 114	0.25	0.25	1.73	4.32	1.73	0.067	U
75-01-4	Vinyl chloride	0.25	0.25	0.63	1.58	0.63	0.024	U
106-99-0	1,3-Butadiene	0.25	0.25	0.56	1.41	0.56	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.96	2.40	0.96	0.037	U
75-00-3	Chloroethane	0.25	0.25	0.65	1.63	0.65	0.025	U
64-17-5	Ethanol	0.82	0.82	1.54	3.86	1.54	0.059	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.39	3.48	1.39	0.054	U
67-64-1	Acetone	0.54	5.31	1.28	1.60	12.62	0.486	
67-63-0	2-propanol	0.62	0.62	1.53	7.66	1.53	0.059	U
75-65-0	t-Butanol	0.18	0.18	0.54	1.36	0.54	0.021	U
4227-95-6	Methyl iodide	0.07	0.07	0.42	1.04	0.42	0.016	U
75-35-4	1,1-Dichloroethene	0.48	0.48	1.90	4.77	1.90	0.073	U
107-13-1	Acrylonitrile	0.28	0.28	0.60	1.50	0.60	0.023	U
76-13-1	Freon 113	0.24	0.24	1.86	4.65	1.86	0.072	U
107-05-1	Allyl chloride	0.21	0.21	0.66	1.67	0.66	0.025	U
75-09-2	Dichloromethane	0.25	0.25	0.86	2.15	0.86	0.033	U
75-15-0	Carbon disulfide	0.20	0.20	0.63	1.58	0.63	0.024	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.63	1.56	0.63	0.024	U
1634-04-4	Methyl tert butyl ether	0.16	0.16	0.58	1.46	0.58	0.022	U
107-12-0	Propionitrile	0.23	0.23	0.51	1.28	0.51	0.020	U
75-34-3	1,1-Dichloroethane	0.24	0.24	0.97	2.44	0.97	0.037	U
108-05-4	Vinyl acetate	0.19	0.19	0.68	1.69	0.68	0.026	U
78-93-3	2-Butanone	0.22	2.02	0.66	1.64	5.95	0.229	
108-20-3	Diisopropyl ether	0.15	0.15	0.62	1.56	0.62	0.024	U
110-54-3	Hexane	0.16	0.16	0.57	1.43	0.57	0.022	U
126-98-7	Methacrylonitrile	0.23	0.23	0.62	1.55	0.62	0.024	U
141-78-6	Ethyl acetate	0.19	0.19	0.69	1.73	0.69	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.62	1.55	0.62	0.024	U
109-99-9	Tetrahydrofuran	0.27	0.27	0.81	2.02	0.81	0.031	U
78-83-1	Isobutyl alcohol	0.36	0.36	1.10	5.48	1.10	0.042	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.25	0.97	2.43	0.97	0.037	U
594-20-7	2,2-Dichloropropane	0.19	0.19	0.90	2.25	0.90	0.035	U
67-66-3	Chloroform	0.24	0.24	1.18	2.96	1.18	0.045	U
71-55-6	1,1,1-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
107-06-2	1,2-Dichloroethane	0.25	0.25	0.99	2.49	0.99	0.038	U
563-58-6	1,1-Dichloropropene	0.14	0.14	0.65	1.64	0.65	0.025	U
110-82-7	Cyclohexane	0.17	0.17	0.58	1.44	0.58	0.022	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
71-43-2	Benzene	0.25	12.04	0.78	1.96	38.45	1.480	
56-23-5	Carbon tetrachloride	0.24	0.24	1.53	3.82	1.53	0.059	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.56	1.39	0.56	0.022	U
142-82-5	n-Heptane	0.13	0.13	0.54	1.36	0.54	0.021	U
78-87-5	1,2-Dichloropropane	0.25	0.25	1.13	2.84	1.13	0.044	U
123-91-1	1,4 Dioxane	0.45	0.45	1.61	4.03	1.61	0.062	U
74-95-3	Dibromomethane	0.08	0.08	0.59	1.45	0.59	0.023	U
79-01-6	Trichloroethene	0.25	0.25	1.32	3.30	1.32	0.051	U
75-27-4	Bromodichloromethane	0.09	0.09	0.59	1.48	0.59	0.023	U
80-62-6	Methyl methacrylate	0.15	0.15	0.61	1.52	0.61	0.023	U
108-10-1	4-Methyl-2-pentanone	0.17	0.17	0.68	1.70	0.68	0.026	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.25	1.14	2.86	1.14	0.044	U
108-88-3	Toluene	0.25	0.25	0.92	2.31	0.94	0.036	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.12	2.81	1.12	0.043	U
79-00-5	1,1,2-Trichloroethane	0.24	0.24	1.32	3.31	1.32	0.051	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.61	1.52	0.61	0.023	U
591-78-6	2-Hexanone	0.16	0.23	0.64	1.59	0.95	0.037	J
142-28-9	1,3-Dichloropropane	0.14	0.14	0.67	1.66	0.67	0.026	U
111-65-9	Octane	0.12	0.12	0.56	1.40	0.56	0.022	U
124-48-1	Dibromochloromethane	0.09	0.09	0.74	1.86	0.74	0.028	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.90	4.75	1.90	0.073	U
127-18-4	Tetrachloroethene	0.24	0.24	1.65	4.11	1.65	0.064	U
108-90-7	Chlorobenzene	0.24	0.24	1.12	2.79	1.12	0.043	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.62	1.55	0.62	0.024	U
100-41-4	Ethylbenzene	0.25	0.25	1.07	2.69	1.07	0.041	U
1330-20-7	m,p-Xylenes	0.49	0.49	2.13	5.32	2.13	0.082	U
111-84-2	Nonane	0.10	0.10	0.55	1.37	0.55	0.021	U
100-42-5	Styrene	0.25	0.25	1.04	2.62	1.04	0.040	U
75-25-2	Bromoform	0.06	0.06	0.61	1.52	0.61	0.023	U
95-47-6	o-Xylene	0.24	0.24	1.05	2.63	1.05	0.040	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.24	1.67	4.16	1.67	0.064	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.65	1.62	0.65	0.025	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.75	1.89	0.75	0.029	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.60	1.52	0.60	0.023	U
106-43-4	4-Chlorotoluene	0.11	0.11	0.59	1.48	0.59	0.023	U
103-65-1	n-Propylbenzene	0.16	0.16	0.81	2.02	0.81	0.031	U
98-82-8	Isopropylbenzene	0.17	0.17	0.82	2.05	0.82	0.032	U
622-96-8	4-Ethyltoluene	0.14	0.14	0.66	1.66	0.66	0.025	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.25	1.24	3.10	1.24	0.048	U
124-18-5	Decane	0.11	0.11	0.65	1.62	0.65	0.025	U
98-06-6	tert-butyl benzene	0.15	0.15	0.80	2.00	0.80	0.031	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.24	1.19	2.98	1.19	0.046	U
538-93-2	i-Butylbenzene	0.15	0.15	0.80	2.00	0.80	0.031	U
135-98-8	sec-butylbenzene	0.15	0.15	0.85	2.13	0.85	0.033	U
541-73-1	1,3-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
99-87-6	Isopropyltoluene	0.15	0.15	0.84	2.09	0.84	0.032	U
100-44-7	Benzyl chloride	0.14	0.14	0.72	1.81	0.72	0.028	U
106-46-7	1,4-Dichlorobenzene	0.24	0.24	1.46	3.65	1.46	0.056	U
104-51-8	n-Butylbenzene	0.14	0.14	0.78	1.96	0.78	0.030	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.43	3.58	1.43	0.055	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	0.32	3.08	15.40	3.08	0.119	U
78-00-2	Tetraethyl lead	0.11	0.11	1.51	7.55	1.51	0.058	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
120-82-1	1,2,4-Trichlorobenzene	0.98	0.98	7.27	18.18	7.27	0.280	U
91-20-3	Naphthalene	0.21	0.21	1.10	2.74	1.10	0.042	U
87-68-3	Hexachlorobutadiene	0.49	0.49	5.23	26.14	5.23	0.201	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	10.83	108	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211185
Analytical Method: TIC | **Laboratory Number:** 08

File:	1118508A.D	**Date Sampled:**	05/02/11	**Time:**	12:49
Description:	SF-22B-03R-C	**Date Received:**	05/03/11		
Can/Tube#:	788	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	14:17
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	42	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	0.5	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	30	
12.6	2-Propylfuran	40	
13.6	2-Pentanone	0.5	
18.4	Hexanal	0.2	
18.8	Butyl acetate	5	
19.0	Hexamethylcyclotrisiloxane	5	
22.4	5-Methylhexanal or Hexanal	0.2	
24.9	3,5-Diphenyl-1,2,4-trioxolane	45	
25.1	Siloxane Type Compound	1	
25.6	Sec-butyl butyrate	1	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	1	
31.1	Bis(1-methylethyl)benzene	0.2	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 08**

File:	1118508A.D	**Date Sampled:**	05/02/11	**Time:**	12:49
Description:	SF-22B-03R-C	**Date Received:**	05/03/11		
Can/Tube#:	788	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	15:57
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.19		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	> 5	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211185
Laboratory Number: 09

File: 1118509A.D
Description: SF-BLK-01-C
Can/Tube#: 765
QC_Batch: 050911-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 13:49
Date Received: 05/03/11 **Time:**
Date Analyzed: 05/09/11 **Time:** 15:02
Can Dilution Factor: 1.04 2
Flux Factor: 0.0385 0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.22	0.22	1.08	2.70	1.08	0.042	U
74-87-3	Chloromethane	0.21	0.21	0.44	1.09	0.44	0.017	U
76-14-2	Freon 114	0.22	0.22	1.51	3.78	1.51	0.058	U
75-01-4	Vinyl chloride	0.22	0.22	0.55	1.38	0.55	0.021	U
106-99-0	1,3-Butadiene	0.22	0.22	0.49	1.23	0.49	0.019	U
74-83-9	Bromomethane	0.22	0.22	0.84	2.10	0.84	0.032	U
75-00-3	Chloroethane	0.22	0.22	0.57	1.43	0.57	0.022	U
64-17-5	Ethanol	0.72	0.72	1.35	3.37	1.35	0.052	U
75-69-4	Trichlorofluoromethane	0.22	0.22	1.22	3.04	1.22	0.047	U
67-64-1	Acetone	0.47	0.56	1.12	1.40	1.32	0.051	J
67-63-0	2-propanol	0.54	0.54	1.34	6.69	1.34	0.052	U
75-65-0	t-Butanol	0.16	0.16	0.47	1.18	0.47	0.018	U
4227-95-6	Methyl iodide	0.06	0.06	0.36	0.91	0.36	0.014	U
75-35-4	1,1-Dichloroethene	0.42	0.42	1.66	4.17	1.66	0.064	U
107-13-1	Acrylonitrile	0.24	0.24	0.52	1.31	0.52	0.020	U
76-13-1	Freon 113	0.21	0.21	1.63	4.06	1.63	0.063	U
107-05-1	Allyl chloride	0.18	0.18	0.58	1.46	0.58	0.022	U
75-09-2	Dichloromethane	0.22	0.22	0.75	1.88	0.75	0.029	U
75-15-0	Carbon disulfide	0.18	0.18	0.55	1.38	0.55	0.021	U
156-60-5	trans-1,2-Dichloroethene	0.14	0.14	0.55	1.37	0.55	0.021	U
1634-04-4	Methyl tert butyl ether	0.14	0.14	0.51	1.27	0.51	0.020	U
107-12-0	Propionitrile	0.20	0.20	0.45	1.12	0.45	0.017	U
75-34-3	1,1-Dichloroethane	0.21	0.21	0.85	2.13	0.85	0.033	U
108-05-4	Vinyl acetate	0.17	0.17	0.59	1.48	0.59	0.023	U
78-93-3	2-Butanone	0.19	0.19	0.57	1.43	0.57	0.022	U
108-20-3	Diisopropyl ether	0.13	0.13	0.55	1.36	0.55	0.021	U
110-54-3	Hexane	0.14	0.14	0.50	1.25	0.50	0.019	U
126-98-7	Methacrylonitrile	0.20	0.20	0.54	1.36	0.54	0.021	U
141-78-6	Ethyl acetate	0.17	0.17	0.60	1.51	0.60	0.023	U
74-97-5	Bromochloromethane	0.10	0.10	0.54	1.35	0.54	0.021	U
109-99-9	Tetrahydrofuran	0.24	0.24	0.71	1.77	0.71	0.027	U
78-83-1	Isobutyl alcohol	0.32	0.32	0.96	4.79	0.96	0.037	U
156-59-2	cis-1,2-Dichloroethene	0.21	0.21	0.85	2.13	0.85	0.033	U
594-20-7	2,2-Dichloropropane	0.17	0.17	0.79	1.97	0.79	0.030	U
67-66-3	Chloroform	0.21	0.21	1.04	2.59	1.04	0.040	U
71-55-6	1,1,1-Trichloroethane	0.21	0.21	1.16	2.89	1.16	0.045	U
107-06-2	1,2-Dichloroethane	0.21	0.21	0.87	2.17	0.87	0.033	U
563-58-6	1,1-Dichloropropene	0.13	0.13	0.57	1.43	0.57	0.022	U
110-82-7	Cyclohexane	0.15	0.15	0.50	1.26	0.50	0.019	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
71-43-2	Benzene	0.21	0.21	0.68	1.71	0.68	0.026	U
56-23-5	Carbon tetrachloride	0.21	0.21	1.33	3.33	1.33	0.051	U
540-84-1	2,2,4-Trimethylpentane	0.10	0.10	0.49	1.21	0.49	0.019	U
142-82-5	n-Heptane	0.12	0.12	0.48	1.19	0.48	0.018	U
78-87-5	1,2-Dichloropropane	0.21	0.21	0.99	2.48	0.99	0.038	U
123-91-1	1,4 Dioxane	0.39	0.39	1.41	3.52	1.41	0.054	U
74-95-3	Dibromomethane	0.07	0.07	0.51	1.27	0.51	0.020	U
79-01-6	Trichloroethene	0.21	0.21	1.15	2.88	1.15	0.044	U
75-27-4	Bromodichloromethane	0.08	0.08	0.52	1.30	0.52	0.020	U
80-62-6	Methyl methacrylate	0.13	0.13	0.53	1.33	0.53	0.020	U
108-10-1	4-Methyl-2-pentanone	0.14	0.14	0.59	1.48	0.59	0.023	U
10061-01-5	cis-1,3-Dichloropropene	0.22	0.22	1.00	2.50	1.00	0.039	U
108-88-3	Toluene	0.21	0.21	0.81	2.02	0.81	0.031	U
10061-02-6	trans-1,3-Dichloropropene	0.22	0.22	0.98	2.45	0.98	0.038	U
79-00-5	1,1,2-Trichloroethane	0.21	0.21	1.16	2.89	1.16	0.045	U
97-63-2	Ethyl methacrylate	0.11	0.11	0.53	1.33	0.53	0.020	U
591-78-6	2-Hexanone	0.14	0.14	0.56	1.39	0.56	0.022	U
142-28-9	1,3-Dichloropropane	0.13	0.13	0.58	1.45	0.58	0.022	U
111-65-9	Octane	0.10	0.10	0.49	1.22	0.49	0.019	U
124-48-1	Dibromochloromethane	0.08	0.08	0.65	1.63	0.65	0.025	U
106-93-4	1,2-Dibromoethane	0.22	0.22	1.66	4.15	1.66	0.064	U
127-18-4	Tetrachloroethene	0.21	0.21	1.44	3.59	1.44	0.055	U
108-90-7	Chlorobenzene	0.21	0.21	0.98	2.44	0.98	0.038	U
630-20-6	1,1,1,2-Tetrachloroethane	0.08	0.08	0.54	1.36	0.54	0.021	U
100-41-4	Ethylbenzene	0.22	0.22	0.94	2.35	0.94	0.036	U
1330-20-7	m,p-Xylenes	0.43	0.43	1.86	4.65	1.86	0.072	U
111-84-2	Nonane	0.09	0.09	0.48	1.20	0.48	0.018	U
100-42-5	Styrene	0.21	0.21	0.91	2.29	0.91	0.035	U
75-25-2	Bromoform	0.05	0.05	0.53	1.33	0.53	0.020	U
95-47-6	o-Xylene	0.21	0.21	0.92	2.30	0.92	0.035	U
79-34-5	1,1,2,2-Tetrachloroethane	0.21	0.21	1.46	3.64	1.46	0.056	U
96-18-4	1,2,3-Trichloropropane	0.09	0.09	0.57	1.42	0.57	0.022	U
110-57-6	t-1,4-Dichloro-2-butene	0.13	0.13	0.66	1.65	0.66	0.025	U
95-49-8	2-Chlorotoluene	0.10	0.10	0.53	1.32	0.53	0.020	U
106-43-4	4-Chlorotoluene	0.10	0.10	0.52	1.29	0.52	0.020	U
103-65-1	n-Propylbenzene	0.14	0.14	0.71	1.77	0.71	0.027	U
98-82-8	Isopropylbenzene	0.15	0.15	0.72	1.79	0.72	0.028	U
622-96-8	4-Ethyltoluene	0.12	0.12	0.58	1.45	0.58	0.022	U
108-67-8	1,3,5-Trimethylbenzene	0.22	0.22	1.08	2.71	1.08	0.042	U
124-18-5	Decane	0.10	0.10	0.56	1.42	0.56	0.022	U
98-06-6	tert-butyl benzene	0.13	0.13	0.70	1.75	0.70	0.027	U
95-63-6	1,2,4-Trimethylbenzene	0.21	0.21	1.04	2.61	1.04	0.040	U
538-93-2	i-Butylbenzene	0.13	0.13	0.70	1.75	0.70	0.027	U
135-98-8	sec-butylbenzene	0.14	0.14	0.74	1.86	0.74	0.028	U
541-73-1	1,3-Dichlorobenzene	0.21	0.21	1.27	3.19	1.27	0.049	U
99-87-6	Isopropyltoluene	0.13	0.13	0.73	1.83	0.73	0.028	U
100-44-7	Benzyl chloride	0.12	0.12	0.63	1.58	0.63	0.024	U
106-46-7	1,4-Dichlorobenzene	0.21	0.21	1.27	3.19	1.27	0.049	U
104-51-8	n-Butylbenzene	0.12	0.12	0.68	1.71	0.68	0.026	U
95-50-1	1,2-Dichlorobenzene	0.21	0.21	1.25	3.12	1.25	0.048	U
96-12-8	1,2-Dibromo-3-chloropropane	0.28	0.28	2.69	13.46	2.69	0.104	U
78-00-2	Tetraethyl lead	0.10	0.10	1.32	6.60	1.32	0.051	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
120-82-1	1,2,4-Trichlorobenzene	0.86	0.86	6.35	15.89	6.35	0.244	U
91-20-3	Naphthalene	0.18	0.18	0.96	2.40	0.96	0.037	U
87-68-3	Hexachlorobutadiene	0.43	0.43	4.57	22.84	4.57	0.176	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.31	93	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211185
Analytical Method: TIC | **Laboratory Number:** 09

File:	1118509A.D	**Date Sampled:**	05/02/11	**Time:**	13:49
Description:	SF-BLK-01-C	**Date Received:**	05/03/11		
Can/Tube#:	765	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	15:02
QC_Batch:	050611-MSC	**Can Dilution Factor:**	1.04		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.2	Carryover
13.6	2-Pentanone	ND	
18.4	Hexanal	ND	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	1	Carryover
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 09**

File:	1118509A.D	**Date Sampled:**	05/02/11	**Time:**	13:49
Description:	SF-BLK-01-C	**Date Received:**	05/03/11		
Can/Tube#:	765	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	16:33
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.04		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS | **SDG:** 211185
Analytical Method: TO15 | **Laboratory Number:** 10

File:	1118510A.D	**Date Sampled:**	05/02/11	**Time:**	12:33
Description:	SF-22B-04-C	**Date Received:**	05/03/11	**Time:**	
Can/Tube#:	631	**Date Analyzed:**	05/09/11	**Time:**	15:45
QC_Batch:	050911-MSC	**Can Dilution Factor:**	1.22		2
Air Volume:	500 ml	**Flux Factor:**		0.0385	0.0036

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
75-71-8	Dichlorodifluoromethane	0.26	0.26	1.27	3.17	1.27	0.049	U
74-87-3	Chloromethane	0.25	0.25	0.51	1.28	0.51	0.020	U
76-14-2	Freon 114	0.25	0.25	1.77	4.43	1.77	0.068	U
75-01-4	Vinyl chloride	0.25	0.25	0.65	1.62	0.65	0.025	U
106-99-0	1,3-Butadiene	0.26	0.26	0.58	1.45	0.58	0.022	U
74-83-9	Bromomethane	0.25	0.25	0.98	2.46	0.98	0.038	U
75-00-3	Chloroethane	0.25	0.25	0.67	1.67	0.67	0.026	U
64-17-5	Ethanol	0.84	0.84	1.58	3.95	1.58	0.061	U
75-69-4	Trichlorofluoromethane	0.25	0.25	1.43	3.56	1.43	0.055	U
67-64-1	Acetone	0.55	0.55	1.31	1.64	1.31	0.050	U
67-63-0	2-propanol	0.64	0.64	1.57	7.85	1.57	0.060	U
75-65-0	t-Butanol	0.18	0.18	0.56	1.39	0.56	0.022	U
4227-95-6	Methyl iodide	0.07	0.07	0.43	1.07	0.43	0.017	U
75-35-4	1,1-Dichloroethene	0.49	0.49	1.95	4.89	1.95	0.075	U
107-13-1	Acrylonitrile	0.28	0.28	0.61	1.54	0.61	0.023	U
76-13-1	Freon 113	0.25	0.25	1.91	4.77	1.91	0.074	U
107-05-1	Allyl chloride	0.22	0.22	0.68	1.72	0.68	0.026	U
75-09-2	Dichloromethane	0.25	0.25	0.88	2.20	0.88	0.034	U
75-15-0	Carbon disulfide	0.21	0.21	0.65	1.62	0.65	0.025	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.16	0.64	1.60	0.64	0.025	U
1634-04-4	Methyl tert butyl ether	0.17	0.17	0.60	1.49	0.60	0.023	U
107-12-0	Propionitrile	0.23	0.23	0.52	1.31	0.52	0.020	U
75-34-3	1,1-Dichloroethane	0.25	0.25	1.00	2.50	1.00	0.039	U
108-05-4	Vinyl acetate	0.20	0.20	0.69	1.73	0.69	0.027	U
78-93-3	2-Butanone	0.23	0.23	0.67	1.68	0.67	0.026	U
108-20-3	Diisopropyl ether	0.15	0.15	0.64	1.60	0.64	0.025	U
110-54-3	Hexane	0.17	0.17	0.58	1.46	0.58	0.022	U
126-98-7	Methacrylonitrile	0.23	0.23	0.64	1.59	0.64	0.025	U
141-78-6	Ethyl acetate	0.20	0.20	0.71	1.78	0.71	0.027	U
74-97-5	Bromochloromethane	0.12	0.12	0.63	1.59	0.63	0.024	U
109-99-9	Tetrahydrofuran	0.28	0.28	0.83	2.07	0.83	0.032	U
78-83-1	Isobutyl alcohol	0.37	0.37	1.12	5.62	1.12	0.043	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.25	1.00	2.49	1.00	0.039	U
594-20-7	2,2-Dichloropropane	0.20	0.20	0.92	2.31	0.92	0.035	U
67-66-3	Chloroform	0.25	0.25	1.21	3.04	1.21	0.047	U
71-55-6	1,1,1-Trichloroethane	0.25	0.25	1.36	3.39	1.36	0.052	U
107-06-2	1,2-Dichloroethane	0.25	0.25	1.02	2.55	1.02	0.039	U
563-58-6	1,1-Dichloropropene	0.15	0.15	0.67	1.68	0.67	0.026	U
110-82-7	Cyclohexane	0.17	0.17	0.59	1.48	0.59	0.023	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
71-43-2	Benzene	0.25	0.34	0.80	2.01	1.09	0.042	J
56-23-5	Carbon tetrachloride	0.25	0.25	1.56	3.91	1.56	0.060	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.12	0.57	1.42	0.57	0.022	U
142-82-5	n-Heptane	0.14	0.14	0.56	1.40	0.56	0.022	U
78-87-5	1,2-Dichloropropane	0.25	0.25	1.16	2.91	1.16	0.045	U
123-91-1	1,4 Dioxane	0.46	0.46	1.65	4.13	1.65	0.064	U
74-95-3	Dibromomethane	0.08	0.08	0.60	1.49	0.60	0.023	U
79-01-6	Trichloroethene	0.25	0.25	1.35	3.38	1.35	0.052	U
75-27-4	Bromodichloromethane	0.09	0.09	0.60	1.52	0.60	0.023	U
80-62-6	Methyl methacrylate	0.15	0.15	0.62	1.56	0.62	0.024	U
108-10-1	4-Methyl-2-pentanone	0.17	0.17	0.70	1.74	0.70	0.027	U
10061-01-5	cis-1,3-Dichloropropene	0.26	0.26	1.17	2.93	1.17	0.045	U
108-88-3	Toluene	0.25	0.25	0.95	2.37	0.95	0.037	U
10061-02-6	trans-1,3-Dichloropropene	0.25	0.25	1.15	2.88	1.15	0.044	U
79-00-5	1,1,2-Trichloroethane	0.25	0.25	1.36	3.39	1.36	0.052	U
97-63-2	Ethyl methacrylate	0.13	0.13	0.63	1.56	0.63	0.024	U
591-78-6	2-Hexanone	0.16	0.16	0.65	1.63	0.65	0.025	U
142-28-9	1,3-Dichloropropane	0.15	0.15	0.68	1.70	0.68	0.026	U
111-65-9	Octane	0.12	0.12	0.57	1.44	0.57	0.022	U
124-48-1	Dibromochloromethane	0.09	0.09	0.76	1.91	0.76	0.029	U
106-93-4	1,2-Dibromoethane	0.25	0.25	1.95	4.87	1.95	0.075	U
127-18-4	Tetrachloroethene	0.25	0.25	1.69	4.22	1.69	0.065	U
108-90-7	Chlorobenzene	0.25	0.25	1.15	2.86	1.15	0.044	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.09	0.64	1.59	0.64	0.025	U
100-41-4	Ethylbenzene	0.25	0.25	1.10	2.75	1.10	0.042	U
1330-20-7	m,p-Xylenes	0.50	0.50	2.18	5.46	2.18	0.084	U
111-84-2	Nonane	0.11	0.11	0.56	1.41	0.56	0.022	U
100-42-5	Styrene	0.25	0.25	1.07	2.68	1.07	0.041	U
75-25-2	Bromoform	0.06	0.06	0.62	1.56	0.62	0.024	U
95-47-6	o-Xylene	0.25	0.25	1.08	2.70	1.08	0.042	U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	0.25	1.71	4.27	1.71	0.066	U
96-18-4	1,2,3-Trichloropropane	0.11	0.11	0.67	1.66	0.67	0.026	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.15	0.77	1.93	0.77	0.030	U
95-49-8	2-Chlorotoluene	0.12	0.12	0.62	1.55	0.62	0.024	U
106-43-4	4-Chlorotoluene	0.12	0.12	0.61	1.52	0.61	0.023	U
103-65-1	n-Propylbenzene	0.17	0.17	0.83	2.07	0.83	0.032	U
98-82-8	Isopropylbenzene	0.17	0.17	0.84	2.10	0.84	0.032	U
622-96-8	4-Ethyltoluene	0.14	0.14	0.68	1.70	0.68	0.026	U
108-67-8	1,3,5-Trimethylbenzene	0.26	0.26	1.27	3.18	1.27	0.049	U
124-18-5	Decane	0.11	0.11	0.66	1.66	0.66	0.025	U
98-06-6	tert-butyl benzene	0.15	0.15	0.82	2.05	0.82	0.032	U
95-63-6	1,2,4-Trimethylbenzene	0.25	0.25	1.22	3.06	1.22	0.047	U
538-93-2	i-Butylbenzene	0.15	0.15	0.82	2.05	0.82	0.032	U
135-98-8	sec-butylbenzene	0.16	0.16	0.87	2.18	0.87	0.033	U
541-73-1	1,3-Dichlorobenzene	0.25	0.25	1.50	3.74	1.50	0.058	U
99-87-6	Isopropyltoluene	0.16	0.16	0.86	2.14	0.86	0.033	U
100-44-7	Benzyl chloride	0.14	0.14	0.74	1.86	0.74	0.028	U
106-46-7	1,4-Dichlorobenzene	0.25	0.25	1.50	3.74	1.50	0.058	U
104-51-8	n-Butylbenzene	0.15	0.15	0.80	2.01	0.80	0.031	U
95-50-1	1,2-Dichlorobenzene	0.24	0.24	1.47	3.67	1.47	0.057	U
96-12-8	1,2-Dibromo-3-chloropropane	0.33	0.33	3.16	15.79	3.16	0.122	U
78-00-2	Tetraethyl lead	0.12	0.12	1.55	7.74	1.55	0.060	U

CAS#	Compound	MDL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flux ug/(m2*min)	Flag
120-82-1	1,2,4-Trichlorobenzene	1.01	1.01	7.45	18.64	7.45	0.287	U
91-20-3	Naphthalene	0.21	0.21	1.13	2.81	1.13	0.044	U
87-68-3	Hexachlorobutadiene	0.50	0.50	5.36	26.79	5.36	0.206	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.73	97	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211185
Analytical Method: TIC | **Laboratory Number:** 10

File:	1118510A.D	**Date Sampled:**	05/02/11	**Time:**	12:33
Description:	SF-22B-04-C	**Date Received:**	05/03/11		
Can/Tube#:	631	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	15:45
QC_Batch:	050911-MSC	**Can Dilution Factor:**	1.22		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	ND	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	ND	
13.6	2-Pentanone	ND	
18.4	Hexanal	ND	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.2	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	ND	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211185**
Analytical Method: TIC **Laboratory Number: 10**

File:	1118510A.D	**Date Sampled:**	05/02/11	**Time:**	12:33
Description:	SF-22B-04-C	**Date Received:**	05/03/11		
Can/Tube#:	631	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	17:15
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.22		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

Data Qualifiers, Abbreviations and Definitions

ENVIRONMENTAL
Analytical Service, Inc.

Qualifiers

*	See Case Narrative
B	This compound was detected in the blank above the Reporting Limit (RL)
D	This report was calculated from a secondary dilution factor
E	Compound exceeds the calibration range and is an estimated value
J	The amount reported is an estimated value because it is between the Reporting Limit (RL) and the Method Detection Limit (MDL)
F	Higher detection limit due to sample matrix
G	Higher detection limit due to limited sample size
Q	Compound secondary ion ratio qualifiers are outside the standard acceptance criteria
R	Compound secondary retention time (RT) is outside the acceptance criteria for the method
U	Compound is less than the Method Detection Limit (MDL)

Abbreviations

MDL Minimum Detection Limit – Instrument detection limit

The minimum detectable level (MDL) is the lowest concentration of a substance that can be measured with confidence. The MDL is calculated at the 99% confidence level from seven repetitive measurements on a sample whose concentration does not exceed 10 times the estimated MDL (Glasser et. al. 1981; Long and Winefordner, 1983). Generating an MDL study, a sample is prepared in the appropriate matrix with components near the estimated MDL, which is about 3 times the instrument noise level. This sample is run seven consecutive times and the standard deviation (S) is calculated. The MDL is determined using the following formula: MDL = 3.14*S

ND Not Detected – a reported limit
NA Not Applicable
RPD Relative Percent Difference

The relative percent difference for a pair of duplicate samples is calculated from repetitive runs on sample pairs representative of the types of samples that are analyzed. The RPD provides information on the precision or reproducibility of the actual measurement process. The RPD is calculated for a particular compound from the average using the following formula:

$$RPD(\%) = \frac{\text{Difference} * 100}{\text{Average}}$$

RSD Relative Standard Deviation

The relative standard deviation is reported as a percentage deviation at a particular concentration using the following equation:

$$RSD\ (\%) = \frac{S * 100}{\text{Average}}$$

Definitions

ppbV $= \frac{\text{\# nanomoles cmpd}}{\text{\# moles air}} = \frac{\text{ppbC}}{\text{\# carbons in cmpd}}$

Compound is reported as ppb of compound by Volume

This unit is temperature independent

ug/m^3 $= \text{ppbV} \times \frac{\text{MW compound}}{23.68}$

Compound is reported as ug of a compound in a m^3 of air

23.68 is the molar volume of a gas at 60 ° F and 1 atm pressure

MW = molecular weight

This unit is temperature dependent

ppbC = ppbV x # carbons in compound

ENVIRONMENTAL
Analytical Service Inc.

May 16, 2010
Sample Delivery Group (SDG): 211184

Chuck Schmidt
C.E. Schmidt
19200 Live Oak Road
Red Bluff, CA 96080

Dear Chuck:

Enclosed is the analytical report for the sample(s) received and analyzed by Environmental Analytical Service, Inc. for the following project:

Project Name:	LaCroix Davis
Project Number:	None Given
Sample Dates:	5/2/10

The report consists of the following sections:

I. Sample Description
II. Laboratory Narrative and Chain of Custody Forms
III. Laboratory Certification
IV. Quality Control Reports
V. Analytical Results

If you have any questions on the report or the analytical data please contact me at (805) 781-3585.

Sincerely,

Steven D. Hoyt, Ph.D.
Laboratory Director

SDH/lims

Analytical Report

SDG Number 211184

Client: C.E. Schmidt **Date Received:** 5/3/2011

I. SAMPLE DESCRIPTION AND ANALYSIS REQUESTED

Client Sample No.	EAS Lab No	Analysis Requested	Date Sample
AA-21B-01-C	211184 1	EPA TO-15 Extended List + TIC	5/2/2011
AA-21B-01-C	211184 1	EPA TO-15 SIM MVOC	5/2/2011
AA-19B-01-C	211184 2	EPA TO-15 Extended List + TIC	5/2/2011
AA-19B-01-C	211184 2	EPA TO-15 SIM MVOC	5/2/2011
AA-22B-01-C	211184 3	EPA TO-15 Extended List + TIC	5/2/2011
AA-22B-01-C	211184 3	EPA TO-15 SIM MVOC	5/2/2011
AA-22B-02-C	211184 4	EPA TO-15 Extended List + TIC	5/2/2011
AA-22B-02-C	211184 4	EPA TO-15 SIM MVOC	5/2/2011

II. LABORATORY CASE NARRATIVE and CHAIN OF CUSTODY FORMS

SDG Number: 211184
Analysis performed for: C.E. Schmidt

All laboratory quality control criteria were met for the samples in this report.

III. LABORATORY CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the condition noted above.

Steven D. Hoyt, Ph.D.
Laboratory Director

ENVIRONMENTAL
Analytical Service, Inc.

(2) AMBIENT AIR

CHAIN OF CUSTODY RECORD

173 Cross Street
San Luis Obispo, CA
93401 - 7597
805.781.3585
Fax 805.541.4550

Project Number:
Project Name: LAZBOTX DAVIS
Quote Number:

REPORT TO:
Company: CESCHMIDT
Address:
City/State/Zip: SAME
Phone: (FAX)
ATTENTION:

MATRIX LEGEND
A - Ambient Air, Low Level
I - Indoor Air
S - Source Air, High Level
G - Gas/Product

SAMPLE DESCRIPTION	SAMPLE DATE	SAMPLE TIME	CANISTER NUMBER	COMP	GRAB	MATRIX A	MATRIX I	MATRIX S	MATRIX G	INITIAL PRESSURE	FINAL PRESSURE	BAS LABORATORY ID	N2	TO-15 FULL SCAN VOCS	TO-15 SIM VINYLS	P1	P2	REMARKS
AA-21B-01-C	5/2	~~0836~~ 0944	698		X	X				-29"	0"	211184-01	X	X	744		903	shelf B
AA-19B-01-C		0955	808									-02			750		906	
AA-22B-01-C		1150	734									-03			758		907	
AA-22B-02-C		1248	878									-04			740		909	

COMMENTS:

BILLING INFORMATION:
Company: SAME
Address:
City/State/Zip:
ATTENTION:
Purchase Order/Billing Reference:

		Date	Time		Date	Time
SAMPLED BY:	CESCHMIDT	5/2/11	1600	Received by: FED EX	5/2/11	1600
Relinquished By:				Received by:		
Relinquished By:				Received by:		
Relinquished By:				Received for lab by: K Gluckel	5/3/11	10:45

IV. QUALITY CONTROL REPORT

SDG Number: 211184
Client: C.E. Schmidt

LABORATORY QC REPORT

QC NARRATIVE

This report was run with the standard laboratory QC.

STANDARD LABORATORY QC REPORT

Unless project specific QC was requested, this Section contains the standard laboratory QC supplied with the analytical reports, which includes the daily method blank and the daily duplicate control samples as described below. Each day that samples are analyzed comprises a Daily Analytical Batch for a particular instrument. A Daily Analytical Batch QC report will be supplied for each method and each day samples from this SDG Group were analyzed.

METHOD BLANK

A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples. A copy of the batch blank is included with the report.

DUPLICATE CONTROL SAMPLES

A duplicate or duplicate control sample (DCS) was analyzed as part of each daily analytical batch. A DCS is a well-characterized matrix (blank water, ambient air, or actual sample) which may or may not be spiked and run in duplicate with your sample batch. The results are on the attached Duplicate Sample/Spike results. Precision is measured in a duplicate test by Relative Percent Difference (RPD) as in:

$$RPD = \frac{[\% \text{ Recovery Test 1} - \% \text{ Recovery Test 2}] \times 100}{(\text{Recovery Test 1} + \text{Recovery Test 2}) / 2}$$

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: LABQC
Laboratory ID: B05051

Description: METHOD BLANK
Can/Tube#:
QC_Batch: 050511-MSC
Air Volume: 10 ml

Date Sampled: Time:
Date Received: Time:
Date Analyzed: 05/05/11 Time: 14:01
Can Dilution Factor: 1.00

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	10.5	26.3	10.5	51.9	130.0	51.9	U
74-87-3	Chloromethane	10.2	25.5	10.2	21.1	52.6	21.1	U
76-14-2	Freon 114	10.4	26.0	10.4	72.7	181.6	72.7	U
75-01-4	Vinyl chloride	10.4	26.0	10.4	26.6	66.4	26.6	U
106-99-0	1,3-Butadiene	10.7	26.8	10.7	23.7	59.3	23.7	U
74-83-9	Bromomethane	10.4	26.0	10.4	40.3	100.9	40.3	U
75-00-3	Chloroethane	10.4	26.0	10.4	27.4	68.6	27.4	U
64-17-5	Ethanol	34.4	86.0	34.4	64.8	162.1	64.8	U
75-69-4	Trichlorofluoromethane	10.4	26.0	10.4	58.4	146.0	58.4	U
67-64-1	Acetone	22.6	28.3	22.6	53.8	67.2	53.8	U
67-63-0	2-propanol	26.2	131.0	26.2	64.4	321.8	64.4	U
75-65-0	t-Butanol	7.5	18.8	7.5	22.8	56.9	22.8	U
4227-95-6	Methyl iodide	3.0	7.5	3.0	17.5	43.8	17.5	U
75-35-4	1,1-Dichloroethene	20.2	50.6	20.2	80.0	200.4	80.0	U
107-13-1	Acrylonitrile	11.6	29.0	11.6	25.2	63.0	25.2	U
76-13-1	Freon 113	10.2	25.5	10.2	78.1	195.4	78.1	U
107-05-1	Allyl chloride	8.9	22.5	8.9	27.7	70.4	27.7	U
75-09-2	Dichloromethane	10.4	26.0	10.4	36.1	90.2	36.1	U
75-15-0	Carbon disulfide	8.6	21.4	8.6	26.6	66.6	26.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	16.6	6.6	26.3	65.8	26.3	U
1634-04-4	Methyl tert butyl ether	6.8	17.0	6.8	24.5	61.2	24.5	U
107-12-0	Propionitrile	9.5	23.8	9.5	21.4	53.6	21.4	U
75-34-3	1,1-Dichloroethane	10.1	25.3	10.1	40.9	102.4	40.9	U
108-05-4	Vinyl acetate	8.1	20.2	8.1	28.5	71.1	28.5	U
78-93-3	2-Butanone	9.4	23.4	9.4	27.6	69.0	27.6	U
108-20-3	Diisopropyl ether	6.3	15.7	6.3	26.2	65.6	26.2	U
110-54-3	Hexane	6.8	17.0	6.8	24.0	59.9	24.0	U
126-98-7	Methacrylonitrile	9.5	23.8	9.5	26.1	65.3	26.1	U
141-78-6	Ethyl acetate	8.1	20.2	8.1	29.0	72.7	29.0	U
74-97-5	Bromochloromethane	4.9	12.3	4.9	25.9	65.1	25.9	U
109-99-9	Tetrahydrofuran	11.5	28.8	11.5	33.9	84.9	33.9	U
78-83-1	Isobutyl alcohol	15.2	76.0	15.2	46.0	230.2	46.0	U
156-59-2	cis-1,2-Dichloroethene	10.3	25.8	10.3	40.8	102.2	40.8	U
594-20-7	2,2-Dichloropropane	8.2	20.5	8.2	37.8	94.7	37.8	U
67-66-3	Chloroform	10.2	25.5	10.2	49.8	124.5	49.8	U
71-55-6	1,1,1-Trichloroethane	10.2	25.5	10.2	55.6	139.1	55.6	U
107-06-2	1,2-Dichloroethane	10.3	25.8	10.3	41.7	104.4	41.7	U
563-58-6	1,1-Dichloropropene	6.1	15.2	6.1	27.5	69.0	27.5	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	7.1	17.6	7.1	24.3	60.6	24.3	U
71-43-2	Benzene	10.3	25.8	10.3	32.9	82.4	32.9	U
56-23-5	Carbon tetrachloride	10.2	25.5	10.2	64.1	160.3	64.1	U
540-84-1	2,2,4-Trimethylpentane	5.0	12.5	5.0	23.4	58.4	23.4	U
142-82-5	n-Heptane	5.6	14.0	5.6	22.9	57.3	22.9	U
78-87-5	1,2-Dichloropropane	10.3	25.8	10.3	47.6	119.2	47.6	U
123-91-1	1,4 Dioxane	18.8	47.0	18.8	67.7	169.3	67.7	U
74-95-3	Dibromomethane	3.5	8.6	3.5	24.6	61.1	24.6	U
79-01-6	Trichloroethene	10.3	25.8	10.3	55.3	138.6	55.3	U
75-27-4	Bromodichloromethane	3.7	9.3	3.7	24.8	62.3	24.8	U
80-62-6	Methyl methacrylate	6.2	15.6	6.2	25.5	63.8	25.5	U
108-10-1	4-Methyl-2-pentanone	7.0	17.4	7.0	28.5	71.3	28.5	U
10061-01-5	cis-1,3-Dichloropropene	10.6	26.5	10.6	48.1	120.2	48.1	U
108-88-3	Toluene	10.3	25.8	10.3	38.8	97.1	38.8	U
10061-02-6	trans-1,3-Dichloropropene	10.4	26.0	10.4	47.2	118.0	47.2	U
79-00-5	1,1,2-Trichloroethane	10.2	25.5	10.2	55.6	139.1	55.6	U
97-63-2	Ethyl methacrylate	5.5	13.7	5.5	25.6	64.0	25.6	U
591-78-6	2-Hexanone	6.5	16.3	6.5	26.7	66.8	26.7	U
142-28-9	1,3-Dichloropropane	6.1	15.1	6.1	27.9	69.8	27.9	U
111-65-9	Octane	5.0	12.6	5.0	23.4	58.8	23.4	U
124-48-1	Dibromochloromethane	3.7	9.2	3.7	31.3	78.3	31.3	U
106-93-4	1,2-Dibromoethane	10.4	26.0	10.4	79.9	199.7	79.9	U
127-18-4	Tetrachloroethene	10.2	25.5	10.2	69.1	172.8	69.1	U
108-90-7	Chlorobenzene	10.2	25.5	10.2	47.0	117.4	47.0	U
630-20-6	1,1,1,2-Tetrachloroethane	3.8	9.5	3.8	26.1	65.2	26.1	U
100-41-4	Ethylbenzene	10.4	26.0	10.4	45.2	112.9	45.2	U
1330-20-7	m,p-Xylenes	20.6	51.5	20.6	89.4	223.6	89.4	U
111-84-2	Nonane	4.4	11.0	4.4	23.0	57.7	23.0	U
100-42-5	Styrene	10.3	25.8	10.3	43.9	109.9	43.9	U
75-25-2	Bromoform	2.5	6.2	2.5	25.5	64.0	25.5	U
95-47-6	o-Xylene	10.2	25.5	10.2	44.3	110.7	44.3	U
79-34-5	1,1,2,2-Tetrachloroethane	10.2	25.5	10.2	70.0	174.9	70.0	U
96-18-4	1,2,3-Trichloropropane	4.5	11.3	4.5	27.3	68.1	27.3	U
110-57-6	t-1,4-Dichloro-2-butene	6.2	15.5	6.2	31.7	79.2	31.7	U
95-49-8	2-Chlorotoluene	4.9	12.3	4.9	25.4	63.7	25.4	U
106-43-4	4-Chlorotoluene	4.8	12.0	4.8	24.8	62.1	24.8	U
103-65-1	n-Propylbenzene	6.9	17.3	6.9	33.9	85.0	33.9	U
98-82-8	Isopropylbenzene	7.0	17.5	7.0	34.4	86.0	34.4	U
622-96-8	4-Ethyltoluene	5.7	14.2	5.7	27.9	69.8	27.9	U
108-67-8	1,3,5-Trimethylbenzene	10.6	26.5	10.6	52.1	130.2	52.1	U
124-18-5	Decane	4.7	11.7	4.7	27.1	68.1	27.1	U
98-06-6	tert-butyl benzene	6.1	15.3	6.1	33.5	83.9	33.5	U
95-63-6	1,2,4-Trimethylbenzene	10.2	25.5	10.2	50.1	125.3	50.1	U
538-93-2	i-Butylbenzene	6.1	15.3	6.1	33.5	83.9	33.5	U
135-98-8	sec-butylbenzene	6.5	16.3	6.5	35.7	89.4	35.7	U
541-73-1	1,3-Dichlorobenzene	10.2	25.5	10.2	61.3	153.2	61.3	U
99-87-6	Isopropyltoluene	6.4	16.0	6.4	35.1	87.8	35.1	U
100-44-7	Benzyl chloride	5.9	14.7	5.9	30.4	76.1	30.4	U
106-46-7	1,4-Dichlorobenzene	10.2	25.5	10.2	61.3	153.2	61.3	U
104-51-8	n-Butylbenzene	6.0	15.0	6.0	32.9	82.3	32.9	U
95-50-1	1,2-Dichlorobenzene	10.0	25.0	10.0	60.1	150.2	60.1	U
96-12-8	1,2-Dibromo-3-chloropropane	13.4	67.0	13.4	129.4	647.2	129.4	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	4.8	24.0	4.8	63.5	317.3	63.5	U
120-82-1	1,2,4-Trichlorobenzene	41.2	103.0	41.2	305.5	763.8	305.5	U
91-20-3	Naphthalene	8.8	22.0	8.8	46.1	115.3	46.1	U
87-68-3	Hexachlorobutadiene	20.6	103.0	20.6	219.6	1,098.1	219.6	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	10.44	104	70	130	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG:** **LABQC**
Analytical Method: TIC **Laboratory Number:** **B05061**

File:	B05061A.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	05/06/11	**Time:**	9:29
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.00		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

METHOD BLANK REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG:** **LABQC**
Analytical Method: **TIC** **Laboratory Number:** **B05091**

File:	B05091A.D	**Date Sampled:**		**Time:**	
Description:	METHOD BLANK	**Date Received:**			
Can/Tube#:		**Date Extracted:**			
Sam_Type:	MB	**Date Analyzed:**	05/09/11	**Time:**	10:18
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.00		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE
EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: LABQC
Laboratory ID: QC05051A

File: QC05051B.D
Description ST60025
Sam_Type: LCS
QC_Batch: 050511-MSC
Air Volume 1000 ml

Date Analyzed: 05/05/11
Time: 11:20

CAS#	Compound	Spike PPBV	LCS PPBV	LCD PPBV	Rec %	LCL %	UCL %	Rec Flag	D %	Limit %	Flag %
75-01-4	Vinyl chloride	5.10	4.48	4.34	88	70	130		3	25	
75-35-4	1,1-Dichloroethene	5.15	3.74	3.67	73	70	130		2	25	
75-09-2	Dichloromethane	5.20	4.47	4.48	86	70	130		0	25	
75-34-3	1,1-Dichloroethane	5.15	4.03	4.08	78	70	130		1	25	
67-66-3	Chloroform	5.15	4.34	4.36	84	70	130		1	25	
71-55-6	1,1,1-Trichloroethane	5.15	4.31	4.37	84	70	130		1	25	
107-06-2	1,2-Dichloroethane	5.15	4.43	4.50	86	70	130		1	25	
71-43-2	Benzene	5.15	4.39	4.33	85	70	130		1	25	
56-23-5	Carbon tetrachloride	5.15	4.36	4.45	85	70	130		2	25	
79-01-6	Trichloroethene	5.15	3.82	3.90	74	70	130		2	25	
108-88-3	Toluene	5.15	4.48	4.56	87	70	130		2	25	
127-18-4	Tetrachloroethene	5.15	4.48	4.67	87	70	130		4	25	
100-41-4	Ethylbenzene	5.15	5.09	5.14	99	70	130		1	25	
1330-20-7	m,p-Xylenes	10.30	10.13	10.10	98	70	130		0	25	
95-47-6	o-Xylene	5.15	5.14	5.19	100	70	130		1	25	
108-67-8	1,3,5-Trimethylbenzene	5.20	5.46	5.54	105	70	130		2	25	

	Surrogate Recovery	Spike ppbV	Measured ppbV	Limit LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.59	70	130	

V. ANALYTICAL RESULTS

SDG Number: 211184
Client: C.E. Schmidt

The following pages contain the certified reports for the analytical methods and the compounds requested. The reports are in order of analytical method then EAS ID number. A brief description of the units that appear on the reports is given below:

ppbV, ppmV, Percent

Parts per billion by volume (also known as mole ratio) and other related units. This is the primary reporting unit for all volatile organic compound analysis except the hydrocarbon speciation and total hydrocarbons. This unit is independent of temperature and pressure.

$$\text{ppbV} = \frac{\text{nanomoles of compound}}{\text{moles of air}}$$

ug/m3, mg/m3

Micrograms of compound per cubic meter of air and other related units. This is the primary reporting unit for semi volatile organic compounds. It is not a primary reporting unit for volatile organic compounds because it is temperature and pressure dependent, so the result will vary depending on the conditions when the sample was collected. EAS provides the units on its analytical reports as a convenience to the client, but they should be used with caution. The following equation can be used to convert from ppbV to ug/m3.

$$\text{ug/m3} = \frac{\text{ppbV x MW compound}}{23.68}$$

23.68 is the molar volume of a gas at 60 F and 1 atm pressure

ppbC, ppmC

Parts per billion by volume as carbon (methane) and other related units. This unit is the primary reporting unit for hydrocarbon analysis, even if it does not appear on the report. This unit is used because the flame ionization detector response is proportional to the number of carbons in the compound, so an accurate concentration can be reported even if the identification of the compound is not known.

$$\text{ppbC} = \text{ppbV x number of carbons in compound}$$

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS — **SDG:** 211184
Analytical Method: TO15 — **Laboratory ID:** 01

Description: AA-21B-01-C — **Date Sampled:** 05/02/11 — **Time:** 9:14
Can/Tube#: 698 — **Date Received:** 05/03/11 — **Time:** 10:45
QC_Batch: 050511-MSC — **Date Analyzed:** 05/05/11 — **Time:** 18:42
Air Volume: 500 ml — **Can Dilution Factor:** 1.21

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.64	0.61	1.26	3.15	3.01	J
74-87-3	Chloromethane	0.25	0.62	0.57	0.51	1.27	1.17	J
76-14-2	Freon 114	0.25	0.63	0.25	1.76	4.40	1.76	U
75-01-4	Vinyl chloride	0.25	0.63	0.25	0.64	1.61	0.64	U
106-99-0	1,3-Butadiene	0.26	0.65	0.26	0.57	1.43	0.57	U
74-83-9	Bromomethane	0.25	0.63	0.25	0.98	2.44	0.98	U
75-00-3	Chloroethane	0.25	0.63	0.25	0.66	1.66	0.66	U
64-17-5	Ethanol	0.83	2.08	0.83	1.57	3.92	1.57	U
75-69-4	Trichlorofluoromethane	0.25	0.63	0.47	1.41	3.53	2.62	J
67-64-1	Acetone	0.55	0.68	10.12	1.30	1.63	24.04	
67-63-0	2-propanol	0.63	3.17	0.63	1.56	7.79	1.56	U
75-65-0	t-Butanol	0.18	0.45	0.18	0.55	1.38	0.55	U
4227-95-6	Methyl iodide	0.07	0.18	0.07	0.42	1.06	0.42	U
75-35-4	1,1-Dichloroethene	0.49	1.22	0.49	1.94	4.85	1.94	U
107-13-1	Acrylonitrile	0.28	0.70	0.28	0.61	1.52	0.61	U
76-13-1	Freon 113	0.25	0.62	0.25	1.89	4.73	1.89	U
107-05-1	Allyl chloride	0.21	0.54	0.21	0.67	1.70	0.67	U
75-09-2	Dichloromethane	0.25	0.63	0.25	0.87	2.18	0.87	U
75-15-0	Carbon disulfide	0.21	0.52	0.21	0.64	1.61	0.64	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.40	0.16	0.64	1.59	0.64	U
1634-04-4	Methyl tert butyl ether	0.16	0.41	0.16	0.59	1.48	0.59	U
107-12-0	Propionitrile	0.23	0.58	0.23	0.52	1.30	0.52	U
75-34-3	1,1-Dichloroethane	0.24	0.61	0.24	0.99	2.48	0.99	U
108-05-4	Vinyl acetate	0.20	0.49	0.20	0.69	1.72	0.69	U
78-93-3	2-Butanone	0.23	0.57	0.23	0.67	1.67	0.67	U
108-20-3	Diisopropyl ether	0.15	0.38	0.15	0.63	1.59	0.63	U
110-54-3	Hexane	0.16	0.41	0.17	0.58	1.45	0.60	J
126-98-7	Methacrylonitrile	0.23	0.58	0.23	0.63	1.58	0.63	U
141-78-6	Ethyl acetate	0.20	0.49	0.20	0.70	1.76	0.70	U
74-97-5	Bromochloromethane	0.12	0.30	0.12	0.63	1.57	0.63	U
109-99-9	Tetrahydrofuran	0.28	0.70	0.28	0.82	2.05	0.82	U
78-83-1	Isobutyl alcohol	0.37	1.84	0.37	1.11	5.57	1.11	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.62	0.25	0.99	2.47	0.99	U
594-20-7	2,2-Dichloropropane	0.20	0.50	0.20	0.92	2.29	0.92	U
67-66-3	Chloroform	0.25	0.62	0.25	1.20	3.01	1.20	U
71-55-6	1,1,1-Trichloroethane	0.25	0.62	0.25	1.35	3.37	1.35	U
107-06-2	1,2-Dichloroethane	0.25	0.62	0.25	1.01	2.53	1.01	U
563-58-6	1,1-Dichloropropene	0.15	0.37	0.15	0.67	1.67	0.67	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.17	0.43	0.42	0.59	1.47	1.45	J
71-43-2	Benzene	0.25	0.62	0.25	0.80	1.99	0.80	U
56-23-5	Carbon tetrachloride	0.25	0.62	0.25	1.55	3.88	1.55	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.30	0.12	0.57	1.41	0.57	U
142-82-5	n-Heptane	0.14	0.34	0.19	0.55	1.39	0.78	J
78-87-5	1,2-Dichloropropane	0.25	0.62	0.25	1.15	2.88	1.15	U
123-91-1	1,4 Dioxane	0.45	1.14	0.45	1.64	4.10	1.64	U
74-95-3	Dibromomethane	0.08	0.21	0.08	0.59	1.48	0.59	U
79-01-6	Trichloroethene	0.25	0.62	0.25	1.34	3.35	1.34	U
75-27-4	Bromodichloromethane	0.09	0.23	0.09	0.60	1.51	0.60	U
80-62-6	Methyl methacrylate	0.15	0.38	0.15	0.62	1.54	0.62	U
108-10-1	4-Methyl-2-pentanone	0.17	0.42	0.17	0.69	1.72	0.69	U
10061-01-5	cis-1,3-Dichloropropene	0.26	0.64	0.26	1.16	2.91	1.16	U
108-88-3	Toluene	0.25	0.62	0.54	0.94	2.35	2.05	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.63	0.25	1.14	2.86	1.14	U
79-00-5	1,1,2-Trichloroethane	0.25	0.62	0.25	1.35	3.37	1.35	U
97-63-2	Ethyl methacrylate	0.13	0.33	0.13	0.62	1.55	0.62	U
591-78-6	2-Hexanone	0.16	0.39	0.16	0.65	1.62	0.65	U
142-28-9	1,3-Dichloropropane	0.15	0.37	0.15	0.68	1.69	0.68	U
111-65-9	Octane	0.12	0.30	0.12	0.57	1.42	0.57	U
124-48-1	Dibromochloromethane	0.09	0.22	0.09	0.76	1.90	0.76	U
106-93-4	1,2-Dibromoethane	0.25	0.63	0.25	1.93	4.83	1.93	U
127-18-4	Tetrachloroethene	0.25	0.62	0.25	1.67	4.18	1.67	U
108-90-7	Chlorobenzene	0.25	0.62	0.25	1.14	2.84	1.14	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.23	0.09	0.63	1.58	0.63	U
100-41-4	Ethylbenzene	0.25	0.63	0.25	1.09	2.73	1.09	U
1330-20-7	m,p-Xylenes	0.50	1.25	0.50	2.16	5.41	2.16	U
111-84-2	Nonane	0.11	0.27	0.11	0.56	1.40	0.56	U
100-42-5	Styrene	0.25	0.62	0.25	1.06	2.66	1.06	U
75-25-2	Bromoform	0.06	0.15	0.06	0.62	1.55	0.62	U
95-47-6	o-Xylene	0.25	0.62	0.25	1.07	2.68	1.07	U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	0.62	0.25	1.69	4.23	1.69	U
96-18-4	1,2,3-Trichloropropane	0.11	0.27	0.11	0.66	1.65	0.66	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.38	0.15	0.77	1.92	0.77	U
95-49-8	2-Chlorotoluene	0.12	0.30	0.12	0.61	1.54	0.61	U
106-43-4	4-Chlorotoluene	0.12	0.29	0.12	0.60	1.50	0.60	U
103-65-1	n-Propylbenzene	0.17	0.42	0.17	0.82	2.06	0.82	U
98-82-8	Isopropylbenzene	0.17	0.42	0.17	0.83	2.08	0.83	U
622-96-8	4-Ethyltoluene	0.14	0.34	0.14	0.68	1.69	0.68	U
108-67-8	1,3,5-Trimethylbenzene	0.26	0.64	0.26	1.26	3.15	1.26	U
124-18-5	Decane	0.11	0.28	0.11	0.66	1.65	0.66	U
98-06-6	tert-butyl benzene	0.15	0.37	0.15	0.81	2.03	0.81	U
95-63-6	1,2,4-Trimethylbenzene	0.25	0.62	0.25	1.21	3.03	1.21	U
538-93-2	i-Butylbenzene	0.15	0.37	0.15	0.81	2.03	0.81	U
135-98-8	sec-butylbenzene	0.16	0.39	0.16	0.86	2.16	0.86	U
541-73-1	1,3-Dichlorobenzene	0.25	0.62	0.25	1.48	3.71	1.48	U
99-87-6	Isopropyltoluene	0.15	0.39	0.15	0.85	2.12	0.85	U
100-44-7	Benzyl chloride	0.14	0.36	0.14	0.74	1.84	0.74	U
106-46-7	1,4-Dichlorobenzene	0.25	0.62	0.25	1.48	3.71	1.48	U
104-51-8	n-Butylbenzene	0.15	0.36	0.15	0.80	1.99	0.80	U
95-50-1	1,2-Dichlorobenzene	0.24	0.61	0.24	1.45	3.64	1.45	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	1.62	0.32	3.13	15.66	3.13	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.12	0.58	0.12	1.54	7.68	1.54	U
120-82-1	1,2,4-Trichlorobenzene	1.00	2.49	1.00	7.39	18.48	7.39	U
91-20-3	Naphthalene	0.21	0.53	0.21	1.12	2.79	1.12	U
87-68-3	Hexachlorobutadiene	0.50	2.49	0.50	5.31	26.57	5.31	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	8.88	89	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211184
Laboratory Number: 01

File:	1118401A.D	**Date Sampled:**	05/02/11	**Time:**	9:14
Description:	AA-21B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	698	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/05/11	**Time:**	18:42
QC_Batch:	050511-MSC	**Can Dilution Factor:**	1.21		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	1	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	ND	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.5	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	1	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	ND	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	0.5	
26.7	2-Ethylhexanol	0.6	
27.2	D-Limonene	0.5	
29.2	Nonanal	1	
30.1	Siloxane Type Compound	1	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	0.5	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC)
Analytical Method: TIC

SDG: 211184
Laboratory Number: 01

File:	1118401A.D	**Date Sampled:**	05/02/11	**Time:**	9:14
Description:	AA-21B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	698	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	10:11
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.21		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS | **SDG: 211184**
Analytical Method: TO15 | **Laboratory ID: 02**

Description:	AA-19B-01-C	**Date Sampled:**	05/02/11	**Time:**	9:55
Can/Tube#:	808	**Date Received:**	05/03/11	**Time:**	10:45
QC_Batch:	050511-MSC	**Date Analyzed:**	05/05/11	**Time:**	19:27
Air Volume:	500 ml	**Can Dilution Factor:**	1.21		

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.64	0.63	1.26	3.15	3.10	J
74-87-3	Chloromethane	0.25	0.62	0.59	0.51	1.27	1.21	J
76-14-2	Freon 114	0.25	0.63	0.25	1.76	4.40	1.76	U
75-01-4	Vinyl chloride	0.25	0.63	0.25	0.64	1.61	0.64	U
106-99-0	1,3-Butadiene	0.26	0.65	0.26	0.57	1.43	0.57	U
74-83-9	Bromomethane	0.25	0.63	0.25	0.98	2.44	0.98	U
75-00-3	Chloroethane	0.25	0.63	0.25	0.66	1.66	0.66	U
64-17-5	Ethanol	0.83	2.08	0.83	1.57	3.92	1.57	U
75-69-4	Trichlorofluoromethane	0.25	0.63	0.40	1.41	3.53	2.26	J
67-64-1	Acetone	0.55	0.68	10.14	1.30	1.63	24.09	
67-63-0	2-propanol	0.63	3.17	0.63	1.56	7.79	1.56	U
75-65-0	t-Butanol	0.18	0.45	0.18	0.55	1.38	0.55	U
4227-95-6	Methyl iodide	0.07	0.18	0.07	0.42	1.06	0.42	U
75-35-4	1,1-Dichloroethene	0.49	1.22	0.49	1.94	4.85	1.94	U
107-13-1	Acrylonitrile	0.28	0.70	0.28	0.61	1.52	0.61	U
76-13-1	Freon 113	0.25	0.62	0.25	1.89	4.73	1.89	U
107-05-1	Allyl chloride	0.21	0.54	0.21	0.67	1.70	0.67	U
75-09-2	Dichloromethane	0.25	0.63	0.25	0.87	2.18	0.87	U
75-15-0	Carbon disulfide	0.21	0.52	0.21	0.64	1.61	0.64	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.40	0.16	0.64	1.59	0.64	U
1634-04-4	Methyl tert butyl ether	0.16	0.41	0.16	0.59	1.48	0.59	U
107-12-0	Propionitrile	0.23	0.58	0.23	0.52	1.30	0.52	U
75-34-3	1,1-Dichloroethane	0.24	0.61	0.24	0.99	2.48	0.99	U
108-05-4	Vinyl acetate	0.20	0.49	0.20	0.69	1.72	0.69	U
78-93-3	2-Butanone	0.23	0.57	0.74	0.67	1.67	2.17	
108-20-3	Diisopropyl ether	0.15	0.38	0.15	0.63	1.59	0.63	U
110-54-3	Hexane	0.16	0.41	0.16	0.58	1.45	0.58	U
126-98-7	Methacrylonitrile	0.23	0.58	0.23	0.63	1.58	0.63	U
141-78-6	Ethyl acetate	0.20	0.49	0.20	0.70	1.76	0.70	U
74-97-5	Bromochloromethane	0.12	0.30	0.12	0.63	1.57	0.63	U
109-99-9	Tetrahydrofuran	0.28	0.70	0.28	0.82	2.05	0.82	U
78-83-1	Isobutyl alcohol	0.37	1.84	0.37	1.11	5.57	1.11	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.62	0.25	0.99	2.47	0.99	U
594-20-7	2,2-Dichloropropane	0.20	0.50	0.20	0.92	2.29	0.92	U
67-66-3	Chloroform	0.25	0.62	0.25	1.20	3.01	1.20	U
71-55-6	1,1,1-Trichloroethane	0.25	0.62	0.25	1.35	3.37	1.35	U
107-06-2	1,2-Dichloroethane	0.25	0.62	0.25	1.01	2.53	1.01	U
563-58-6	1,1-Dichloropropene	0.15	0.37	0.15	0.67	1.67	0.67	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.17	0.43	0.17	0.59	1.47	0.59	U
71-43-2	Benzene	0.25	0.62	1.73	0.80	1.99	5.54	
56-23-5	Carbon tetrachloride	0.25	0.62	0.25	1.55	3.88	1.55	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.30	0.12	0.57	1.41	0.57	U
142-82-5	n-Heptane	0.14	0.34	0.16	0.55	1.39	0.67	J
78-87-5	1,2-Dichloropropane	0.25	0.62	0.25	1.15	2.88	1.15	U
123-91-1	1,4 Dioxane	0.45	1.14	0.45	1.64	4.10	1.64	U
74-95-3	Dibromomethane	0.08	0.21	0.08	0.59	1.48	0.59	U
79-01-6	Trichloroethene	0.25	0.62	0.25	1.34	3.35	1.34	U
75-27-4	Bromodichloromethane	0.09	0.23	0.09	0.60	1.51	0.60	U
80-62-6	Methyl methacrylate	0.15	0.38	0.15	0.62	1.54	0.62	U
108-10-1	4-Methyl-2-pentanone	0.17	0.42	0.17	0.69	1.72	0.69	U
10061-01-5	cis-1,3-Dichloropropene	0.26	0.64	0.26	1.16	2.91	1.16	U
108-88-3	Toluene	0.25	0.62	0.50	0.94	2.35	1.87	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.63	0.25	1.14	2.86	1.14	U
79-00-5	1,1,2-Trichloroethane	0.25	0.62	0.25	1.35	3.37	1.35	U
97-63-2	Ethyl methacrylate	0.13	0.33	0.13	0.62	1.55	0.62	U
591-78-6	2-Hexanone	0.16	0.39	0.16	0.65	1.62	0.65	U
142-28-9	1,3-Dichloropropane	0.15	0.37	0.15	0.68	1.69	0.68	U
111-65-9	Octane	0.12	0.30	0.12	0.57	1.42	0.57	U
124-48-1	Dibromochloromethane	0.09	0.22	0.09	0.76	1.90	0.76	U
106-93-4	1,2-Dibromoethane	0.25	0.63	0.25	1.93	4.83	1.93	U
127-18-4	Tetrachloroethene	0.25	0.62	0.25	1.67	4.18	1.67	U
108-90-7	Chlorobenzene	0.25	0.62	0.25	1.14	2.84	1.14	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.23	0.09	0.63	1.58	0.63	U
100-41-4	Ethylbenzene	0.25	0.63	0.25	1.09	2.73	1.09	U
1330-20-7	m,p-Xylenes	0.50	1.25	0.50	2.16	5.41	2.16	U
111-84-2	Nonane	0.11	0.27	0.11	0.56	1.40	0.56	U
100-42-5	Styrene	0.25	0.62	0.25	1.06	2.66	1.06	U
75-25-2	Bromoform	0.06	0.15	0.06	0.62	1.55	0.62	U
95-47-6	o-Xylene	0.25	0.62	0.25	1.07	2.68	1.07	U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	0.62	0.25	1.69	4.23	1.69	U
96-18-4	1,2,3-Trichloropropane	0.11	0.27	0.11	0.66	1.65	0.66	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.38	0.15	0.77	1.92	0.77	U
95-49-8	2-Chlorotoluene	0.12	0.30	0.12	0.61	1.54	0.61	U
106-43-4	4-Chlorotoluene	0.12	0.29	0.12	0.60	1.50	0.60	U
103-65-1	n-Propylbenzene	0.17	0.42	0.17	0.82	2.06	0.82	U
98-82-8	Isopropylbenzene	0.17	0.42	0.17	0.83	2.08	0.83	U
622-96-8	4-Ethyltoluene	0.14	0.34	0.14	0.68	1.69	0.68	U
108-67-8	1,3,5-Trimethylbenzene	0.26	0.64	0.26	1.26	3.15	1.26	U
124-18-5	Decane	0.11	0.28	0.11	0.66	1.65	0.66	U
98-06-6	tert-butyl benzene	0.15	0.37	0.15	0.81	2.03	0.81	U
95-63-6	1,2,4-Trimethylbenzene	0.25	0.62	0.25	1.21	3.03	1.21	U
538-93-2	i-Butylbenzene	0.15	0.37	0.15	0.81	2.03	0.81	U
135-98-8	sec-butylbenzene	0.16	0.39	0.16	0.86	2.16	0.86	U
541-73-1	1,3-Dichlorobenzene	0.25	0.62	0.25	1.48	3.71	1.48	U
99-87-6	Isopropyltoluene	0.15	0.39	0.15	0.85	2.12	0.85	U
100-44-7	Benzyl chloride	0.14	0.36	0.14	0.74	1.84	0.74	U
106-46-7	1,4-Dichlorobenzene	0.25	0.62	0.25	1.48	3.71	1.48	U
104-51-8	n-Butylbenzene	0.15	0.36	0.15	0.80	1.99	0.80	U
95-50-1	1,2-Dichlorobenzene	0.24	0.61	0.24	1.45	3.64	1.45	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	1.62	0.32	3.13	15.66	3.13	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.12	0.58	0.12	1.54	7.68	1.54	U
120-82-1	1,2,4-Trichlorobenzene	1.00	2.49	1.00	7.39	18.48	7.39	U
91-20-3	Naphthalene	0.21	0.53	0.21	1.12	2.79	1.12	U
87-68-3	Hexachlorobutadiene	0.50	2.49	0.50	5.31	26.57	5.31	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	8.97	90	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds | **SDG:** 211184
Analytical Method: TIC | **Laboratory Number:** 02

File:	1118402A.D	**Date Sampled:**	05/02/11	**Time:**	9:55
Description:	AA-19B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	808	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/05/11	**Time:**	19:27
QC_Batch:	050511-MSC	**Can Dilution Factor:**	1.21		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	1	
6.8	1,3-Pentadiene	0.5	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	ND	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.5	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	5	
22.4	5-Methylhexanal or Hexanal	0.5	
24.9	3,5-Diphenyl-1,2,4-trioxolane	1	
25.1	Siloxane Type Compound	0.5	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	0.5	
26.7	2-Ethylhexanol	0.5	
27.2	D-Limonene	0.2	
29.2	Nonanal	0.5	
30.1	Siloxane Type Compound	0.2	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	0.5	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211184**
Analytical Method: TIC **Laboratory Number: 02**

File:	1118402A.D	**Date Sampled:**	05/02/11	**Time:**	9:55
Description:	AA-19B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	808	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	10:49
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.21		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	2	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211184
Laboratory ID: 03

Description: AA-22B-01-C
Can/Tube#: 734
QC_Batch: 050511-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 11:50
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/05/11 **Time:** 20:13
Can Dilution Factor: 1.20

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.25	0.63	0.50	1.25	3.12	2.46	J
74-87-3	Chloromethane	0.24	0.61	0.48	0.51	1.26	0.99	J
76-14-2	Freon 114	0.25	0.62	0.25	1.74	4.36	1.74	U
75-01-4	Vinyl chloride	0.25	0.62	0.25	0.64	1.59	0.64	U
106-99-0	1,3-Butadiene	0.26	0.64	0.26	0.57	1.42	0.57	U
74-83-9	Bromomethane	0.25	0.62	0.25	0.97	2.42	0.97	U
75-00-3	Chloroethane	0.25	0.62	0.25	0.66	1.65	0.66	U
64-17-5	Ethanol	0.83	2.06	0.83	1.56	3.89	1.56	U
75-69-4	Trichlorofluoromethane	0.25	0.62	0.32	1.40	3.50	1.78	J
67-64-1	Acetone	0.54	0.68	8.08	1.29	1.61	19.19	
67-63-0	2-propanol	0.63	3.14	0.63	1.54	7.72	1.54	U
75-65-0	t-Butanol	0.18	0.45	0.18	0.55	1.37	0.55	U
4227-95-6	Methyl iodide	0.07	0.18	0.07	0.42	1.05	0.42	U
75-35-4	1,1-Dichloroethene	0.48	1.21	0.48	1.92	4.81	1.92	U
107-13-1	Acrylonitrile	0.28	0.70	0.28	0.60	1.51	0.60	U
76-13-1	Freon 113	0.24	0.61	0.24	1.88	4.69	1.88	U
107-05-1	Allyl chloride	0.21	0.54	0.21	0.66	1.69	0.66	U
75-09-2	Dichloromethane	0.25	0.62	0.25	0.87	2.17	0.87	U
75-15-0	Carbon disulfide	0.21	0.51	0.21	0.64	1.60	0.64	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.40	0.16	0.63	1.58	0.63	U
1634-04-4	Methyl tert butyl ether	0.16	0.41	0.16	0.59	1.47	0.59	U
107-12-0	Propionitrile	0.23	0.57	0.23	0.51	1.29	0.51	U
75-34-3	1,1-Dichloroethane	0.24	0.61	0.24	0.98	2.46	0.98	U
108-05-4	Vinyl acetate	0.19	0.48	0.19	0.68	1.71	0.68	U
78-93-3	2-Butanone	0.22	0.56	0.55	0.66	1.66	1.63	J
108-20-3	Diisopropyl ether	0.15	0.38	0.15	0.63	1.57	0.63	U
110-54-3	Hexane	0.16	0.41	0.16	0.58	1.44	0.58	U
126-98-7	Methacrylonitrile	0.23	0.57	0.23	0.63	1.57	0.63	U
141-78-6	Ethyl acetate	0.19	0.48	0.19	0.70	1.75	0.70	U
74-97-5	Bromochloromethane	0.12	0.30	0.12	0.62	1.56	0.62	U
109-99-9	Tetrahydrofuran	0.28	0.69	0.28	0.81	2.04	0.81	U
78-83-1	Isobutyl alcohol	0.36	1.82	0.36	1.11	5.53	1.11	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.62	0.25	0.98	2.45	0.98	U
594-20-7	2,2-Dichloropropane	0.20	0.49	0.20	0.91	2.27	0.91	U
67-66-3	Chloroform	0.24	0.61	0.24	1.19	2.99	1.19	U
71-55-6	1,1,1-Trichloroethane	0.24	0.61	0.24	1.33	3.34	1.33	U
107-06-2	1,2-Dichloroethane	0.25	0.62	0.25	1.00	2.51	1.00	U
563-58-6	1,1-Dichloropropene	0.15	0.36	0.15	0.66	1.66	0.66	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.17	0.42	0.17	0.58	1.45	0.58	U
71-43-2	Benzene	0.25	0.62	0.36	0.79	1.98	1.16	J
56-23-5	Carbon tetrachloride	0.24	0.61	0.24	1.54	3.85	1.54	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.30	0.12	0.56	1.40	0.56	U
142-82-5	n-Heptane	0.13	0.34	0.13	0.55	1.38	0.55	U
78-87-5	1,2-Dichloropropane	0.25	0.62	0.25	1.14	2.86	1.14	U
123-91-1	1,4 Dioxane	0.45	1.13	0.45	1.62	4.06	1.62	U
74-95-3	Dibromomethane	0.08	0.21	0.08	0.59	1.47	0.59	U
79-01-6	Trichloroethene	0.25	0.62	0.25	1.33	3.33	1.33	U
75-27-4	Bromodichloromethane	0.09	0.22	0.09	0.59	1.49	0.59	U
80-62-6	Methyl methacrylate	0.15	0.37	0.15	0.61	1.53	0.61	U
108-10-1	4-Methyl-2-pentanone	0.17	0.42	0.17	0.68	1.71	0.68	U
10061-01-5	cis-1,3-Dichloropropene	0.25	0.64	0.25	1.15	2.89	1.15	U
108-88-3	Toluene	0.25	0.62	0.49	0.93	2.33	1.84	J
10061-02-6	trans-1,3-Dichloropropene	0.25	0.62	0.25	1.13	2.83	1.13	U
79-00-5	1,1,2-Trichloroethane	0.24	0.61	0.24	1.33	3.34	1.33	U
97-63-2	Ethyl methacrylate	0.13	0.33	0.13	0.62	1.53	0.62	U
591-78-6	2-Hexanone	0.16	0.39	0.16	0.64	1.60	0.64	U
142-28-9	1,3-Dichloropropane	0.15	0.36	0.15	0.67	1.67	0.67	U
111-65-9	Octane	0.12	0.30	0.12	0.56	1.41	0.56	U
124-48-1	Dibromochloromethane	0.09	0.22	0.09	0.75	1.88	0.75	U
106-93-4	1,2-Dibromoethane	0.25	0.62	0.25	1.92	4.79	1.92	U
127-18-4	Tetrachloroethene	0.24	0.61	0.24	1.66	4.15	1.66	U
108-90-7	Chlorobenzene	0.24	0.61	0.24	1.13	2.82	1.13	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.23	0.09	0.63	1.56	0.63	U
100-41-4	Ethylbenzene	0.25	0.62	0.25	1.08	2.71	1.08	U
1330-20-7	m,p-Xylenes	0.49	1.24	0.49	2.15	5.37	2.15	U
111-84-2	Nonane	0.11	0.26	0.11	0.55	1.38	0.55	U
100-42-5	Styrene	0.25	0.62	0.25	1.05	2.64	1.05	U
75-25-2	Bromoform	0.06	0.15	0.06	0.61	1.54	0.61	U
95-47-6	o-Xylene	0.24	0.61	0.24	1.06	2.66	1.06	U
79-34-5	1,1,2,2-Tetrachloroethane	0.24	0.61	0.24	1.68	4.20	1.68	U
96-18-4	1,2,3-Trichloropropane	0.11	0.27	0.11	0.66	1.63	0.66	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.37	0.15	0.76	1.90	0.76	U
95-49-8	2-Chlorotoluene	0.12	0.30	0.12	0.61	1.53	0.61	U
106-43-4	4-Chlorotoluene	0.12	0.29	0.12	0.60	1.49	0.60	U
103-65-1	n-Propylbenzene	0.17	0.42	0.17	0.81	2.04	0.81	U
98-82-8	Isopropylbenzene	0.17	0.42	0.17	0.83	2.06	0.83	U
622-96-8	4-Ethyltoluene	0.14	0.34	0.14	0.67	1.67	0.67	U
108-67-8	1,3,5-Trimethylbenzene	0.25	0.64	0.25	1.25	3.13	1.25	U
124-18-5	Decane	0.11	0.28	0.11	0.65	1.63	0.65	U
98-06-6	tert-butyl benzene	0.15	0.37	0.15	0.80	2.01	0.80	U
95-63-6	1,2,4-Trimethylbenzene	0.24	0.61	0.24	1.20	3.01	1.20	U
538-93-2	i-Butylbenzene	0.15	0.37	0.15	0.80	2.01	0.80	U
135-98-8	sec-butylbenzene	0.16	0.39	0.16	0.86	2.15	0.86	U
541-73-1	1,3-Dichlorobenzene	0.24	0.61	0.24	1.47	3.68	1.47	U
99-87-6	Isopropyltoluene	0.15	0.38	0.15	0.84	2.11	0.84	U
100-44-7	Benzyl chloride	0.14	0.35	0.14	0.73	1.83	0.73	U
106-46-7	1,4-Dichlorobenzene	0.24	0.61	0.24	1.47	3.68	1.47	U
104-51-8	n-Butylbenzene	0.14	0.36	0.14	0.79	1.97	0.79	U
95-50-1	1,2-Dichlorobenzene	0.24	0.60	0.24	1.44	3.61	1.44	U
96-12-8	1,2-Dibromo-3-chloropropane	0.32	1.61	0.32	3.11	15.53	3.11	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.12	0.58	0.12	1.52	7.61	1.52	U
120-82-1	1,2,4-Trichlorobenzene	0.99	2.47	0.99	7.33	18.33	7.33	U
91-20-3	Naphthalene	0.21	0.53	0.21	1.11	2.77	1.11	U
87-68-3	Hexachlorobutadiene	0.49	2.47	0.49	5.27	26.35	5.27	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC LCL	Limits UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.64	96	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211184
Laboratory Number: 03

File:	1118403A.D	**Date Sampled:**	05/02/11	**Time:**	11:50
Description:	AA-22B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	734	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/05/11	**Time:**	20:13
QC_Batch:	050511-MSC	**Can Dilution Factor:**	1.20		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	ND	
6.8	1,3-Pentadiene	0.5	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	ND	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.5	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	0.5	
22.4	5-Methylhexanal or Hexanal	0.2	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.2	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	0.2	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	ND	
29.2	Nonanal	0.5	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	0.2	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC)
Analytical Method: TIC

SDG: 211184
Laboratory Number: 03

File:	1118403A.D	**Date Sampled:**	05/02/11	**Time:**	11:50
Description:	AA-22B-01-C	**Date Received:**	05/03/11		
Can/Tube#:	734	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/09/11	**Time:**	11:20
QC_Batch:	050911-MSA	**Can Dilution Factor:**	1.20		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	ND	
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 Modified Full Scan GC/MS
Analytical Method: TO15

SDG: 211184
Laboratory ID: 04

Description: AA-22B-02-C
Can/Tube#: 878
QC_Batch: 050511-MSC
Air Volume: 500 ml

Date Sampled: 05/02/11 **Time:** 12:48
Date Received: 05/03/11 **Time:** 10:45
Date Analyzed: 05/05/11 **Time:** 20:59
Can Dilution Factor: 1.23

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
75-71-8	Dichlorodifluoromethane	0.26	0.65	0.54	1.28	3.20	2.66	J
74-87-3	Chloromethane	0.25	0.63	0.58	0.52	1.30	1.21	J
76-14-2	Freon 114	0.26	0.64	0.26	1.79	4.47	1.79	U
75-01-4	Vinyl chloride	0.26	0.64	0.26	0.65	1.63	0.65	U
106-99-0	1,3-Butadiene	0.26	0.66	0.26	0.58	1.46	0.58	U
74-83-9	Bromomethane	0.26	0.64	0.26	0.99	2.48	0.99	U
75-00-3	Chloroethane	0.26	0.64	0.26	0.67	1.69	0.67	U
64-17-5	Ethanol	0.85	2.12	0.85	1.59	3.99	1.59	U
75-69-4	Trichlorofluoromethane	0.26	0.64	0.37	1.44	3.59	2.08	J
67-64-1	Acetone	0.56	0.70	12.19	1.32	1.65	28.94	
67-63-0	2-propanol	0.64	3.22	0.64	1.58	7.92	1.58	U
75-65-0	t-Butanol	0.19	0.46	0.19	0.56	1.40	0.56	U
4227-95-6	Methyl iodide	0.07	0.18	0.07	0.43	1.08	0.43	U
75-35-4	1,1-Dichloroethene	0.50	1.24	0.50	1.97	4.93	1.97	U
107-13-1	Acrylonitrile	0.29	0.71	0.29	0.62	1.55	0.62	U
76-13-1	Freon 113	0.25	0.63	0.25	1.92	4.81	1.92	U
107-05-1	Allyl chloride	0.22	0.55	0.22	0.68	1.73	0.68	U
75-09-2	Dichloromethane	0.26	0.64	0.26	0.89	2.22	0.89	U
75-15-0	Carbon disulfide	0.21	0.53	0.21	0.65	1.64	0.65	U
156-60-5	trans-1,2-Dichloroethene	0.16	0.41	0.16	0.65	1.62	0.65	U
1634-04-4	Methyl tert butyl ether	0.17	0.42	0.17	0.60	1.51	0.60	U
107-12-0	Propionitrile	0.23	0.59	0.23	0.53	1.32	0.53	U
75-34-3	1,1-Dichloroethane	0.25	0.62	0.25	1.01	2.52	1.01	U
108-05-4	Vinyl acetate	0.20	0.50	0.20	0.70	1.75	0.70	U
78-93-3	2-Butanone	0.23	0.58	0.61	0.68	1.70	1.81	
108-20-3	Diisopropyl ether	0.15	0.39	0.15	0.65	1.61	0.65	U
110-54-3	Hexane	0.17	0.42	0.17	0.59	1.47	0.59	U
126-98-7	Methacrylonitrile	0.23	0.59	0.23	0.64	1.61	0.64	U
141-78-6	Ethyl acetate	0.20	0.50	0.20	0.71	1.79	0.71	U
74-97-5	Bromochloromethane	0.12	0.30	0.12	0.64	1.60	0.64	U
109-99-9	Tetrahydrofuran	0.28	0.71	0.28	0.83	2.09	0.83	U
78-83-1	Isobutyl alcohol	0.37	1.87	0.37	1.13	5.66	1.13	U
156-59-2	cis-1,2-Dichloroethene	0.25	0.63	0.25	1.00	2.51	1.00	U
594-20-7	2,2-Dichloropropane	0.20	0.50	0.20	0.93	2.33	0.93	U
67-66-3	Chloroform	0.25	0.63	0.25	1.22	3.06	1.22	U
71-55-6	1,1,1-Trichloroethane	0.25	0.63	0.25	1.37	3.42	1.37	U
107-06-2	1,2-Dichloroethane	0.25	0.63	0.25	1.03	2.57	1.03	U
563-58-6	1,1-Dichloropropene	0.15	0.37	0.15	0.68	1.70	0.68	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
110-82-7	Cyclohexane	0.17	0.43	0.17	0.60	1.49	0.60	U
71-43-2	Benzene	0.25	0.63	1.78	0.81	2.03	5.68	
56-23-5	Carbon tetrachloride	0.25	0.63	0.25	1.58	3.94	1.58	U
540-84-1	2,2,4-Trimethylpentane	0.12	0.31	0.12	0.58	1.44	0.58	U
142-82-5	n-Heptane	0.14	0.34	0.14	0.56	1.41	0.56	U
78-87-5	1,2-Dichloropropane	0.25	0.63	0.25	1.17	2.93	1.17	U
123-91-1	1,4 Dioxane	0.46	1.16	0.46	1.67	4.16	1.67	U
74-95-3	Dibromomethane	0.09	0.21	0.09	0.60	1.50	0.60	U
79-01-6	Trichloroethene	0.25	0.63	0.25	1.36	3.41	1.36	U
75-27-4	Bromodichloromethane	0.09	0.23	0.09	0.61	1.53	0.61	U
80-62-6	Methyl methacrylate	0.15	0.38	0.15	0.63	1.57	0.63	U
108-10-1	4-Methyl-2-pentanone	0.17	0.43	0.17	0.70	1.75	0.70	U
10061-01-5	cis-1,3-Dichloropropene	0.26	0.65	0.26	1.18	2.96	1.18	U
108-88-3	Toluene	0.25	0.63	0.55	0.95	2.39	2.06	J
10061-02-6	trans-1,3-Dichloropropene	0.26	0.64	0.26	1.16	2.90	1.16	U
79-00-5	1,1,2-Trichloroethane	0.25	0.63	0.25	1.37	3.42	1.37	U
97-63-2	Ethyl methacrylate	0.14	0.34	0.14	0.63	1.57	0.63	U
591-78-6	2-Hexanone	0.16	0.40	0.16	0.66	1.64	0.66	U
142-28-9	1,3-Dichloropropane	0.15	0.37	0.15	0.69	1.72	0.69	U
111-65-9	Octane	0.12	0.31	0.12	0.58	1.45	0.58	U
124-48-1	Dibromochloromethane	0.09	0.23	0.09	0.77	1.93	0.77	U
106-93-4	1,2-Dibromoethane	0.26	0.64	0.26	1.97	4.91	1.97	U
127-18-4	Tetrachloroethene	0.25	0.63	0.25	1.70	4.25	1.70	U
108-90-7	Chlorobenzene	0.25	0.63	0.25	1.15	2.89	1.15	U
630-20-6	1,1,1,2-Tetrachloroethane	0.09	0.23	0.09	0.64	1.60	0.64	U
100-41-4	Ethylbenzene	0.26	0.64	0.26	1.11	2.78	1.11	U
1330-20-7	m,p-Xylenes	0.51	1.27	0.51	2.20	5.50	2.20	U
111-84-2	Nonane	0.11	0.27	0.11	0.57	1.42	0.57	U
100-42-5	Styrene	0.25	0.63	0.25	1.08	2.70	1.08	U
75-25-2	Bromoform	0.06	0.15	0.06	0.63	1.58	0.63	U
95-47-6	o-Xylene	0.25	0.63	0.25	1.09	2.72	1.09	U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	0.63	0.25	1.72	4.30	1.72	U
96-18-4	1,2,3-Trichloropropane	0.11	0.28	0.11	0.67	1.68	0.67	U
110-57-6	t-1,4-Dichloro-2-butene	0.15	0.38	0.15	0.78	1.95	0.78	U
95-49-8	2-Chlorotoluene	0.12	0.30	0.12	0.62	1.57	0.62	U
106-43-4	4-Chlorotoluene	0.12	0.30	0.12	0.61	1.53	0.61	U
103-65-1	n-Propylbenzene	0.17	0.43	0.17	0.83	2.09	0.83	U
98-82-8	Isopropylbenzene	0.17	0.43	0.17	0.85	2.12	0.85	U
622-96-8	4-Ethyltoluene	0.14	0.35	0.14	0.69	1.72	0.69	U
108-67-8	1,3,5-Trimethylbenzene	0.26	0.65	0.26	1.28	3.20	1.28	U
124-18-5	Decane	0.11	0.29	0.11	0.67	1.67	0.67	U
98-06-6	tert-butyl benzene	0.15	0.38	0.15	0.82	2.06	0.82	U
95-63-6	1,2,4-Trimethylbenzene	0.25	0.63	0.25	1.23	3.08	1.23	U
538-93-2	i-Butylbenzene	0.15	0.38	0.15	0.82	2.06	0.82	U
135-98-8	sec-butylbenzene	0.16	0.40	0.16	0.88	2.20	0.88	U
541-73-1	1,3-Dichlorobenzene	0.25	0.63	0.25	1.51	3.77	1.51	U
99-87-6	Isopropyltoluene	0.16	0.39	0.16	0.86	2.16	0.86	U
100-44-7	Benzyl chloride	0.14	0.36	0.14	0.75	1.87	0.75	U
106-46-7	1,4-Dichlorobenzene	0.25	0.63	0.25	1.51	3.77	1.51	U
104-51-8	n-Butylbenzene	0.15	0.37	0.15	0.81	2.02	0.81	U
95-50-1	1,2-Dichlorobenzene	0.25	0.62	0.25	1.48	3.70	1.48	U
96-12-8	1,2-Dibromo-3-chloropropane	0.33	1.65	0.33	3.18	15.92	3.18	U

CAS#	Compound	MDL PPBV	RL PPBV	Amount PPBV	MDL UG/M3	RL UG/M3	Amount UG/M3	Flag
78-00-2	Tetraethyl lead	0.12	0.59	0.12	1.56	7.81	1.56	U
120-82-1	1,2,4-Trichlorobenzene	1.01	2.53	1.01	7.52	18.79	7.52	U
91-20-3	Naphthalene	0.22	0.54	0.25	1.13	2.84	1.29	J
87-68-3	Hexachlorobutadiene	0.51	2.53	0.51	5.40	27.01	5.40	U

	Surrogate Recovery	Spike ppbV	Measured ppbV	% Rec.	QC Limits LCL	UCL	Flag * = Out
2037-26-5	Toluene-d8	10.00	9.42	94	70	130	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 Modified Tentatively Identified Compounds
Analytical Method: TIC

SDG: 211184
Laboratory Number: 04

File:	1118404A.D	**Date Sampled:**	05/02/11	**Time:**	12:48
Description:	AA-22B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	878	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/05/11	**Time:**	20:59
QC_Batch:	050511-MSC	**Can Dilution Factor:**	1.23		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Retention Time:	Probable Compound	Estimated Concentration ppbv	Comments
6.2	Acetonitrile	40	
6.8	1,3-Pentadiene	0.5	
9.6	Butanal	ND	
9.9	2-Butanol	ND	
11.1	Butyl nitrite	ND	
12.6	2-Propylfuran	0.5	
13.6	2-Pentanone	ND	
18.4	Hexanal	0.5	
18.8	Butyl acetate	ND	
19.0	Hexamethylcyclotrisiloxane	ND	
22.4	5-Methylhexanal or Hexanal	ND	
24.9	3,5-Diphenyl-1,2,4-trioxolane	0.5	
25.1	Siloxane Type Compound	ND	
25.6	Sec-butyl butyrate	ND	
25.9	Octanal	ND	
26.7	2-Ethylhexanol	ND	
27.2	D-Limonene	0.5	
29.2	Nonanal	0.5	
30.1	Siloxane Type Compound	ND	
31.1	Bis(1-methylethyl)benzene	ND	
32.2	Decanal	0.2	

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA TO-15 SIM Modified Microbial Volatile Organic Compounds (TIC) **SDG: 211184**
Analytical Method: TIC **Laboratory Number: 04**

File:	1118404A.D	**Date Sampled:**	05/02/11	**Time:**	12:48
Description:	AA-22B-02-C	**Date Received:**	05/03/11		
Can/Tube#:	878	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/06/11	**Time:**	11:59
QC_Batch:	050611-MSA	**Can Dilution Factor:**	1.23		
Air Volume:	500 ml	**Not Detected Flag:**	ND		

Compound type	Estimated Concentration ppbv	Comments
Furans and methyl furans	1	See Full Scan TIC
T-amyl alcohol	ND	
Methyl propanols	ND	
Pentanols	ND	
Butanols and methyl butanols	ND	
Pentanones	ND	
Hexanones	ND	
Heptanones	ND	
Octenols	ND	
Octanones	ND	
2-Isopropyl-3-methoxypyrazine	ND	
2-methyl-isoborneol	ND	

Data Qualifiers, Abbreviations and Definitions

ENVIRONMENTAL
Analytical Service, Inc.

Qualifiers

*	See Case Narrative
B	This compound was detected in the blank above the Reporting Limit (RL)
D	This report was calculated from a secondary dilution factor
E	Compound exceeds the calibration range and is an estimated value
J	The amount reported is an estimated value because it is between the Reporting Limit (RL) and the Method Detection Limit (MDL)
F	Higher detection limit due to sample matrix
G	Higher detection limit due to limited sample size
Q	Compound secondary ion ratio qualifiers are outside the standard acceptance criteria
R	Compound secondary retention time (RT) is outside the acceptance criteria for the method
U	Compound is less than the Method Detection Limit (MDL)

Abbreviations

MDL Minimum Detection Limit – Instrument detection limit

The minimum detectable level (MDL) is the lowest concentration of a substance that can be measured with confidence. The MDL is calculated at the 99% confidence level from seven repetitive measurements on a sample whose concentration does not exceed 10 times the estimated MDL (Glasser et. al. 1981; Long and Winefordner, 1983). Generating an MDL study, a sample is prepared in the appropriate matrix with components near the estimated MDL, which is about 3 times the instrument noise level. This sample is run seven consecutive times and the standard deviation (S) is calculated. The MDL is determined using the following formula: MDL = 3.14*S

ND Not Detected – a reported limit
NA Not Applicable
RPD Relative Percent Difference

The relative percent difference for a pair of duplicate samples is calculated from repetitive runs on sample pairs representative of the types of samples that are analyzed. The RPD provides information on the precision or reproducibility of the actual measurement process. The RPD is calculated for a particular compound from the average using the following formula:

$$RPD(\%) = \frac{\text{Difference} * 100}{\text{Average}}$$

RSD Relative Standard Deviation

The relative standard deviation is reported as a percentage deviation at a particular concentration using the following equation:

$$RSD\ (\%) = \frac{S * 100}{\text{Average}}$$

Definitions

ppbV $= \frac{\text{\# nanomoles cmpd}}{\text{\# moles air}} = \frac{\text{ppbC}}{\text{\# carbons in cmpd}}$

Compound is reported as ppb of compound by Volume

This unit is temperature independent

ug/m^3 $= \text{ppbV} \times \frac{\text{MW compound}}{23.68}$

Compound is reported as ug of a compound in a m^3 of air

23.68 is the molar volume of a gas at 60 ° F and 1 atm pressure

MW = molecular weight

This unit is temperature dependent

ppbC = ppbV x # carbons in compound