

November 15, 2023
Revised July 17, 2024



Revised Report, Rev. 1

Submitted by:

Joe Sears, Ph.D.; Laboratory Technical Manager
RJ Lee Group, Inc. - Columbia Basin Analytical Laboratories
2710 N. 20th Avenue
Pasco, WA 99301
Laboratory Work Order W305169

Prepared for:

Dr. Byron Jones
Kansas State University
245 Levee Drive
Manhattan, KS 66502

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Kansas State University
245 Levee Drive
Manhattan, KS 66502
Attn: Dr. Byron Jones

November 15, 2023

Revised Report; Rev. 1 – Original Issued on October 4, 2022

This report has been revised to correct the following:

- 1) The calculation of the Reporting Limit for those results having units of $\mu\text{g}/\text{m}^3$. The reporting limits on the original report were based on an estimated method detection limit rather than the reporting limit (based on the lowest calibration point).*
- 2) Revised the Electronic Data Deliverable to change the reporting units of $\mu\text{g}/\text{m}^3$ to $\mu\text{g}/\text{sample}$ and the $\mu\text{g}/\text{sample}$ units to $\mu\text{g}/\text{m}^3$.*
- 3) There was an error in the calculation of the parts per billion volume (ppbv) results in all sample reports. This error has been corrected.*
- 4) The reporting limit for tributylphosphate has been changed in all reports. It has been decreased by a factor of 2. This error was due to a carryover from a previously used reporting template for the organophosphate analyses.*

Subject: Analysis of 39 Quartz Filter Samples for Organo-Phosphate Compounds by EPA Method TO-13

The following is the report for the analysis of 39 Quartz Filter Samples received at Columbia Basin Analytical Laboratory on May 23, 2023 for a pre-determined list of organo-phosphate compounds. The sample group was assigned a Columbia Basin Analytical Laboratories login order number of W305169. This report consists of the results of the analyses for the 39 samples, the Quality Control Reports from the sample prep batches, a copy of the chain of custody, and a copy of the chromatograms of the samples.

Included in this report are sub-reports and calibration curves from the evaluation of the various phosphate esters that were not part of the phosphates calibrated from authentic standards. These appear after the Chain-of-Custody at the end of the report.

General Set Comments

Columbia Basin Analytical Laboratories received 39 samples on 05/23/23 to be tested for organo-phosphate compounds by EPA Compendium Method TO-13.

These were Air and Emission samples, therefore, no dry weight determinations were conducted and no dry weight corrections were made to the final data reports. Sample results are reported in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and microgram per sample ($\mu\text{g}/\text{sample}$). The EDD will also list sample results in units of parts per billion volume (ppbv). An air volume of 2000 liters was applied to all Field Blank and Shipping Blank samples to facilitate a calculation of ppbv and $\mu\text{g}/\text{m}^3$ results for these samples. An air volume of 2000 liters was applied to all QC samples to facilitate calculation of ppbv and $\mu\text{g}/\text{m}^3$ results.

Analysis Comments

The samples were spiked with surrogates and triple extracted with methylene chloride. The methylene chloride was reduced to 1.00 mL volume followed by the addition of 40 μ L of internal standard. The sample preps were analyzed on an Agilent 6890N gas chromatograph with a 5973N mass spectrometer. The capillary column was a Phenomenex ZB-Semivolatiles capillary column (30m x 0.25mmid x 0.25 μ) film using helium as the carrier gas. The interface between the GC and mass spectrometer was maintained at 280°C. The mass spectrometer ion source and quadrupole rods were maintained at a temperature of 230°C and 150°C, respectively.

There were two sample batches. They consisted of 20 and 19 samples, respectively, and included a Laboratory Control Sample (BS1), Laboratory Control Sample Duplicate (BSD1), Matrix Reporting Limits (MRL1) spike, and a Matrix Blank (BLK1). A single instrument batch was run containing both sample batches and associated instrument QC. The instrument batch was preceded with a Calibration Verification standard (CV), a Calibration Blank (CB), and GC/MS Tuning Verification. A CCV and CB were run after every 10 analyses with a GC/MS Tuning Verification and the batch was closed with the same analyses.

The concentration of the isomers of the mono- and di-ortho-tri-cresyl phosphates (if present in the samples) were determined from the calibration curve of the tri-ortho-cresyl-phosphate based on the peak area from $m/z=368$, the molecular ion of the compound. This approach was chosen as it facilitated the measurement of the low level signals in the samples in which the Total Ion Current of the respective compounds were often obscured by the large background of chromatographically unresolved material. The peak areas of $m/z=368$ were measured for all calibration points, QC, and samples for all isomers present in the samples. As a result of this approach, the concentration of the Tri-m-cresyl phosphate in the QC and samples does not agree well with the result in the data that was generated with the authentic standard. The variation in the result is also due to the use of the response factors of the Tri-o-cresyl phosphate which are different than those of the Tri-m-cresyl phosphate. The naming format for the non-calibrated phosphate esters consisting of 3-carbon substitution on the phenyl rings is C3-Triphenyl phosphate (I-1), where I-1 is the notation for the first isomer appearing in the analysis.

The various isomers of the tri-xylyl phosphates (6-carbon tri-phenyl isomers) were quantified against a calibration curve that was an average of the total ion current response of the tris(2,4-dimethylphenyl)-, tris(2,5-dimethylphenyl), and tris(2,6-dimethylphenyl) phosphate calibration curves. There were 8 isomers of the phosphate esters that corresponded to a 6-carbon tri-phenyl ring substitution isomer series in two of the samples. All samples were reviewed for these 8 isomers. The naming format for the non-calibrated phosphate esters consisting of 6-carbon substitution on the phenyl rings is C6-Tri-phenyl phosphate (I-1), where I-1 is the notation for the first isomer appearing in the analysis. This set of compounds have a nominal molecular weight of 410 amu.

Another group of phosphate ester compounds (6 isomers) was observed in two samples at a nominal mass of 452 amu. This group of organo-phosphates consisted of a series of 9-CH₂ substitutions on the tri-phenyl rings of the esters. These could be n-propyl, iso-propyl, or mixtures of methyl, ethyl, and butyl-substitutions on the 3 phenyl rings to achieve a total of 9-CH₂ mass additions. Quantitative results from this set of compounds are based on the average total ion current calibration curve used for the tris-dimethylphenyl phosphates discussed above. The naming format for the non-calibrated phosphate esters consisting of 9-carbon substitution on the phenyl rings is TPP-Isomer-1, where Isomer-1 is the notation for the first isomer appearing in the analysis.

A final group organo-phosphates consisting of 12-CH₂ equivalents were observed in two samples. They have a nominal molecular weight of 494 amu. The concentration of these phosphates was estimated in the same manner as the those discussed in the paragraph above. The naming format for the non-calibrated phosphate esters consisting of 12-CH₂ substitution on the phenyl rings is TBP-Isomer-1, where Isomer-1 is the notation for the first isomer appearing in the analysis.

The results include a report of the Tentatively Identified Compounds (TICs) from each sample. The TIC search criteria for the non-phosphate compounds were set to find the 40 most intense chromatographic peaks (if present) that were not part of the calibrated target list. The identified peaks must be greater than 2% of the nearest internal standard's total ion current. Each identified peak was then searched against the NIST 2020 mass spectral library for the top 5 spectral matches. Generally, only those matches greater than an 80% fit factor were considered as possible candidates for compound identification, however, some candidates with lower fit factors were considered after manual review of each library search. The manual review takes into account possible coelution of compounds which result in mixed spectra, the position of the analyte in the chromatogram, and the mass range of the experiment vs. the mass range of library spectrum. The estimated concentration of each TIC is based on the TIC's total ion current response vs. that of the nearest internal standard. In some instances, the TIC was reported as 'Unknown' due to poor library fit factors and/or the inability to deduce possible compound classes as a result of co-elution of compounds from the column. In the cases of 'Unknowns', a molecular weight was assigned to the compound based on information gained from the mass spectrum or its position in the chromatogram with respect to the elution of an n-alkane.

Data Anomalies and/or Changes from the Original Automated Method Processing

Some of the chromatographic peaks were manually integrated to correct errors in baseline assignments or peak splitting by the automatic data processing method. Copies of the automated vs. manually integrated peaks can be made available upon request.

General Lab Comments

The results provided in this report relate only to the items tested and as received. Samples were received in acceptable condition unless otherwise noted in the comments above. Samples have not been dry weight corrected. Information provided by the customer can affect validity of result. This test report shall not be reproduced, except in full, without written approval of Columbia Basin Analytical Laboratories.

I certify that this report complies with the Columbia Basin Analytical Laboratory Quality Assurance Program and that all Quality Assurance measures were implemented and adhered to in the analysis of this sample set. Release of the data contained in this laboratory report has been authorized by the Laboratory Director or a designee as verified by the following signature.



11/15/23

Joe Sears, Ph.D., RJ Lee Group Consultant

If you have any questions, please feel free to contact Joe Sears at jsears@rjleegroup.com or at 509-792- 1955.

The original report from RJ Lee Group was edited by KSU to reflect corrected sample volumes. References to Sample Location Coalescer in the Chain of Custody are equivalent to Pack Exit Sample Location.



LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratory
 2710 North 20th Avenue, Pasco WA 99301
 Tel: (509) 792-1955

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 e-mail:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

Rev.1 - 11/15/23

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Shipping Blank 2 (1)	W305169-01	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.5	0.167	8.2000	0.50	24.6	
Shipping Blank 2 (1)	W305169-01	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	2-Fluorobiphenyl	321-60-8	172.2	Surr	97.4	0.167	8.133	0.50	24.4	
Shipping Blank 2 (1)	W305169-01	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Pyrene-d10	1718-52-1	212.31	Surr	98.4	0.167	8.200	0.50	24.6	
Shipping Blank 2 (1)	W305169-01	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	Terphenyl-d14	1718-51-0	244.4	Surr	96.6	0.167	8.033	0.50	24.1	
Shipping Blank 2 (1)	W305169-01	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	0.760	0.50	2.28	
Shipping Blank 2 (1)	W305169-01	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Shipping Blank 2 (1)	W305169-01	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Shipping Blank 2 (1)	W305169-01	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Shipping Blank 2 (1)	W305169-01	C3-Triphenyl phosphate (I-I)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Shipping Blank 2 (1)	W305169-01	Tri-o-cresyl-phosphate	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	Tri-m-cresyl-phosphate	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	Tri-p-cresyl-phosphate	-	368.36	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 1	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 2	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 3	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 4	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 5	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TPP-Isomer 6	-	452.5	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TBP-Isomer 1	-	494.6	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TBP-Isomer 2	-	494.6	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TBP-Isomer 3	-	494.6	TIC		0.050	< 0.033	0.033	< 0.10	
Shipping Blank 2 (1)	W305169-01	TBP-Isomer 4	-	494.6	TIC		0.050	< 0.033	0.033	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Shipping Blank 2 (1)	W305169-01	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.167	1.863	0.50	5.59	91
Shipping Blank 2 (1)	W305169-01	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	14.200	0.50	42.6	81
Shipping Blank 2 (1)	W305169-01	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	12.000	0.50	36.0	91
Shipping Blank 2 (1)	W305169-01	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	10.667	0.50	32.0	94
Shipping Blank 2 (1)	W305169-01	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC		0.167	1.480	0.50	4.44	90
Shipping Blank 2 (1)	W305169-01	Eicosane	112-95-8	282	TIC		0.167	1.543	0.50	4.63	97
Shipping Blank 2 (1)	W305169-01	Oxalic acid, cyclohexylmethyl tridecyl ester	990460-93-1	368	TIC		0.167	1.180	0.50	3.54	87
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	300	TIC		0.167	1.240	0.50	3.72	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	300	TIC		0.167	1.167	0.50	3.50	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	300	TIC		0.167	1.350	0.50	4.05	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	296	TIC		0.167	1.620	0.50	4.86	0
Shipping Blank 2 (1)	W305169-01	Unknown	0	300	TIC		0.167	1.340	0.50	4.02	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Shipping Blank 2 (1)	W305169-01	Unknown	0	300	TIC		0.167	1.537	0.50	4.61	0
Shipping Blank 2 (1)	W305169-01	N-heneicosane	990295-43-7	296	TIC		0.167	1.360	0.50	4.08	96
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	296	TIC		0.167	1.200	0.50	3.60	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	310	TIC		0.167	1.593	0.50	4.78	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	310	TIC		0.167	1.643	0.50	4.93	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	310	TIC		0.167	2.150	0.50	6.45	0
Shipping Blank 2 (1)	W305169-01	Unknown	0	300	TIC		0.167	1.890	0.50	5.67	0
Shipping Blank 2 (1)	W305169-01	Unknown	0	300	TIC		0.167	1.683	0.50	5.05	0
Shipping Blank 2 (1)	W305169-01	Docosane	990330-61-8	310	TIC		0.167	1.610	0.50	4.83	98
Shipping Blank 2 (1)	W305169-01	1-Docosene	1599-67-3	308	TIC		0.167	1.613	0.50	4.84	91
Shipping Blank 2 (1)	W305169-01	Unknown	0	300	TIC		0.167	1.450	0.50	4.35	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	324	TIC		0.167	1.293	0.50	3.88	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	324	TIC		0.167	2.100	0.50	6.30	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	324	TIC		0.167	1.603	0.50	4.81	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	324	TIC		0.167	1.523	0.50	4.57	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	324	TIC		0.167	1.380	0.50	4.14	0
Shipping Blank 2 (1)	W305169-01	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.167	1.367	0.50	4.10	99
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	338	TIC		0.167	2.047	0.50	6.14	0
Shipping Blank 2 (1)	W305169-01	Hexacosane	630-01-3	366	TIC		0.167	1.243	0.50	3.73	90
Shipping Blank 2 (1)	W305169-01	Unknown	0	350	TIC		0.167	1.200	0.50	3.60	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	380	TIC		0.167	1.623	0.50	4.87	0
Shipping Blank 2 (1)	W305169-01	Unknown Hydrocarbon	0	380	TIC		0.167	1.643	0.50	4.93	0
Shipping Blank 2 (1)	W305169-01	Octadecane, 2-methyl-	0	408	TIC		0.167	2.413	0.50	7.24	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

N = Identification based on mass spectral library search

P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

Sample ID							Surr %	RL	Result	RL	Result	Qualifier
Client	RJLG	Analyte	CAS Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank Ambient (6)	W305169-02	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.167	8.400	0.50	25.2	
Field Blank Ambient (6)	W305169-02	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	2-Fluorobiphenyl	321-60-8	172.2	Surr	98.6	0.167	8.233	0.50	24.7	
Field Blank Ambient (6)	W305169-02	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Pyrene-d10	1718-52-1	212.31	Surr	104	0.167	8.700	0.50	26.1	
Field Blank Ambient (6)	W305169-02	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	Terphenyl-d14	1718-51-0	244.4	Surr	97.4	0.167	8.133	0.50	24.4	
Field Blank Ambient (6)	W305169-02	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	1.777	0.50	5.33	
Field Blank Ambient (6)	W305169-02	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ambient (6)	W305169-02	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ambient (6)	W305169-02	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Field Blank Ambient (6)	W305169-02	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 10 of 235		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank Ambient (6)	W305169-02	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ambient (6)	W305169-02	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank Ambient (6)	W305169-02	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	13.767	0.50	41.3	90
Field Blank Ambient (6)	W305169-02	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	11.633	0.50	34.9	91
Field Blank Ambient (6)	W305169-02	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	9.100	0.50	27.3	94
Field Blank Ambient (6)	W305169-02	Nonadecane	629-92-5	268	TIC		0.167	2.853	0.50	8.56	98
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	268	TIC		0.167	3.500	0.50	10.5	0
Field Blank Ambient (6)	W305169-02	Eicosane	112-95-8	282	TIC		0.167	4.867	0.50	14.6	97
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	296	TIC		0.167	3.500	0.50	10.5	0
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	296	TIC		0.167	3.400	0.50	10.2	0
Field Blank Ambient (6)	W305169-02	Unknown	0	296	TIC		0.167	4.667	0.50	14.0	0
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	296	TIC		0.167	3.967	0.50	11.9	0
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	296	TIC		0.167	4.867	0.50	14.6	0
Field Blank Ambient (6)	W305169-02	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.167	3.800	0.50	11.4	91
Field Blank Ambient (6)	W305169-02	N-heneicosane	990295-43-7	296	TIC		0.167	3.633	0.50	10.9	97
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	296	TIC		0.167	3.287	0.50	9.86	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 11 of 23	µg/sample	µg/sample	Qualifier
Client	RJLG											
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	310	TIC		0.167	3.667	0.50	11.0	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	310	TIC		0.167	3.767	0.50	11.3	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	310	TIC		0.167	3.097	0.50	9.29	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	310	TIC		0.167	4.367	0.50	13.1	0	
Field Blank Ambient (6)	W305169-02	n-Pentadecylcyclohexane	6006-95-7	294	TIC		0.167	3.500	0.50	10.5	91	
Field Blank Ambient (6)	W305169-02	Docosane	990330-61-8	310	TIC		0.167	4.333	0.50	13.0	97	
Field Blank Ambient (6)	W305169-02	Unknown	0	310	TIC		0.167	3.600	0.50	10.8	0	
Field Blank Ambient (6)	W305169-02	Unknown	0	324	TIC		0.167	3.433	0.50	10.3	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	324	TIC		0.167	3.003	0.50	9.01	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	324	TIC		0.167	4.933	0.50	14.8	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	324	TIC		0.167	3.333	0.50	10.0	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	324	TIC		0.167	3.533	0.50	10.6	0	
Field Blank Ambient (6)	W305169-02	(E)-3-pentacosene	990425-31-6	350	TIC		0.167	2.840	0.50	8.52	93	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	338	TIC		0.167	4.000	0.50	12.0	0	
Field Blank Ambient (6)	W305169-02	Unknown	0	338	TIC		0.167	4.567	0.50	13.7	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	352	TIC		0.167	2.603	0.50	7.81	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	352	TIC		0.167	4.600	0.50	13.8	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	352	TIC		0.167	3.030	0.50	9.09	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	396	TIC		0.167	4.033	0.50	12.1	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	396	TIC		0.167	4.333	0.50	13.0	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	410	TIC		0.167	3.467	0.50	10.4	0	
Field Blank Ambient (6)	W305169-02	Unknown Hydrocarbon	0	410	TIC		0.167	3.080	0.50	9.24	0	

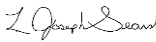
*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank Ozone In (7)	W305169-03	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.8	0.167	8.233	0.50	24.7	
Field Blank Ozone In (7)	W305169-03	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	2-Fluorobiphenyl	321-60-8	172.2	Surr	96.6	0.167	8.067	0.50	24.2	
Field Blank Ozone In (7)	W305169-03	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Pyrene-d10	1718-52-1	212.31	Surr	103	0.167	8.633	0.50	25.9	
Field Blank Ozone In (7)	W305169-03	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	Terphenyl-d14	1718-51-0	244.4	Surr	95.2	0.167	7.933	0.50	23.8	
Field Blank Ozone In (7)	W305169-03	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone In (7)	W305169-03	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone In (7)	W305169-03	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Field Blank Ozone In (7)	W305169-03	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 13 of 20	µg/sample	µg/sample
Field Blank Ozone In (7)	W305169-03	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone In (7)	W305169-03	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank Ozone In (7)	W305169-03	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	12.367	0.50	37.1	87
Field Blank Ozone In (7)	W305169-03	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	10.667	0.50	32.0	91
Field Blank Ozone In (7)	W305169-03	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	8.433	0.50	25.3	94
Field Blank Ozone In (7)	W305169-03	Nonadecane	629-92-5	268	TIC		0.167	2.937	0.50	8.81	97
Field Blank Ozone In (7)	W305169-03	Eicosane	112-95-8	282	TIC		0.167	4.867	0.50	14.6	97
Field Blank Ozone In (7)	W305169-03	Unknown	0	282	TIC		0.167	4.200	0.50	12.6	0
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	282	TIC		0.167	4.167	0.50	12.5	0
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	282	TIC		0.167	3.533	0.50	10.6	0
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	296	TIC		0.167	3.433	0.50	10.3	0
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	296	TIC		0.167	3.100	0.50	9.30	0
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	296	TIC		0.167	5.100	0.50	15.3	0
Field Blank Ozone In (7)	W305169-03	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.167	4.100	0.50	12.3	91
Field Blank Ozone In (7)	W305169-03	N-heneicosane	990295-43-7	296	TIC		0.167	3.230	0.50	9.69	96
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	310	TIC		1.0	2.860	0.50	8.58	0

Sample ID												
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 14 of 235	µg/sample	µg/sample	Qualifier
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	310	TIC		1.0	3.833	0.50	11.5	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	310	TIC		1.0	3.700	0.50	11.1	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	310	TIC		1.0	3.090	0.50	9.27	0	
Field Blank Ozone In (7)	W305169-03	Unknown	0	310	TIC		1.0	4.867	0.50	14.6	0	
Field Blank Ozone In (7)	W305169-03	n-Pentadecylcyclohexane	6006-95-7	294	TIC		1.0	3.467	0.50	10.4	94	
Field Blank Ozone In (7)	W305169-03	Docosane	990330-61-8	310	TIC		1.0	4.167	0.50	12.5	99	
Field Blank Ozone In (7)	W305169-03	Unknown	0	324	TIC		1.0	3.967	0.50	11.9	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	324	TIC		1.0	3.133	0.50	9.40	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	324	TIC		1.0	4.033	0.50	12.1	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	324	TIC		1.0	3.933	0.50	11.8	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	324	TIC		1.0	3.733	0.50	11.2	0	
Field Blank Ozone In (7)	W305169-03	Cyclohexane, hexadecyl-	6812-38-0	308	TIC		1.0	4.300	0.50	12.9	91	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	338	TIC		1.0	2.857	0.50	8.57	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	338	TIC		1.0	4.333	0.50	13.0	0	
Field Blank Ozone In (7)	W305169-03	Unknown	0	338	TIC		1.0	6.300	0.50	18.9	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	352	TIC		1.0	3.127	0.50	9.38	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	352	TIC		1.0	4.033	0.50	12.1	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	352	TIC		1.0	3.207	0.50	9.62	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	396	TIC		1.0	4.033	0.50	12.1	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	396	TIC		1.0	4.233	0.50	12.7	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	410	TIC		1.0	3.933	0.50	11.8	0	
Field Blank Ozone In (7)	W305169-03	Unknown Hydrocarbon	0	410	TIC		1.0	3.833	0.50	11.5	0	

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank Ozone Out (8)	W305169-04	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Nitrobenzene-d4	4165-60-0	128.14	Surr	96.0	0.167	8.000	0.50	24.0	
Field Blank Ozone Out (8)	W305169-04	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	2-Fluorobiphenyl	321-60-8	172.2	Surr	95.8	0.167	7.967	0.50	23.9	
Field Blank Ozone Out (8)	W305169-04	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Pyrene-d10	1718-52-1	212.31	Surr	99.8	0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Terphenyl-d14	1718-51-0	244.4	Surr	95.2	0.167	7.933	0.50	23.8	
Field Blank Ozone Out (8)	W305169-04	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Ozone Out (8)	W305169-04	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Ozone Out (8)	W305169-04	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Field Blank Ozone Out (8)	W305169-04	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.050	< 0.050	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	Tri-o-cresyl-phosphate	-	368.36	TIC		0.050	< 0.050	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 16 of 23		5/11/2015
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank Ozone Out (8)	W305169-04	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Ozone Out (8)	W305169-04	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank Ozone Out (8)	W305169-04	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	12.033	0.50	36.1	81
Field Blank Ozone Out (8)	W305169-04	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	10.267	0.50	30.8	91
Field Blank Ozone Out (8)	W305169-04	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	7.967	0.50	23.9	94
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	282	TIC		0.167	2.970	0.50	8.91	0
Field Blank Ozone Out (8)	W305169-04	Eicosane	112-95-8	282	TIC		0.167	3.867	0.50	11.6	97
Field Blank Ozone Out (8)	W305169-04	Unknown	0	282	TIC		0.167	3.290	0.50	9.87	0
Field Blank Ozone Out (8)	W305169-04	Unknown	0	282	TIC		0.167	3.037	0.50	9.11	0
Field Blank Ozone Out (8)	W305169-04	Nonadecane, 9-methyl-	13287-24-6	282	TIC		0.167	2.760	0.50	8.28	91
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	296	TIC		0.167	2.663	0.50	7.99	0
Field Blank Ozone Out (8)	W305169-04	Heneicosane	629-94-7	296	TIC		0.167	3.180	0.50	9.54	91
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	296	TIC		0.167	3.867	0.50	11.6	0
Field Blank Ozone Out (8)	W305169-04	Unknown	0	296	TIC		0.167	3.187	0.50	9.56	0
Field Blank Ozone Out (8)	W305169-04	N-heneicosane	990295-43-7	296	TIC		0.167	2.533	0.50	7.60	98
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	310	TIC		0.167	2.957	0.50	8.87	0

Sample ID		CAS				Surr %		RL	Result	Pagre		17 of 2
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	5ult
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	310	TIC			0.167	2.997	0.50	8.99	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	310	TIC			0.167	2.480	0.50	7.44	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	310	TIC			0.167	3.933	0.50	11.8	0
Field Blank Ozone Out (8)	W305169-04	n-Pentadecylcyclohexane	6006-95-7	294	TIC			0.167	2.680	0.50	8.04	90
Field Blank Ozone Out (8)	W305169-04	Docosane	990330-61-8	310	TIC			0.167	3.223	0.50	9.67	98
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	324	TIC			0.167	2.510	0.50	7.53	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	324	TIC			0.167	3.867	0.50	11.6	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	324	TIC			0.167	3.007	0.50	9.02	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	324	TIC			0.167	2.830	0.50	8.49	0
Field Blank Ozone Out (8)	W305169-04	Cyclohexane, hexadecyl-	6812-38-0	308	TIC			0.167	2.610	0.50	7.83	94
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	324	TIC			0.167	3.217	0.50	9.65	0
Field Blank Ozone Out (8)	W305169-04	Elaidamide	301-02-0	281	TIC			0.167	5.733	0.50	17.2	98
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	338	TIC			0.167	3.240	0.50	9.72	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	338	TIC			0.167	2.670	0.50	8.01	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	396	TIC			0.167	3.257	0.50	9.77	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	396	TIC			0.167	3.600	0.50	10.8	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	410	TIC			0.167	5.200	0.50	15.6	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	410	TIC			0.167	2.837	0.50	8.51	0
Field Blank Ozone Out (8)	W305169-04	Unknown Hydrocarbon	0	410	TIC			0.167	2.920	0.50	8.76	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

See Report

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C839, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank Pack Exit (9)	W305169-05	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.0167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Nitrobenzene-d4	4165-60-0	128.14	Surr	100	0.0167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	2-Fluorobiphenyl	321-60-8	172.2	Surr	98.3	0.167	8.200	0.50	24.6	
Field Blank Pack Exit (9)	W305169-05	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Pyrene-d10	1718-52-1	212.31	Surr	103	0.167	8.633	0.50	25.9	
Field Blank Pack Exit (9)	W305169-05	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Terphenyl-d14	1718-51-0	244.4	Surr	93.9	0.167	7.833	0.50	23.5	
Field Blank Pack Exit (9)	W305169-05	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank Pack Exit (9)	W305169-05	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank Pack Exit (9)	W305169-05	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Field Blank Pack Exit (9)	W305169-05	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 19 of 20	µg/sample	µg/sample
Field Blank Pack Exit (9)	W305169-05	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank Pack Exit (9)	W305169-05	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank Pack Exit (9)	W305169-05	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.167	0.970	0.50	2.91	80
Field Blank Pack Exit (9)	W305169-05	Cyclopentanecarboxaldehyde	872-53-7	98	TIC		0.167	0.206	0.50	0.619	86
Field Blank Pack Exit (9)	W305169-05	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.167	1.690	0.50	5.07	90
Field Blank Pack Exit (9)	W305169-05	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	13.133	0.50	39.4	81
Field Blank Pack Exit (9)	W305169-05	Cyclohexene, 3-chloro-	2441-97-6	116	TIC		0.167	0.510	0.50	1.53	80
Field Blank Pack Exit (9)	W305169-05	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	11.067	0.50	33.2	91
Field Blank Pack Exit (9)	W305169-05	3-Heptene, 4-methyl-	4485-16-9	112	TIC		0.167	0.367	0.50	1.10	86
Field Blank Pack Exit (9)	W305169-05	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	8.633	0.50	25.9	84
Field Blank Pack Exit (9)	W305169-05	Unknown	0	134	TIC		0.167	1.470	0.50	4.41	0
Field Blank Pack Exit (9)	W305169-05	Cyclohexanone, 2-chloro-	822-87-7	132	TIC		0.167	0.202	0.50	0.607	81
Field Blank Pack Exit (9)	W305169-05	1,2-Cyclohexanediol, trans-	1460-57-7	116	TIC		0.167	0.870	0.50	2.61	95
Field Blank Pack Exit (9)	W305169-05	Cyclohexane, 1,2-dichloro-	1121-21-7	152	TIC		0.167	0.417	0.50	1.25	94
Field Blank Pack Exit (9)	W305169-05	Unknown	0	166	TIC		0.167	0.607	0.50	1.82	0
Field Blank Pack Exit (9)	W305169-05	Nonanal	124-19-6	142	TIC		0.167	0.213	0.50	0.640	91

Sample ID		CAS			Surr %		RL	Result	Page 20 of 25		Qualifier
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	
Field Blank Pack Exit (9)	W305169-05	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC		0.167	0.547	0.50	1.64	90
Field Blank Pack Exit (9)	W305169-05	Benzene, cyclohexyl-	827-52-1	160	TIC		0.167	0.357	0.50	1.07	95
Field Blank Pack Exit (9)	W305169-05	1,2-Cyclohexanesultone	990022-61-3	162	TIC		0.167	0.413	0.50	1.24	72
Field Blank Pack Exit (9)	W305169-05	Unknown	0	162	TIC		0.167	0.397	0.50	1.19	0
Field Blank Pack Exit (9)	W305169-05	Benzoic acid, 2-benzoyl-, methyl ester	606-28-0	240	TIC		0.167	0.477	0.50	1.34	96
Field Blank Pack Exit (9)	W305169-05	Unknown	0	240	TIC		0.167	0.540	0.50	1.62	0
Field Blank Pack Exit (9)	W305169-05	Unknown	0	296	TIC		0.167	0.417	0.50	1.25	0
Field Blank Pack Exit (9)	W305169-05	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.167	1.000	0.50	3.00	98
Field Blank Pack Exit (9)	W305169-05	Unknown Hydrocarbon	0	338	TIC		0.167	0.637	0.50	1.91	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

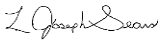
Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL.	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	
J = Reported concentration was estimated	
X = Detected but not quantifiable	



Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 20
 Air Volume (L): 3344

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - Ambient (2)	W305169-06	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	Nitrobenzene-d4	4165-60-0	128.14	Surr	100	0.15	7.506	0.50	25.1	
Baseline - Ambient (2)	W305169-06	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	2-Fluorobiphenyl	321-60-8	172.2	Surr	98.9	0.15	7.386	0.50	24.7	
Baseline - Ambient (2)	W305169-06	Triisobutyl phosphate	126-71-6	266.31	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tributyl phosphate	126-73-8	266.31	T		0.15	1.217	0.50	4.07	
Baseline - Ambient (2)	W305169-06	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Pyrene-d10	1718-52-1	212.31	Surr	104	0.15	7.775	0.50	26.0	
Baseline - Ambient (2)	W305169-06	Chrysene-d12	1719-03-5	240.4	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	Terphenyl-d14	1718-51-0	244.4	Surr	98.2	0.15	7.356	0.50	24.6	
Baseline - Ambient (2)	W305169-06	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Triphenyl phosphate	115-86-6	326.3	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.15	0.185	0.50	0.620	
Baseline - Ambient (2)	W305169-06	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Perylene-d12	1520-96-3	264.4	Int. Std		0.15	7.476	0.50	25.0	
Baseline - Ambient (2)	W305169-06	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.15	< 0.15	0.50	< 0.50	
Baseline - Ambient (2)	W305169-06	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.15	< 0.15	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - Ambient (2)	W305169-06	C3-Triphenyl phosphate (I-I)	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	Tri-o-cresyl-phosphate	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere 22 of 23	µg/sample	µg/sample
Baseline - Ambient (2)	W305169-06	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	Tri-m-cresyl-phosphate	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	Tri-p-cresyl-phosphate	-	368.36	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 1	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 2	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 3	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 4	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 5	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TPP-Isomer 6	-	452.5	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TBP-Isomer 1	-	494.6	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TBP-Isomer 2	-	494.6	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TBP-Isomer 3	-	494.6	TIC		0.030	< 0.030	0.10	< 0.10	
Baseline - Ambient (2)	W305169-06	TBP-Isomer 4	-	494.6	TIC		0.030	< 0.030	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - Ambient (2)	W305169-06	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.15	1.089	0.50	3.64	64
Baseline - Ambient (2)	W305169-06	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.15	1.411	0.50	4.72	90
Baseline - Ambient (2)	W305169-06	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.15	11.124	0.50	37.2	87
Baseline - Ambient (2)	W305169-06	2-Cyclohexen-1-one	930-68-7	96	TIC		0.15	9.569	0.50	32.0	91
Baseline - Ambient (2)	W305169-06	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.15	7.656	0.50	25.6	94
Baseline - Ambient (2)	W305169-06	Unknown	0	134	TIC		0.15	1.307	0.50	4.37	0
Baseline - Ambient (2)	W305169-06	Eicosane	112-95-8	282	TIC		0.15	1.349	0.50	4.51	96
Baseline - Ambient (2)	W305169-06	Unknown	0	282	TIC		0.15	1.609	0.50	5.38	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	282	TIC		0.15	1.154	0.50	3.86	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	282	TIC		0.15	1.417	0.50	4.74	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.558	0.50	5.21	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.561	0.50	5.22	0
Baseline - Ambient (2)	W305169-06	Cyclohexane, tetradecyl	0	280	TIC		0.15	1.193	0.50	3.99	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.839	0.50	6.15	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 23 of 28		Qualifier
Client	RJLG								µg/sample	µg/sample	
Baseline - Ambient (2)	W305169-06	Heneicosane	629-94-7	296	TIC		0.15	1.097	0.50	3.67	98
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.304	0.50	4.36	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.465	0.50	4.90	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.516	0.50	5.07	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	296	TIC		0.15	1.923	0.50	6.43	0
Baseline - Ambient (2)	W305169-06	Unknown	0	310	TIC		0.15	2.111	0.50	7.06	0
Baseline - Ambient (2)	W305169-06	n-Pentadecylcyclohexane	6006-95-7	294	TIC		0.15	1.379	0.50	4.61	60
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	294	TIC		0.15	1.681	0.50	5.62	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	310	TIC		0.15	1.077	0.50	3.60	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	310	TIC		0.15	1.492	0.50	4.99	0
Baseline - Ambient (2)	W305169-06	Unknown	0	310	TIC		0.15	1.292	0.50	4.32	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	310	TIC		0.15	1.627	0.50	5.44	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	324	TIC		0.15	2.063	0.50	6.90	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	324	TIC		0.15	1.579	0.50	5.28	0
Baseline - Ambient (2)	W305169-06	Tricosane	638-67-5	324	TIC		0.15	1.558	0.50	5.21	70
Baseline - Ambient (2)	W305169-06	Unknown	0	324	TIC		0.15	1.453	0.50	4.86	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	324	TIC		0.15	1.089	0.50	3.64	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	324	TIC		0.15	3.140	0.50	10.5	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	324	TIC		0.15	1.899	0.50	6.35	0
Baseline - Ambient (2)	W305169-06	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.15	1.941	0.50	6.49	99
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	338	TIC		0.15	2.150	0.50	7.19	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	410	TIC		0.15	1.145	0.50	3.83	0
Baseline - Ambient (2)	W305169-06	Unknown Hydrocarbon	0	410	TIC		0.15	1.540	0.50	5.15	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.



Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 20
 Air Volume (L): 4755

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - Ozone In (3)	W305169-07	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.7	0.105	5.237	0.50	24.9	
Baseline - Ozone In (3)	W305169-07	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	2-Fluorobiphenyl	321-60-8	172.2	Surr	97.6	0.105	5.131	0.50	24.4	
Baseline - Ozone In (3)	W305169-07	Triisobutyl phosphate	126-71-6	266.31	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tributyl phosphate	126-73-8	266.31	T		0.105	0.116	0.50	0.550	
Baseline - Ozone In (3)	W305169-07	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Pyrene-d10	1718-52-1	212.31	Surr	108	0.105	5.699	0.50	27.1	
Baseline - Ozone In (3)	W305169-07	Chrysene-d12	1719-03-5	240.4	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	Terphenyl-d14	1718-51-0	244.4	Surr	96.4	0.105	5.068	0.50	24.1	
Baseline - Ozone In (3)	W305169-07	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Triphenyl phosphate	115-86-6	326.3	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Perylene-d12	1520-96-3	264.4	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone In (3)	W305169-07	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.105	< 0.105	0.50	< 0.50	
Baseline - Ozone In (3)	W305169-07	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.105	< 0.105	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - Ozone In (3)	W305169-07	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	Tri-o-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere 25 of 2R3e5ult µg/sample	µg/sample	Qualifier
Baseline - Ozone In (3)	W305169-07	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	Tri-m-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.021	0.025	0.10	0.121	
Baseline - Ozone In (3)	W305169-07	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	Tri-p-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 1	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 2	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 3	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 4	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 5	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TPP-Isomer 6	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TBP-Isomer 1	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TBP-Isomer 2	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TBP-Isomer 3	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone In (3)	W305169-07	TBP-Isomer 4	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - Ozone In (3)	W305169-07	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.105	1.287	0.50	6.12	64
Baseline - Ozone In (3)	W305169-07	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.105	1.117	0.50	5.31	91
Baseline - Ozone In (3)	W305169-07	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.105	7.634	0.50	36.3	76
Baseline - Ozone In (3)	W305169-07	2-Cyclohexen-1-one	930-68-7	96	TIC		0.105	6.562	0.50	31.2	91
Baseline - Ozone In (3)	W305169-07	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.105	5.531	0.50	26.3	94
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	282	TIC		0.105	1.108	0.50	5.27	0
Baseline - Ozone In (3)	W305169-07	Eicosane	112-95-8	282	TIC		0.105	1.474	0.50	7.01	97
Baseline - Ozone In (3)	W305169-07	Unknown	0	282	TIC		0.105	4.080	0.50	19.4	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	282	TIC		0.105	1.218	0.50	5.79	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	282	TIC		0.105	1.119	0.50	5.32	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.207	0.50	5.74	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.298	0.50	6.17	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.546	0.50	7.35	0
Baseline - Ozone In (3)	W305169-07	Cyclohexane, tetradecyl	1795-18-2	280	TIC		0.105	1.293	0.50	6.15	90

Sample ID		CAS		Surr %		RL	Result	Page 26 of 28		Result	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.804	0.50	8.58	0
Baseline - Ozone In (3)	W305169-07	Heneicosane	629-94-7	296	TIC		0.105	1.110	0.50	5.28	97
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.308	0.50	6.22	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.253	0.50	5.96	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	296	TIC		0.105	1.199	0.50	5.70	0
Baseline - Ozone In (3)	W305169-07	Unknown	0	296	TIC		0.105	1.821	0.50	8.66	0
Baseline - Ozone In (3)	W305169-07	n-Pentylcyclohexane	6006-95-7	294	TIC		0.105	1.144	0.50	5.44	90
Baseline - Ozone In (3)	W305169-07	Docosane	990330-61-8	310	TIC		0.105	1.415	0.50	6.73	98
Baseline - Ozone In (3)	W305169-07	Unknown	0	310	TIC		0.105	1.373	0.50	6.53	0
Baseline - Ozone In (3)	W305169-07	Unknown	0	310	TIC		0.105	1.758	0.50	8.36	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	310	TIC		0.105	1.113	0.50	5.29	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	310	TIC		0.105	1.371	0.50	6.52	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	310	TIC		0.105	1.121	0.50	5.33	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	310	TIC		0.105	1.264	0.50	6.01	0
Baseline - Ozone In (3)	W305169-07	Cyclohexane, hexadecyl-	6812-38-0	308	TIC		0.105	1.134	0.50	5.39	94
Baseline - Ozone In (3)	W305169-07	Benzyl butyl phthalate	85-68-7	312	TIC		0.105	1.091	0.50	5.19	91
Baseline - Ozone In (3)	W305169-07	Elaidamide	301-02-0	281	TIC		0.105	2.839	0.50	13.5	98
Baseline - Ozone In (3)	W305169-07	Unknown Acid Ester	0	324	TIC		0.105	1.152	0.50	5.48	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	324	TIC		0.105	1.417	0.50	6.74	0
Baseline - Ozone In (3)	W305169-07	Diisooctylphthalate	27554-26-3	390	TIC		0.105	1.550	0.50	7.37	91
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	410	TIC		0.105	1.289	0.50	6.13	0
Baseline - Ozone In (3)	W305169-07	Unknown Hydrocarbon	0	410	TIC		0.105	1.186	0.50	5.64	0
Baseline - Ozone In (3)	W305169-07	Unknown	0	410	TIC		0.105	1.224	0.50	5.82	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

<div><div>c = Sample RPD failure</div><div>r = %REC failure in the MRL</div><div>p = Positively identified compound, for non-calibrated compounds</div><div>B = Compound found in associated laboratory blank above the MDL</div><div>D = Diluted sample</div><div>E = Report concentration was above the instrumental calibration range</div><div>I = Response failure of an internal standard; concentration should be considered an estimate</div><div>J = Reported concentration was estimated</div><div>X = Detected but not quantifiable</div></div> <div><div>Qualifiers</div><div>N = Identification based on mass spectral library search</div><div>P = Library spectrum match, rsd >90% w RT match</div><div>Q = Qualitative results for non detects</div><div>R = Analyte %REC Failure</div><div>S = Surrogate recovery failure</div><div>TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.</div></div>
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Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 20
 Air Volume (L): 4755

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - Ozone Out (4)	W305169-08	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	Nitrobenzene-d4	4165-60-0	128.14	Surr	102	0.105	5.342	0.50	25.4	
Baseline - Ozone Out (4)	W305169-08	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	2-Fluorobiphenyl	321-60-8	172.2	Surr	97.3	0.105	5.110	0.50	24.3	
Baseline - Ozone Out (4)	W305169-08	Triisobutyl phosphate	126-71-6	266.31	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tributyl phosphate	126-73-8	266.31	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Pyrene-d10	1718-52-1	212.31	Surr	101	0.105	5.300	0.50	25.2	
Baseline - Ozone Out (4)	W305169-08	Chrysene-d12	1719-03-5	240.4	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	Terphenyl-d14	1718-51-0	244.4	Surr	96.0	0.105	5.047	0.50	24.0	
Baseline - Ozone Out (4)	W305169-08	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Triphenyl phosphate	115-86-6	326.3	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Perylene-d12	1520-96-3	264.4	Int. Std		0.105	5.258	0.50	25.0	
Baseline - Ozone Out (4)	W305169-08	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.105	< 0.11	0.50	< 0.50	
Baseline - Ozone Out (4)	W305169-08	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.105	< 0.11	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - Ozone Out (4)	W305169-08	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	Tri-o-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere	28 of 28	35µg/sample
Baseline - Ozone Out (4)	W305169-08	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	Tri-m-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.021	0.025	0.10	0.121	
Baseline - Ozone Out (4)	W305169-08	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	Tri-p-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	

Baseline - Ozone Out (4)	W305169-08	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 1	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 2	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 3	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 4	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 5	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TPP-Isomer 6	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TBP-Isomer 1	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TBP-Isomer 2	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TBP-Isomer 3	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
Baseline - Ozone Out (4)	W305169-08	TBP-Isomer 4	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - Ozone Out (4)	W305169-08	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.105	1.870	0.50	8.89	50
Baseline - Ozone Out (4)	W305169-08	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.105	1.174	0.50	5.58	91
Baseline - Ozone Out (4)	W305169-08	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.105	7.487	0.50	35.6	70
Baseline - Ozone Out (4)	W305169-08	2-Cyclohexen-1-one	930-68-7	96	TIC		0.105	6.688	0.50	31.8	91
Baseline - Ozone Out (4)	W305169-08	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.105	5.447	0.50	25.9	94
Baseline - Ozone Out (4)	W305169-08	Unknown	0	134	TIC		0.105	0.961	0.50	4.57	0
Baseline - Ozone Out (4)	W305169-08	Nonadecane	629-92-5	268	TIC		0.105	0.810	0.50	3.85	97
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	268	TIC		0.105	0.843	0.50	4.01	0
Baseline - Ozone Out (4)	W305169-08	Eicosane	112-95-8	282	TIC		0.105	1.171	0.50	5.57	97
Baseline - Ozone Out (4)	W305169-08	Sulfurous acid, ester	0	280	TIC		0.105	0.913	0.50	4.34	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	280	TIC		0.105	0.885	0.50	4.21	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	282	TIC		0.105	0.810	0.50	3.85	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		0.105	0.955	0.50	4.54	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		1.105	1.165	0.50	5.54	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 29 of 235		Qualifier
Client	RJLG								µg/sample	µg/sample	
Baseline - Ozone Out (4)	W305169-08	Cyclohexane, tetradecyl	0	280	TIC		1.105	0.953	0.50	4.53	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		1.105	1.363	0.50	6.48	0
Baseline - Ozone Out (4)	W305169-08	N-heneicosane	990295-43-7	296	TIC		1.105	0.881	0.50	4.19	96
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		1.105	0.812	0.50	3.86	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		1.105	0.997	0.50	4.74	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	296	TIC		1.105	0.822	0.50	3.91	0
Baseline - Ozone Out (4)	W305169-08	4-Methylheneicosane	0	296	TIC		1.105	0.820	0.50	3.90	0
Baseline - Ozone Out (4)	W305169-08	Hexadecanamide	629-54-9	255	TIC		1.105	1.569	0.50	7.46	93
Baseline - Ozone Out (4)	W305169-08	n-Pentadecylcyclohexane	6006-95-7	294	TIC		1.105	0.917	0.50	4.36	97
Baseline - Ozone Out (4)	W305169-08	Docosane	990330-61-8	310	TIC		1.105	1.115	0.50	5.30	98
Baseline - Ozone Out (4)	W305169-08	1-Docosene	1599-67-3	308	TIC		1.105	0.951	0.50	4.52	83
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	310	TIC		1.105	0.911	0.50	4.33	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	310	TIC		1.105	1.060	0.50	5.04	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	310	TIC		1.105	0.829	0.50	3.94	0
Baseline - Ozone Out (4)	W305169-08	Unknown	0	310	TIC		1.105	0.993	0.50	4.72	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	310	TIC		1.105	0.810	0.50	3.85	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	310	TIC		1.105	0.883	0.50	4.20	0
Baseline - Ozone Out (4)	W305169-08	9-Octadecenamide, (Z)-	301-02-0	281	TIC		1.105	3.512	0.50	16.7	99
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	324	TIC		1.105	1.577	0.50	7.50	0
Baseline - Ozone Out (4)	W305169-08	Diisooctylphthalate	27554-26-3	390	TIC		1.105	0.984	0.50	4.68	91
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	410	TIC		1.105	1.066	0.50	5.07	0
Baseline - Ozone Out (4)	W305169-08	Unknown Hydrocarbon	0	410	TIC		1.105	1.096	0.50	5.21	0
Baseline - Ozone Out (4)	W305169-08	Unknown	0	410	TIC		1.105	1.169	0.50	5.56	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	
J = Reported concentration was estimated	
X = Detected but not quantifiable	

Joseph Sears

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 20
 Air Volume (L): 4404

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - Pack Exit (5)	W305169-09	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	Nitrobenzene-d4	4165-60-0	128.14	Surr	104	0.114	5.904	0.50	26.0	
Baseline - Pack Exit (5)	W305169-09	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	2-Fluorobiphenyl	321-60-8	172.2	Surr	98.8	0.114	5.609	0.50	24.7	
Baseline - Pack Exit (5)	W305169-09	Triisobutyl phosphate	126-71-6	266.31	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tributyl phosphate	126-73-8	266.31	T		0.114	0.452	0.50	1.99	
Baseline - Pack Exit (5)	W305169-09	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Pyrene-d10	1718-52-1	212.31	Surr	103	0.114	5.858	0.50	25.8	
Baseline - Pack Exit (5)	W305169-09	Chrysene-d12	1719-03-5	240.4	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	Terphenyl-d14	1718-51-0	244.4	Surr	97.0	0.114	5.495	0.50	24.2	
Baseline - Pack Exit (5)	W305169-09	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Triphenyl phosphate	115-86-6	326.3	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.114	0.595	0.50	2.62	
Baseline - Pack Exit (5)	W305169-09	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Perylene-d12	1520-96-3	264.4	Int. Std		0.114	5.677	0.50	25.0	
Baseline - Pack Exit (5)	W305169-09	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.114	< 0.114	0.50	< 0.50	
Baseline - Pack Exit (5)	W305169-09	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.114	< 0.114	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - Pack Exit (5)	W305169-09	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	Tri-o-cresyl-phosphate	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 31 of 235		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - Pack Exit (5)	W305169-09	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	Tri-m-cresyl-phosphate	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	Tri-p-cresyl-phosphate	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 1	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 2	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 3	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 4	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 5	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TPP-Isomer 6	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TBP-Isomer 1	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TBP-Isomer 2	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TBP-Isomer 3	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - Pack Exit (5)	W305169-09	TBP-Isomer 4	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - Pack Exit (5)	W305169-09	Heptane, 3,5-dimethyl-	926-82-9	128	TIC		0.114	2.566	0.50	11.3	91
Baseline - Pack Exit (5)	W305169-09	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.114	3.179	0.50	14.0	47
Baseline - Pack Exit (5)	W305169-09	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.114	1.842	0.50	8.11	86
Baseline - Pack Exit (5)	W305169-09	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.114	8.401	0.50	37.0	70
Baseline - Pack Exit (5)	W305169-09	2-Cyclohexen-1-one	930-68-7	96	TIC		0.114	7.516	0.50	33.1	91
Baseline - Pack Exit (5)	W305169-09	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.114	6.381	0.50	28.1	94
Baseline - Pack Exit (5)	W305169-09	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC		0.114	1.163	0.50	5.12	56
Baseline - Pack Exit (5)	W305169-09	Benzoic acid, 2-benzoyl-, methyl ester	606-28-0	240	TIC		0.114	0.733	0.50	3.23	96
Baseline - Pack Exit (5)	W305169-09	1,2-Benzenedicarboxylic acid, butyl 2-methylpropyl ester	17851-53-5	278	TIC		0.114	1.585	0.50	6.98	95
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	282	TIC		0.114	0.851	0.50	3.75	0
Baseline - Pack Exit (5)	W305169-09	Eicosane	112-95-8	282	TIC		0.114	1.020	0.50	4.49	97
Baseline - Pack Exit (5)	W305169-09	Unknown	0	282	TIC		0.114	1.215	0.50	5.35	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	282	TIC		0.114	1.008	0.50	4.44	0
Baseline - Pack Exit (5)	W305169-09	Cyclohexane, decyl-	1795-16-0	224	TIC		0.114	0.845	0.50	3.72	83

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 32 of 203		
Client	RJLG								µg/sample	µg/sample	Qualifier
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	296	TIC		0.114	1.249	0.50	5.50	0
Baseline - Pack Exit (5)	W305169-09	Heneicosane	629-94-7	296	TIC		0.114	0.749	0.50	3.30	91
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	296	TIC		0.114	0.811	0.50	3.57	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	296	TIC		0.114	0.981	0.50	4.32	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	296	TIC		0.114	0.777	0.50	3.42	0
Baseline - Pack Exit (5)	W305169-09	Hexadecanamide	629-54-9	255	TIC		0.114	1.633	0.50	7.19	87
Baseline - Pack Exit (5)	W305169-09	n-Pentadecylcyclohexane	6006-95-7	294	TIC		0.114	0.856	0.50	3.77	74
Baseline - Pack Exit (5)	W305169-09	Docosane	990330-61-8	310	TIC		0.114	0.917	0.50	4.04	96
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	1.387	0.50	6.11	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	0.822	0.50	3.62	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	1.203	0.50	5.30	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	0.777	0.50	3.42	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	0.765	0.50	3.37	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	310	TIC		0.114	0.913	0.50	4.02	0
Baseline - Pack Exit (5)	W305169-09	Unknown	0	310	TIC		0.114	0.854	0.50	3.76	0
Baseline - Pack Exit (5)	W305169-09	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.114	4.973	0.50	21.9	98
Baseline - Pack Exit (5)	W305169-09	Docosane	990330-61-8	310	TIC		0.114	0.786	0.50	3.46	93
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	324	TIC		0.114	1.592	0.50	7.01	0
Baseline - Pack Exit (5)	W305169-09	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC		0.114	2.000	0.50	8.81	90
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	410	TIC		0.114	0.747	0.50	3.29	0
Baseline - Pack Exit (5)	W305169-09	Unknown Hydrocarbon	0	410	TIC		0.114	0.788	0.50	3.47	0
Baseline - Pack Exit (5)	W305169-09	13-Docosenamide, (Z)-	112-84-5	337	TIC		0.114	1.485	0.50	6.54	98

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = TIC =

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 10
 Air Volume (L): 2241

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.223	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.223	11.290	0.50	25.3	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.223	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.223	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	2-Fluorobiphenyl	321-60-8	172.2	Surr	98.8	0.223	11.022	0.50	24.7	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Triisobutyl phosphate	126-71-6	266.31	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tributyl phosphate	126-73-8	266.31	T		0.223	0.638	0.50	1.43	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.223	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Pyrene-d10	1718-52-1	212.31	Surr	97.8	0.223	10.933	0.50	24.5	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Chrysene-d12	1719-03-5	240.4	Int. Std		0.223	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Terphenyl-d14	1718-51-0	244.4	Surr	97.0	0.223	10.799	0.50	24.2	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Triphenyl phosphate	115-86-6	326.3	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Perylene-d12	1520-96-3	264.4	Int. Std		0.22	11.156	0.50	25.0	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.223	< 0.223	0.50	< 0.50	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.223	< 0.223	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-o-cresyl-phosphate	-	368.36	TIC		0.045	< 0.045	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 34 of 2835ult		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-m-cresyl-phosphate	-	368.36	TIC		0.045	4.775	0.10	10.7	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.045	5.622	0.10	12.6	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.045	5.622	0.10	12.6	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.045	5.622	0.10	12.6	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tri-p-cresyl-phosphate	-	368.36	TIC		0.045	5.622	0.10	12.6	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 1	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 2	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 3	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 4	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 5	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TPP-Isomer 6	-	452.5	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TBP-Isomer 1	-	494.6	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TBP-Isomer 2	-	494.6	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TBP-Isomer 3	-	494.6	TIC		0.045	< 0.045	0.10	< 0.10	
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	TBP-Isomer 4	-	494.6	TIC		0.045	< 0.045	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.223	3.771	0.50	8.45	90
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Phenol, 2-fluoro-	367-12-4	112	TIC		0.223	6.604	0.50	14.8	96
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.223	26.774	0.50	60.0	64
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	2-Cyclohexen-1-one	930-68-7	96	TIC		0.223	24.364	0.50	54.6	91
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown	0	142	TIC		0.223	2.597	0.50	5.82	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.223	20.214	0.50	45.3	95
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown	0	120	TIC		0.223	3.762	0.50	8.43	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Eicosane	112-95-8	282	TIC		0.223	3.217	0.50	7.21	97
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown	0	282	TIC		0.223	2.994	0.50	6.71	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	282	TIC		0.223	2.628	0.50	5.89	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	282	TIC		0.223	3.320	0.50	7.44	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	282	TIC		0.223	2.838	0.50	6.36	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	282	TIC		0.223	3.597	0.50	8.06	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.223	2.950	0.50	6.61	90

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 1 of 35 of 2023		
Client	RJLG								µg/sample	µg/sample	Qualifier
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	296	TIC		0.223	4.096	0.50	9.18	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	N-heneicosane	990295-43-7	296	TIC		0.223	2.892	0.50	6.48	98
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	296	TIC		0.223	2.860	0.50	6.41	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	296	TIC		0.223	3.579	0.50	8.02	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	296	TIC		0.223	3.472	0.50	7.78	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	296	TIC		0.223	3.204	0.50	7.18	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Hexadecanamide	629-54-9	255	TIC		0.223	5.801	0.50	13.0	86
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	n-Pentadecylcyclohexane	6006-95-7	294	TIC		0.223	3.298	0.50	7.39	87
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	4.003	0.50	8.97	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.690	0.50	8.27	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.378	0.50	7.57	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.967	0.50	8.89	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.088	0.50	6.92	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.664	0.50	8.21	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown	0	310	TIC		0.223	2.700	0.50	6.05	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tricosane	638-67-5	324	TIC		0.223	2.709	0.50	6.07	91
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	3.284	0.50	7.36	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	310	TIC		0.223	2.668	0.50	5.98	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.223	11.290	0.50	25.3	99
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	324	TIC		0.223	4.056	0.50	9.09	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Tetracosane	646-31-1	338	TIC		0.223	2.588	0.50	5.80	94
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	410	TIC		0.223	2.802	0.50	6.28	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown Hydrocarbon	0	410	TIC		0.223	3.333	0.50	7.47	0
MJ-II - 5ppm - APU - Ambient (10)	W305169-10	Unknown	0	410	TIC		0.223	3.739	0.50	8.38	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL.

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

ND = Not detected. Qualitative analysis N = Identification based on mass spectral library search

P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

Sample ID					Surr %		RL	Result	Page 1.36 of 23.51		
Client	RJLG	Analyte	CAS Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

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LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratory
 2710 North 20th Avenue, Pasco WA 99301
 Tel: (509) 792-1955

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 e-mail:

Sampling Date: 05/15/23
 Sampling Time (min): 10
 Air Volume (L): 2376

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Nitrobenzene-d4	4165-60-0	128.14	Surr	97.6	0.21	10.3	0.50	24.4	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	2-Fluorobiphenyl	321-60-8	172.2	Surr	92.8	0.21	9.76	0.50	23.2	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Triisobutyl phosphate	126-71-6	266.31	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tributyl phosphate	126-73-8	266.31	T		0.21	0.867	0.50	2.06	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Pyrene-d10	1718-52-1	212.31	Surr	117	0.21	12.3	0.50	29.3	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Chrysene-d12	1719-03-5	240.4	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Terphenyl-d14	1718-51-0	244.4	Surr	93.8	0.21	9.87	0.50	23.5	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Triphenyl phosphate	115-86-6	326.3	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.21	0.871	0.50	2.07	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Perylene-d12	1520-96-3	264.4	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.21	0.976	0.50	2.32	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.21	< 0.21	0.50	< 0.50	

Sample ID		Analyte	CAS		Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG		Number	MW							
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-o-cresyl-phosphate	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-m-cresyl-phosphate	-	368.36	TIC		0.042	1.32	0.10	3.14	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.042	3.68	0.10	8.75	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.042	3.71	0.10	8.82	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tri-p-cresyl-phosphate	-	368.36	TIC		0.042	1.37	0.10	3.24	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 1	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 2	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 3	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 4	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 5	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TPP-Isomer 6	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TBP-Isomer 1	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TBP-Isomer 2	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TBP-Isomer 3	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	TBP-Isomer 4	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	1-cyclopentene-1-carbaldehyde	990000-55-8	96	TIC		0.21	19.5	0.50	46.3	86
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	2-Cyclohexen-1-one	930-68-7	96	TIC		0.21	15.8	0.50	37.5	91
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	(1S,2S)-2-chloranilylcyclohexan-1-ol	990006-53-3	134	TIC		0.21	8.39	0.50	19.9	83
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Hexadecanamide	629-54-9	255	TIC		0.21	3.95	0.50	9.38	96
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	9-Octadecenamide	3322-62-1	281	TIC		0.21	18.6	0.50	44.2	98

Sample ID		Analyte	CAS		Type	Surr %	RL	Result	RL	Result	Qualifier
Client	RJLG		Number	MW							
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	274	TIC		0.21	3.05	0.50	7.24	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	282	TIC		0.21	6.11	0.50	14.5	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	282	TIC		0.21	3.60	0.50	8.55	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	282	TIC		0.21	7.59	0.50	18.0	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	310	TIC		0.21	4.77	0.50	11.3	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	310	TIC		0.21	3.67	0.50	8.72	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	310	TIC		0.21	11.3	0.50	26.8	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	324	TIC		0.21	6.72	0.50	16.0	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	324	TIC		0.21	5.07	0.50	12.1	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	324	TIC		0.21	6.60	0.50	15.7	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	324	TIC		0.21	24.2	0.50	57.6	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	338	TIC		0.21	4.67	0.50	11.1	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	338	TIC		0.21	38.6	0.50	91.6	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	352	TIC		0.21	25.5	0.50	60.5	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	352	TIC		0.21	7.63	0.50	18.1	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	352	TIC		0.21	32.6	0.50	77.4	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	352	TIC		0.21	5.65	0.50	13.4	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	366	TIC		0.21	20.7	0.50	49.1	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	366	TIC		0.21	4.58	0.50	10.9	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	366	TIC		0.21	41.6	0.50	98.8	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	380	TIC		0.21	13.8	0.50	32.7	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	380	TIC		0.21	13.5	0.50	32.1	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	380	TIC		0.21	23.0	0.50	54.7	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	380	TIC		0.21	13.2	0.50	31.4	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	394	TIC		0.21	3.36	0.50	7.98	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	394	TIC		0.21	6.23	0.50	14.8	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	394	TIC		0.21	4.44	0.50	10.5	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	408	TIC		0.21	4.74	0.50	11.3	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	408	TIC		0.21	4.15	0.50	9.86	0
MJ-II - 5ppm - APU - Ozone In (11)	W305169-11	Unknown	0	408	TIC		0.21	5.77	0.50	13.7	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte

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Sample ID		Analyte	CAS Number	MW	Type	Surr %	RL	Result	RL	Result	Qualifier
Client	RJLG					REC	µg/m3	µg/m3	µg/sample	µg/sample	
µg/Kg = micrograms per kilogram						TIC = Tentatively Identified Compound					
Qualifiers											
c = Sample RPD failure						N = Identification based on mass spectral library search					
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes					
I = Response failure of an internal standard; concentration should be considered an estimate						both chemical library matches, chemist identified compounds,					
J = Reported concentration was estimated						and unknowns.					
X = Detected but not quantifiable											

Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 10
 Air Volume (L): 2376

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Nitrobenzene-d4	4165-60-0	128.14	Surr	102	0.21	10.8	0.50	25.6	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.7	0.21	9.65	0.50	22.9	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Triisobutyl phosphate	126-71-6	266.31	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tributyl phosphate	126-73-8	266.31	T		0.21	1.47	0.50	3.49	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Pyrene-d10	1718-52-1	212.31	Surr	131	0.21	13.8	0.50	32.8	S
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Chrysene-d12	1719-03-5	240.4	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Terphenyl-d14	1718-51-0	244.4	Surr	92.4	0.21	9.72	0.50	23.1	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Triphenyl phosphate	115-86-6	326.3	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2-ethylhexyl) phosphophate	78-42-2	434.63	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.21	0.324	0.50	0.770	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Perylene-d12	1520-96-3	264.4	Int. Std		0.21	10.5	0.50	25.0	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.21	0.349	0.50	0.830	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.21	< 0.21	0.50	< 0.50	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,4-dimethylphenyl) phosphophate	3862-12-2	410.454	T		0.21	< 0.21	0.50	< 0.50	

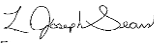
Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 42 of 203	µg/sample	µg/sample
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-o-cresyl-phosphate	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-m-cresyl-phosphate	-	368.36	TIC		0.042	1.33	0.10	3.15	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.042	3.70	0.10	8.78	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.042	3.73	0.10	8.86	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tri-p-cresyl-phosphate	-	368.36	TIC		0.042	1.37	0.10	3.26	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 1	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 2	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 3	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 4	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 5	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TPP-Isomer 6	-	452.5	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TBP-Isomer 1	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TBP-Isomer 2	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TBP-Isomer 3	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	TBP-Isomer 4	-	494.6	TIC		0.042	< 0.042	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.21	20.0	0.50	47.4	90
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	2-Cyclohexen-1-one	930-68-7	96	TIC		0.21	16.1	0.50	38.2	91
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.21	9.24	0.50	22.0	76
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.21	7.62	0.50	18.1	99
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	310	TIC		0.21	5.90	0.50	14.0	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	310	TIC		0.21	6.38	0.50	15.2	0

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere	43 of 2r3e5ult	Qualifier
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	324	TIC		0.21	12.4	0.50	29.4	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	324	TIC		0.21	11.0	0.50	26.1	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	324	TIC		0.21	6.06	0.50	14.4	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	324	TIC		0.21	13.0	0.50	30.9	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	338	TIC		0.21	6.61	0.50	15.7	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	338	TIC		0.21	6.72	0.50	16.0	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	352	TIC		0.21	21.2	0.50	50.3	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	352	TIC		0.21	28.6	0.50	68.1	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	352	TIC		0.21	19.3	0.50	45.9	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	352	TIC		0.21	8.49	0.50	20.2	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	366	TIC		0.21	29.9	0.50	71.1	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	366	TIC		0.21	20.4	0.50	48.5	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	366	TIC		0.21	67.6	0.50	161	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	380	TIC		0.21	9.60	0.50	22.8	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	380	TIC		0.21	31.3	0.50	74.3	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	380	TIC		0.21	34.8	0.50	82.7	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	380	TIC		0.21	101	0.50	239	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	394	TIC		0.21	53.3	0.50	127	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	394	TIC		0.21	14.9	0.50	35.4	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	394	TIC		0.21	17.8	0.50	42.3	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	42.8	0.50	102	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	30.3	0.50	72.0	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	8.01	0.50	19.0	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	19.2	0.50	45.6	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	36.4	0.50	86.4	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	38.6	0.50	91.6	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	408	TIC		0.21	55.9	0.50	133	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	422	TIC		0.21	11.6	0.50	27.6	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	436	TIC		0.21	14.5	0.50	34.5	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	436	TIC		0.21	11.9	0.50	28.4	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	450	TIC		0.21	23.4	0.50	55.7	0
MJ-II - 5ppm - APU - Ozone Out (12)	W305169-12	Unknown	0	450	TIC		0.21	12.7	0.50	30.3	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

Sample ID				CAS		Surr %	RL	Result	Page 44 of 2351			
Client	RJLG	Analyte		Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
ng = nanogram				BDL = Below Detection Limit				Surr = Surrogate Compound				
ppbv = parts per billion volume				N/A = Not Applicable				Int. Std = Internal Standard				
ug/m3 = micrograms per cubic meter				ND = Not detected. Qualitative analysis only				T = Target Analyte				
µg/Kg = micrograms per kilogram								TIC = Tentatively Identified Compound				
Qualifiers												

Qualifiers											
c = Sample RPD failure						N = Identification based on mass spectral library search					
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL.						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes both chemical					
I = Response failure of an internal standard; concentration should be considered an estimate						library matches, chemist identified compounds, and unknowns.					
J = Reported concentration was estimated											
X = Detected but not quantifiable											



Authorized Signature _____
 Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

 Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

 Sampling Date: 05/15/23
 Sampling Time (min): 10
 Air Volume (L): 1890

 RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Nitrobenzene-d4	4165-60-0	128.14	Surr	102	0.27	13.5	0.50	25.5	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	2-Fluorobiphenyl	321-60-8	172.2	Surr	89.5	0.27	11.8	0.50	22.4	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Triisobutyl phosphate	126-71-6	266.31	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tributyl phosphate	126-73-8	266.31	T		0.27	1.08	0.50	2.04	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Pyrene-d10	1718-52-1	212.31	Surr	149	0.27	19.8	0.50	37.3	S
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Chrysene-d12	1719-03-5	240.4	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Terphenyl-d14	1718-51-0	244.4	Surr	92.4	0.27	12.2	0.50	23.1	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Triphenyl phosphate	115-86-6	326.3	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2-ethylhexyl) phosphopate	78-42-2	434.63	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.27	1.13	0.50	2.13	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Perylene-d12	1520-96-3	264.4	Int. Std		0.27	13.2	0.50	25.0	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.27	1.14	0.50	2.16	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.27	< 0.27	0.50	< 0.50	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,4-dimethylphenyl) phosphopate	3862-12-2	410.454	T		0.27	< 0.27	0.50	< 0.50	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 46 of 203	µg/sample	µg/sample
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-o-cresyl-phosphate	-	368.36	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-m-cresyl-phosphate	-	368.36	TIC		0.053	1.70	0.10	3.21	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.053	4.73	0.10	8.95	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.053	4.86	0.10	9.18	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tri-p-cresyl-phosphate	-	368.36	TIC		0.053	1.78	0.10	3.37	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 1	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 2	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 3	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 4	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 5	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TPP-Isomer 6	-	452.5	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TBP-Isomer 1	-	494.6	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TBP-Isomer 2	-	494.6	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TBP-Isomer 3	-	494.6	TIC		0.053	< 0.053	0.10	< 0.10	
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	TBP-Isomer 4	-	494.6	TIC		0.053	< 0.053	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.27	4.20	0.50	7.93	53
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.27	5.55	0.50	10.5	64
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.27	27.6	0.50	52.2	87
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	2-Cyclohexen-1-one	930-68-7	96	TIC		0.27	21.0	0.50	39.6	91
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.27	12.5	0.50	23.6	87
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	(1R,6S)-7-oxabicyclo[4.1.0]heptan-6-ol	990002-18-3	114	TIC		0.27	4.11	0.50	7.76	50

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 47 of 235		
Client	RJLG								µg/sample	µg/sample	Qualifier
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Heptanoic acid	111-14-8	130	TIC		0.27	21.8	0.50	41.1	72
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	n-Decanoic acid	334-48-5	172	TIC		0.27	8.52	0.50	16.1	91
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Eicosane	112-95-8	282	TIC		0.27	2.88	0.50	5.45	97
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	282	TIC		0.27	2.89	0.50	5.46	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	296	TIC		0.27	3.40	0.50	6.42	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	0	TIC		0.27	3.48	0.50	6.58	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	296	TIC		0.27	3.62	0.50	6.84	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.27	3.02	0.50	5.70	86
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	296	TIC		0.27	2.76	0.50	5.21	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	310	TIC		0.27	2.99	0.50	5.65	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown Hydrocarbon	0	310	TIC		0.27	2.76	0.50	5.22	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Hexadecanamide	629-54-9	255	TIC		0.27	4.46	0.50	8.43	97
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	324	TIC		0.27	2.83	0.50	5.36	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.27	14.4	0.50	27.3	98
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Diisooctylphthalate	27554-26-3	390	TIC		0.27	3.28	0.50	6.20	91
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	310	TIC		0.27	4.76	0.50	9.00	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	310	TIC		0.27	6.19	0.50	11.7	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	324	TIC		0.27	5.39	0.50	10.2	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	324	TIC		0.27	9.64	0.50	18.2	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	324	TIC		0.27	4.52	0.50	8.55	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	324	TIC		0.27	3.69	0.50	6.98	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	338	TIC		0.27	2.91	0.50	5.51	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	338	TIC		0.27	10.4	0.50	19.6	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	352	TIC		0.27	9.67	0.50	18.3	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	352	TIC		0.27	5.43	0.50	10.3	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	352	TIC		0.27	5.72	0.50	10.8	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	352	TIC		0.27	3.36	0.50	6.35	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	366	TIC		0.27	7.36	0.50	13.9	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	380	TIC		0.27	4.30	0.50	8.13	0
MJ-II - 5ppm - APU - Pack Exit (13)	W305169-13	Unknown	0	380	TIC		0.27	3.05	0.50	5.76	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Sample ID			CAS			Surr %	RL	Result	Page 48 of 2351		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes both					
I = Response failure of an internal standard; concentration should be considered an estimate						chemical library matches, chemist identified compounds, and					
J = Reported concentration was estimated						unknowns.					
X = Detected but not quantifiable											

Authorized Signature: Joe Sears
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/15/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank(14)	W305169-14	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	Nitrobenzene-d4	4165-60-0	128.14	Surr	95.9	0.167	8.0	0.50	24.0	
Field Blank(14)	W305169-14	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	2-Fluorobiphenyl	321-60-8	172.2	Surr	92.3	0.167	7.700	0.50	23.1	
Field Blank(14)	W305169-14	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Pyrene-d10	1718-52-1	212.31	Surr	153	0.167	12.733	0.50	38.2	S
Field Blank(14)	W305169-14	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	Terphenyl-d14	1718-51-0	244.4	Surr	94.6	0.167	7.900	0.50	23.7	
Field Blank(14)	W305169-14	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank(14)	W305169-14	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank(14)	W305169-14	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	

Sample ID		Page 50 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
		Calibrated & Non-Calibrated Phosphates									
Field Blank(14)	W305169-14	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank(14)	W305169-14	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank(14)	W305169-14	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.167	1.290	0.50	3.87	64
Field Blank(14)	W305169-14	1-cyclopentene-1-carbaldehyde	990000-55-8	96	TIC		0.167	10.567	0.50	31.7	86
Field Blank(14)	W305169-14	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	8.300	0.50	24.9	91
Field Blank(14)	W305169-14	(1S,2S)-2-chloranilylcyclohexan-1-ol	990006-53-3	134	TIC		0.167	4.900	0.50	14.7	87
Field Blank(14)	W305169-14	Nonadecane	629-92-5	268	TIC		0.167	1.260	0.50	3.78	95
Field Blank(14)	W305169-14	Benzoic acid, 2-benzoyl-, methyl ester	606-28-0	240	TIC		0.167	1.363	0.50	4.09	97

Sample ID		CAS				Surr %		RL	Result	Page 1 of 5	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank(14)	W305169-14	Dibutylphthalate	84-74-2	278	TIC		0.167	1.280	0.50	3.84	96
Field Blank(14)	W305169-14	Eicosane	112-95-8	282	TIC		0.167	2.500	0.50	7.50	97
Field Blank(14)	W305169-14	Unknown	0	282	TIC		0.167	1.560	0.50	4.68	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	296	TIC		0.167	1.800	0.50	5.40	0
Field Blank(14)	W305169-14	Unknown	0	296	TIC		0.167	1.483	0.50	4.45	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	296	TIC		0.167	1.957	0.50	5.87	0
Field Blank(14)	W305169-14	Heneicosane	629-94-7	296	TIC		0.167	2.140	0.50	6.42	93
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	310	TIC		0.167	2.620	0.50	7.86	0
Field Blank(14)	W305169-14	n-Heptadecylcyclohexane	19781-73-8	322	TIC		0.167	2.200	0.50	6.60	87
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	310	TIC		0.167	1.287	0.50	3.86	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	310	TIC		0.167	1.373	0.50	4.12	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	0	324	TIC		0.167	1.417	0.50	4.25	0
Field Blank(14)	W305169-14	Unknown	0	338	TIC		0.167	2.093	0.50	6.28	0
Field Blank(14)	W305169-14	n-Pentadecylcyclohexane	6006-95-7	294	TIC		0.167	1.227	0.50	3.68	90
Field Blank(14)	W305169-14	Docosane	990330-61-8	310	TIC		0.167	1.437	0.50	4.31	99
Field Blank(14)	W305169-14	Unknown Hydrocarbon	629-94-7	324	TIC		0.167	1.217	0.50	3.65	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	990247-55-3	324	TIC		0.167	1.860	0.50	5.58	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	31295-56-4	324	TIC		0.167	1.443	0.50	4.33	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	62016-76-6	324	TIC		0.167	1.337	0.50	4.01	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	629-62-9	338	TIC		0.167	1.227	0.50	3.68	0
Field Blank(14)	W305169-14	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.167	5.133	0.50	15.4	98
Field Blank(14)	W305169-14	Unknown Hydrocarbon	13151-92-3	380	TIC		0.167	1.913	0.50	5.74	0
Field Blank(14)	W305169-14	Unknown Hydrocarbon	990425-31-6	380	TIC		0.167	1.440	0.50	4.32	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

<div><div>Qualifiers</div><div>c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable</div></div> <div><div>N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.</div></div>

Authorized Signature:
Laboratory Technical Manager - Joe Sears, Ph.D.



Date: 10/04/23

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 25
 Air Volume (L): 6588

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Ozone In (15)	W305169-15	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.5	0.076	3.74	0.50	24.6	
Baseline - 300C - Ozone In (15)	W305169-15	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.4	0.076	3.43	0.50	22.6	
Baseline - 300C - Ozone In (15)	W305169-15	Triisobutyl phosphate	126-71-6	266.31	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tributyl phosphate	126-73-8	266.31	T		0.076	0.0759	0.50	0.500	
Baseline - 300C - Ozone In (15)	W305169-15	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Pyrene-d10	1718-52-1	212.31	Surr	118	0.076	4.47	0.50	29.4	
Baseline - 300C - Ozone In (15)	W305169-15	Chrysene-d12	1719-03-5	240.4	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	Terphenyl-d14	1718-51-0	244.4	Surr	92.0	0.076	3.49	0.50	23.0	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Triphenyl phosphate	115-86-6	326.3	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.076	0.176	0.50	1.16	
Baseline - 300C - Ozone In (15)	W305169-15	Perylene-d12	1520-96-3	264.4	Int. Std		0.076	3.79	0.50	25.0	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.076	0.314	0.50	2.07	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.076	< 0.076	0.50	< 0.50	

Sample ID		CAS		Surr %		RL	Result	Page 53 of 203		Sub	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Ozone In (15)	W305169-15	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-o-cresyl-phosphate	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-m-cresyl-phosphate	-	368.36	TIC		0.015	0.262	0.10	1.73	
Baseline - 300C - Ozone In (15)	W305169-15	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.015	0.813	0.10	5.36	
Baseline - 300C - Ozone In (15)	W305169-15	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.015	1.01	0.10	6.62	
Baseline - 300C - Ozone In (15)	W305169-15	Tri-p-cresyl-phosphate	-	368.36	TIC		0.015	0.470	0.10	3.10	
Baseline - 300C - Ozone In (15)	W305169-15	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 1	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 2	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 3	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 4	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 5	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TPP-Isomer 6	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TBP-Isomer 1	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TBP-Isomer 2	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TBP-Isomer 3	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone In (15)	W305169-15	TBP-Isomer 4	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Ozone In (15)	W305169-15	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.076	1.53	0.50	10.1	56
Baseline - 300C - Ozone In (15)	W305169-15	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.076	0.749	0.50	4.94	91
Baseline - 300C - Ozone In (15)	W305169-15	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.076	7.18	0.50	47.3	90
Baseline - 300C - Ozone In (15)	W305169-15	2-Cyclohexen-1-one	930-68-7	96	TIC		0.076	5.65	0.50	37.2	91
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	134	TIC		0.076	3.66	0.50	24.1	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	134	TIC		0.076	0.896	0.50	5.90	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 154 of 203		
Client	RJLG								µg/sample	µg/sample	Qualifier
Baseline - 300C - Ozone In (15)	W305169-15	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC		0.076	0.854	0.50	5.63	90
Baseline - 300C - Ozone In (15)	W305169-15	2-Propenoic acid, 2-methyl-, 2-ethyl-2-[[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl	3290-92-4	338	TIC		0.076	1.16	0.50	7.66	87
Baseline - 300C - Ozone In (15)	W305169-15	Unknown Hydrocarbon	0	296	TIC		0.076	0.651	0.50	4.29	0
Baseline - 300C - Ozone In (15)	W305169-15	Hexadecanamide	629-54-9	255	TIC		0.076	0.747	0.50	4.92	93
Baseline - 300C - Ozone In (15)	W305169-15	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.076	1.95	0.50	12.8	98
Baseline - 300C - Ozone In (15)	W305169-15	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC		0.076	0.843	0.50	5.56	87
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	324	TIC		0.076	1.15	0.50	7.55	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	324	TIC		0.076	2.09	0.50	13.8	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	324	TIC		0.076	1.92	0.50	12.6	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	338	TIC		0.076	4.06	0.50	26.8	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	338	TIC		0.076	0.856	0.50	5.64	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	352	TIC		0.076	1.81	0.50	11.9	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	352	TIC		0.076	1.49	0.50	9.84	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	352	TIC		0.076	1.25	0.50	8.22	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	352	TIC		0.076	4.70	0.50	31.0	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	366	TIC		0.076	0.709	0.50	4.67	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	366	TIC		0.076	4.24	0.50	27.9	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	366	TIC		0.076	2.45	0.50	16.1	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	380	TIC		0.076	2.51	0.50	16.5	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	380	TIC		0.076	1.50	0.50	9.86	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	380	TIC		0.076	3.25	0.50	21.4	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	380	TIC		0.076	1.09	0.50	7.18	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	394	TIC		0.076	1.12	0.50	7.39	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	394	TIC		0.076	2.15	0.50	14.2	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	394	TIC		0.076	1.45	0.50	9.53	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	408	TIC		0.076	0.851	0.50	5.61	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	422	TIC		0.076	0.791	0.50	5.21	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	422	TIC		0.076	0.961	0.50	6.33	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	422	TIC		0.076	1.47	0.50	9.69	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	436	TIC		0.076	0.855	0.50	5.64	0
Baseline - 300C - Ozone In (15)	W305169-15	Unknown	0	450	TIC		0.076	0.667	0.50	4.39	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

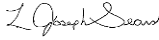
ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. *Qualitative analysis only*

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte

Sample ID					CAS		Surr %	RL	Result	Page 55 of 235	
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample
µg/Kg = micrograms per kilogram									TIC = Tentatively Identified Compound		

Qualifiers							N = Identification based on mass spectral library search				
c = Sample RPD failure							P = Library spectrum match, rsd >90% w RT match				
r = %REC failure in the MRL							Q = Qualitative results for non detects				
p = Positively identified compound, for non-calibrated compounds							R = Analyte %REC Failure				
B = Compound found in associated laboratory blank above the MDL							S = Surrogate recovery failure				
D = Diluted sample							TIC = Compound is tentatively identified compound. Includes both chemical				
E = Report concentration was above the instrumental calibration range							library matches, chemist identified compounds, and unknowns.				
I = Response failure of an internal standard; concentration should be considered an estimate											
J = Reported concentration was estimated											
X = Detected but not quantifiable											

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 25
 Air Volume (L): 6546

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Ozone Out (16)	W305169-16	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.076	3.85	0.50	25.2	
Baseline - 300C - Ozone Out (16)	W305169-16	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.0	0.076	3.48	0.50	22.8	
Baseline - 300C - Ozone Out (16)	W305169-16	Triisobutyl phosphate	126-71-6	266.31	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tributyl phosphate	126-73-8	266.31	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Pyrene-d10	1718-52-1	212.31	Surr	130	0.076	4.98	0.50	32.6	S
Baseline - 300C - Ozone Out (16)	W305169-16	Chrysene-d12	1719-03-5	240.4	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	Terphenyl-d14	1718-51-0	244.4	Surr	89.8	0.076	3.43	0.50	22.5	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Triphenyl phosphate	115-86-6	326.3	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Perylene-d12	1520-96-3	264.4	Int. Std		0.076	3.82	0.50	25.0	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.076	0.0794	0.50	0.520	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.076	< 0.076	0.50	< 0.50	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.076	< 0.076	0.50	< 0.50	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere	57 of 2R3e5ult	Qualifier
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Ozone Out (16)	W305169-16	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-o-cresyl-phosphate	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-m-cresyl-phosphate	-	368.36	TIC		0.015	0.0350	0.10	0.229	
Baseline - 300C - Ozone Out (16)	W305169-16	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.015	0.109	0.10	0.716	
Baseline - 300C - Ozone Out (16)	W305169-16	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.015	0.122	0.10	0.798	
Baseline - 300C - Ozone Out (16)	W305169-16	Tri-p-cresyl-phosphate	-	368.36	TIC		0.015	0.0487	0.10	0.319	
Baseline - 300C - Ozone Out (16)	W305169-16	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 1	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 2	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 3	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 4	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 5	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TPP-Isomer 6	-	452.5	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TBP-Isomer 1	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TBP-Isomer 2	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TBP-Isomer 3	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
Baseline - 300C - Ozone Out (16)	W305169-16	TBP-Isomer 4	-	494.6	TIC		0.015	< 0.015	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Ozone Out (16)	W305169-16	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.076	6.94	0.50	45.4	90
Baseline - 300C - Ozone Out (16)	W305169-16	2-Cyclohexen-1-one	930-68-7	96	TIC		0.076	5.44	0.50	35.6	91
Baseline - 300C - Ozone Out (16)	W305169-16	(1S,2S)-2-chloranycyclohexan-1-ol	990006-53-3	134	TIC		0.076	3.01	0.50	19.7	87
Baseline - 300C - Ozone Out (16)	W305169-16	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.076	1.78	0.50	11.7	98
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	310	TIC		0.076	2.24	0.50	14.7	0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	310	TIC		0.076	5.34	0.50	35.0	0

Sample ID			CAS		Surr %		RL	Result	Page 158 of 283		Unit	Qualifier
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample		
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	324	TIC		0.076	1.49	0.50	9.72		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	324	TIC		0.076	3.73	0.50	24.4		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	324	TIC		0.076	2.89	0.50	18.9		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	324	TIC		0.076	3.06	0.50	20.0		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	338	TIC		0.076	12.8	0.50	83.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	338	TIC		0.076	2.04	0.50	13.3		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	352	TIC		0.076	14.3	0.50	93.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	352	TIC		0.076	8.82	0.50	57.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	352	TIC		0.076	2.49	0.50	16.3		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	352	TIC		0.076	10.6	0.50	69.2		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	366	TIC		0.076	1.82	0.50	11.9		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	366	TIC		0.076	6.90	0.50	45.1		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	366	TIC		0.076	1.67	0.50	10.9		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	380	TIC		0.076	14.9	0.50	97.2		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	380	TIC		0.076	2.04	0.50	13.4		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	380	TIC		0.076	5.89	0.50	38.5		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	380	TIC		0.076	6.07	0.50	39.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	394	TIC		0.076	11.8	0.50	77.0		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	394	TIC		0.076	7.83	0.50	51.2		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	394	TIC		0.076	1.60	0.50	10.5		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	1.95	0.50	12.8		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	4.23	0.50	27.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	3.16	0.50	20.7		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	2.18	0.50	14.3		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	3.82	0.50	25.0		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	3.98	0.50	26.0		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	408	TIC		0.076	6.12	0.50	40.1		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	422	TIC		0.076	1.45	0.50	9.48		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	436	TIC		0.076	1.60	0.50	10.5		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	436	TIC		0.076	1.69	0.50	11.0		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	450	TIC		0.076	2.99	0.50	19.5		0
Baseline - 300C - Ozone Out (16)	W305169-16	Unknown	0	450	TIC		0.076	1.87	0.50	12.2		0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

Authorized Signature: Joseph Sears Date: 10/04/23
Laboratory Technical Manager - Joe Sears, Ph.D.

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 25
 Air Volume (L): 4451

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO# 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Pack Exit (17)	W305169-17	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.6	0.11	5.60	0.50	24.9	
Baseline - 300C - Pack Exit (17)	W305169-17	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	2-Fluorobiphenyl	321-60-8	172.2	Surr	93.2	0.11	5.23	0.50	23.3	
Baseline - 300C - Pack Exit (17)	W305169-17	Triisobutyl phosphate	126-71-6	266.31	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tributyl phosphate	126-73-8	266.31	T		0.11	0.238	0.50	1.06	
Baseline - 300C - Pack Exit (17)	W305169-17	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Pyrene-d10	1718-52-1	212.31	Surr	129	0.11	7.25	0.50	32.3	
Baseline - 300C - Pack Exit (17)	W305169-17	Chrysene-d12	1719-03-5	240.4	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	Terphenyl-d14	1718-51-0	244.4	Surr	93.5	0.11	5.25	0.50	23.4	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Triphenyl phosphate	115-86-6	326.3	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Perylene-d12	1520-96-3	264.4	Int. Std		0.11	5.62	0.50	25.0	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.11	< 0.11	0.50	< 0.50	

Sample ID			CAS		Surr %		RL	Result	Page 61 of 235		5th
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Pack Exit (17)	W305169-17	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-o-cresyl-phosphate	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-m-cresyl-phosphate	-	368.36	TIC		0.023	0.0693	0.10	0.308	
Baseline - 300C - Pack Exit (17)	W305169-17	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.023	0.167	0.10	0.743	
Baseline - 300C - Pack Exit (17)	W305169-17	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.023	0.131	0.10	0.584	
Baseline - 300C - Pack Exit (17)	W305169-17	Tri-p-cresyl-phosphate	-	368.36	TIC		0.023	0.0403	0.10	0.180	
Baseline - 300C - Pack Exit (17)	W305169-17	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 1	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 2	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 3	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 4	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 5	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TPP-Isomer 6	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TBP-Isomer 1	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TBP-Isomer 2	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TBP-Isomer 3	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Pack Exit (17)	W305169-17	TBP-Isomer 4	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Pack Exit (17)	W305169-17	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.11	0.837	0.50	3.72	80
Baseline - 300C - Pack Exit (17)	W305169-17	2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	116	TIC		0.11	1.31	0.50	5.81	64
Baseline - 300C - Pack Exit (17)	W305169-17	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.11	1.01	0.50	4.51	74
Baseline - 300C - Pack Exit (17)	W305169-17	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.11	9.64	0.50	42.9	90
Baseline - 300C - Pack Exit (17)	W305169-17	2-Cyclohexen-1-one	930-68-7	96	TIC		0.11	7.78	0.50	34.6	91
Baseline - 300C - Pack Exit (17)	W305169-17	(1S,2S)-2-chloranycyclohexan-1-ol	990006-53-3	134	TIC		0.11	4.05	0.50	18.0	90

Sample ID			CAS			Surr %		RL	Result	Page 62 of 203		5/11/23
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 300C - Pack Exit (17)	W305169-17	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC			0.11	1.11	0.50	4.93	56
Baseline - 300C - Pack Exit (17)	W305169-17	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC			0.11	0.700	0.50	3.12	90
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown Hydrocarbon	0	268	TIC			0.11	0.685	0.50	3.05	0
Baseline - 300C - Pack Exit (17)	W305169-17	Nonadecane	629-92-5	268	TIC			0.11	0.754	0.50	3.35	91
Baseline - 300C - Pack Exit (17)	W305169-17	Dibutyl phthalate	84-74-2	278	TIC			0.11	0.987	0.50	4.39	97
Baseline - 300C - Pack Exit (17)	W305169-17	Eicosane	112-95-8	282	TIC			0.11	0.772	0.50	3.44	94
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown	0	296	TIC			0.11	0.989	0.50	4.40	0
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown Hydrocarbon	0	296	TIC			0.11	0.988	0.50	4.40	0
Baseline - 300C - Pack Exit (17)	W305169-17	Cyclohexane, tetradecyl-	1795-18-2	280	TIC			0.11	0.827	0.50	3.68	93
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown Hydrocarbon	0	0	TIC			0.11	0.822	0.50	3.66	0
Baseline - 300C - Pack Exit (17)	W305169-17	Hexadecanamide	629-54-9	255	TIC			0.11	1.18	0.50	5.25	91
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown	0	310	TIC			0.11	0.824	0.50	3.67	0
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown	0	0	TIC			0.11	0.749	0.50	3.33	0
Baseline - 300C - Pack Exit (17)	W305169-17	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.11	4.06	0.50	18.1	98
Baseline - 300C - Pack Exit (17)	W305169-17	Diisooctylphthalate	27554-26-3	390	TIC			0.11	1.23	0.50	5.46	91
Baseline - 300C - Pack Exit (17)	W305169-17	Unknown	0	0	TIC			0.11	0.671	0.50	2.99	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers		
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable		N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 25
 Air Volume (L): 6263

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO# 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.3	0.080	3.92	0.50	24.6	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	2-Fluorobiphenyl	321-60-8	172.2	Surr	88.0	0.080	3.51	0.50	22.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Triisobutyl phosphate	126-71-6	266.31	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tributyl phosphate	126-73-8	266.31	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Pyrene-d10	1718-52-1	212.31	Surr	110	0.080	4.41	0.50	27.6	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Chrysene-d12	1719-03-5	240.4	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Terphenyl-d14	1718-51-0	244.4	Surr	91.3	0.080	3.64	0.50	22.8	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Triphenyl phosphate	115-86-6	326.3	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.080	0.516	0.50	3.23	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Perylene-d12	1520-96-3	264.4	Int. Std		0.080	3.99	0.50	25.0	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.080	0.658	0.50	4.12	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.080	< 0.080	0.50	< 0.50	

Sample ID		Analyte	CAS		Type	Surr % REC	RL µg/m3	Result µg/m3	Page 64 of 235		Qualifier
Client	RJLG		Number	MW					µg/sample	µg/sample	
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-o-cresyl-phosphate	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-m-cresyl-phosphate	-	368.36	TIC		0.016	0.792	0.10	4.96	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.016	2.29	0.10	14.3	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.016	2.41	0.10	15.1	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tri-p-cresyl-phosphate	-	368.36	TIC		0.016	0.890	0.10	5.57	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 1	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 2	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 3	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 4	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 5	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TPP-Isomer 6	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TBP-Isomer 1	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TBP-Isomer 2	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TBP-Isomer 3	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	TBP-Isomer 4	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.080	7.07	0.50	44.3	90
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	2-Cyclohexen-1-one	930-68-7	96	TIC		0.080	5.65	0.50	35.4	91
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.080	2.66	0.50	16.7	93
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.080	2.65	0.50	16.6	91
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	282	TIC		0.080	1.51	0.50	9.47	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	296	TIC		0.080	1.75	0.50	11.0	0

Sample ID			CAS			Surr %	RL	Result	Page 65 of 235		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	296	TIC		0.080	1.60	0.50	10.0	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	296	TIC		0.080	2.80	0.50	17.5	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	310	TIC		0.080	1.84	0.50	11.5	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	310	TIC		0.080	4.78	0.50	29.9	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	324	TIC		0.080	1.13	0.50	7.08	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	324	TIC		0.080	2.76	0.50	17.3	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	324	TIC		0.080	2.22	0.50	13.9	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	324	TIC		0.080	2.05	0.50	12.8	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	338	TIC		0.080	7.49	0.50	46.9	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	338	TIC		0.080	1.37	0.50	8.59	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	352	TIC		0.080	8.83	0.50	55.3	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	352	TIC		0.080	5.55	0.50	34.8	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	352	TIC		0.080	1.78	0.50	11.2	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	352	TIC		0.080	6.34	0.50	39.7	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	366	TIC		0.080	1.20	0.50	7.50	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	366	TIC		0.080	4.27	0.50	26.7	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	366	TIC		0.080	0.996	0.50	6.24	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	380	TIC		0.080	8.51	0.50	53.3	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	380	TIC		0.080	0.994	0.50	6.22	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	380	TIC		0.080	3.47	0.50	21.7	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	380	TIC		0.080	3.55	0.50	22.2	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	394	TIC		0.080	6.84	0.50	42.8	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	394	TIC		0.080	3.59	0.50	22.5	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	394	TIC		0.080	0.956	0.50	5.99	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	408	TIC		0.080	1.12	0.50	7.01	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	408	TIC		0.080	2.42	0.50	15.1	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	408	TIC		0.080	1.70	0.50	10.6	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	408	TIC		0.080	1.09	0.50	6.82	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	422	TIC		0.080	1.97	0.50	12.3	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	422	TIC		0.080	1.92	0.50	12.0	0
MJ-II - 300C - 5ppmW - Ozone In (18)	W305169-18	Unknown	0	422	TIC		0.080	2.79	0.50	17.5	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte

Sample ID			CAS			Surr %	RL	Result	Page 66 of 235		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

µg/Kg = micrograms per kilogram

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL.

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

N = Identification based on mass spectral library search

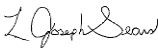
P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.



Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 25
 Air Volume (L): 4524

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO# 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Nitrobenzene-d4	4165-60-0	128.14	Surr	103	0.11	5.67	0.50	25.7	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.3	0.11	5.05	0.50	22.8	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Triisobutyl phosphate	126-71-6	266.31	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tributyl phosphate	126-73-8	266.31	T		0.11	0.254	0.50	1.15	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Pyrene-d10	1718-52-1	212.31	Surr	144	0.11	7.97	0.50	36.1	S
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Chrysene-d12	1719-03-5	240.4	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Terphenyl-d14	1718-51-0	244.4	Surr	92.9	0.11	5.13	0.50	23.2	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Triphenyl phosphate	115-86-6	326.3	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.11	0.822	0.50	3.72	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Perylene-d12	1520-96-3	264.4	Int. Std		0.11	5.53	0.50	25.0	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.11	0.778	0.50	3.52	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.11	< 0.11	0.50	< 0.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.11	< 0.11	0.50	< 0.50	

Sample ID			CAS		Surr %		RL	Result	Page 1.68 of 2.35		Unit
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-o-cresyl-phosphate	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-m-cresyl-phosphate	-	368.36	TIC		0.022	1.26	0.10	5.70	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.022	3.47	0.10	15.7	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.022	3.50	0.10	15.8	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tri-p-cresyl-phosphate	-	368.36	TIC		0.022	1.21	0.10	5.50	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 1	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 2	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 3	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 4	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 5	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TPP-Isomer 6	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TBP-Isomer 1	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TBP-Isomer 2	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TBP-Isomer 3	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	TBP-Isomer 4	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.11	2.39	0.50	10.8	50
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	1-cyclopentene-1-carbaldehyde	990000-55-8	96	TIC		0.11	12.0	0.50	54.4	87
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	2-Cyclohexen-1-one	930-68-7	96	TIC		0.11	8.79	0.50	39.8	91
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.11	3.95	0.50	17.9	93
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC		0.11	1.80	0.50	8.12	50
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Heptanoic acid	111-14-8	130	TIC		0.11	5.48	0.50	24.8	94

Sample ID		Page 69 of 203									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagret µg/sample	2R3 µg/sample	5ult Qualifier
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Octanoic acid	124-07-2	144	TIC		0.11	3.01	0.50	13.6	97
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	n-Decanoic acid	334-48-5	172	TIC		0.11	7.14	0.50	32.3	91
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	198	TIC		0.11	3.79	0.50	17.1	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	873-83-6	212	TIC		0.11	2.18	0.50	9.88	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	240	TIC		0.11	4.37	0.50	19.8	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.11	2.09	0.50	9.45	96
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	282	TIC		0.11	1.15	0.50	5.21	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC		0.11	1.71	0.50	7.75	91
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	282	TIC		0.11	1.56	0.50	7.06	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	296	TIC		0.11	2.70	0.50	12.2	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	296	TIC		0.11	3.87	0.50	17.5	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	296	TIC		0.11	1.08	0.50	4.90	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	310	TIC		0.11	2.96	0.50	13.4	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	310	TIC		0.11	5.49	0.50	24.8	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	310	TIC		0.11	1.21	0.50	5.49	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	324	TIC		0.11	2.41	0.50	10.9	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	324	TIC		0.11	2.03	0.50	9.18	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	324	TIC		0.11	1.64	0.50	7.40	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	338	TIC		0.11	6.39	0.50	28.9	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	352	TIC		0.11	6.16	0.50	27.9	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	352	TIC		0.11	3.66	0.50	16.6	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	366	TIC		0.11	3.72	0.50	16.8	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	366	TIC		0.11	2.45	0.50	11.1	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	380	TIC		0.11	4.65	0.50	21.0	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	380	TIC		0.11	1.80	0.50	8.16	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	380	TIC		0.11	1.83	0.50	8.27	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	380	TIC		0.11	3.32	0.50	15.0	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	380	TIC		0.11	2.02	0.50	9.13	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	408	TIC		0.11	1.10	0.50	4.98	0
MJ-II - 300C - 5ppmW - Pack Exit (19)	W305169-19	Unknown	0	422	TIC		0.11	1.51	0.50	6.83	0

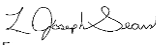
*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Sample ID						Surr %		RL	Result	Page		70 of 235
Client	RJLG	Analyte	CAS Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match						
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects						
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure						
D = Diluted sample						S =						
E = Report concentration was above the instrumental calibration range						TIC =						
I = Response failure of an internal standard; concentration should be considered an estimate												
J = Reported concentration was estimated												
X = Detected but not quantifiable												

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/16/23
 Sampling Time (min): 10
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO# 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank (20)	W305169-20	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.33	0.50	25.0	
Field Blank (20)	W305169-20	Nitrobenzene-d4	4165-60-0	128.14	Surr	95.9	0.167	8.000	0.50	24.0	
Field Blank (20)	W305169-20	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (20)	W305169-20	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (20)	W305169-20	2-Fluorobiphenyl	321-60-8	172.2	Surr	92.3	0.167	7.700	0.50	23.1	
Field Blank (20)	W305169-20	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (20)	W305169-20	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Pyrene-d10	1718-52-1	212.31	Surr	110	0.167	9.167	0.50	27.5	
Field Blank (20)	W305169-20	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (20)	W305169-20	Terphenyl-d14	1718-51-0	244.4	Surr	92.3	0.167	7.700	0.50	23.1	
Field Blank (20)	W305169-20	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	0.600	0.50	1.80	
Field Blank (20)	W305169-20	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (20)	W305169-20	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (20)	W305169-20	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	

Sample ID			Page 72 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier	
		Calibrated & Non-Calibrated Phosphates										
Field Blank (20)	W305169-20	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tris(2,6-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tris(2,5-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C6-Tri-phenyl phosphate (I-4)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	Tris(2,4-dimethylphenyl) phosphate	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	C6-Tri-phenyl phosphate (I-5)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10		
Field Blank (20)	W305169-20	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10		
		Tentatively Identified Compounds	CAS#	MW								
Field Blank (20)	W305169-20	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.167	0.743	0.50	2.23	72	
Field Blank (20)	W305169-20	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.167	1.000	0.50	3.00	91	
Field Blank (20)	W305169-20	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.167	9.200	0.50	27.6	90	
Field Blank (20)	W305169-20	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	7.367	0.50	22.1	91	
Field Blank (20)	W305169-20	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	5.533	0.50	16.6	43	
Field Blank (20)	W305169-20	(1R,6S)-7-oxabicyclo[4.1.0]heptan-6-ol	990002-18-3	114	TIC		0.167	0.960	0.50	2.88	72	

Sample ID		CAS				Surr %		RL	Result	Pagrel.73 of 2R3e5ult		
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank (20)	W305169-20	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC			0.167	1.113	0.50	3.34	90
Field Blank (20)	W305169-20	Eicosane	112-95-8	282	TIC			0.167	0.797	0.50	2.39	95
Field Blank (20)	W305169-20	Unknown	0	282	TIC			0.167	0.773	0.50	2.32	0
Field Blank (20)	W305169-20	Hexadecanamide	629-54-9	255	TIC			0.167	1.333	0.50	4.00	81
Field Blank (20)	W305169-20	Unknown	0	296	TIC			0.167	0.797	0.50	2.39	0
Field Blank (20)	W305169-20	Docosane	629-97-0	310	TIC			0.167	0.850	0.50	2.55	97
Field Blank (20)	W305169-20	Cyclohexane, hexadecyl-	6812-38-0	308	TIC			0.167	0.780	0.50	2.34	93
Field Blank (20)	W305169-20	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.167	4.800	0.50	14.4	98
Field Blank (20)	W305169-20	Unknown Hydrocarbon	0	296	TIC			0.167	0.833	0.50	2.50	0
Field Blank (20)	W305169-20	Unknown Hydrocarbon	0	310	TIC			0.167	0.920	0.50	2.76	0
Field Blank (20)	W305169-20	Unknown Hydrocarbon	0	328	TIC			0.167	0.710	0.50	2.13	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL.	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	
J = Reported concentration was estimated	
X = Detected but not quantifiable	

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

10/04/23

Date:

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LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratory

2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 792-1955

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 e-mail:

Sampling Date: 05/17/23
 Sampling Time (min): 19
 Air Volume (L): 4374

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Nitrobenzene-d4	4165-60-0	128.14	Surr	103	0.11	5.91	0.50	25.9	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	2-Fluorobiphenyl	321-60-8	172.2	Surr	92.1	0.11	5.27	0.50	23.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Triisobutyl phosphate	126-71-6	266.31	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tributyl phosphate	126-73-8	266.31	T		0.11	1.39	0.50	6.08	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Pyrene-d10	1718-52-1	212.31	Surr	152	0.11	8.68	0.50	38.0	S
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Chrysene-d12	1719-03-5	240.4	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Terphenyl-d14	1718-51-0	244.4	Surr	94.6	0.11	5.41	0.50	23.7	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Triphenyl phosphate	115-86-6	326.3	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Perylene-d12	1520-96-3	264.4	Int. Std		0.11	5.72	0.50	25.0	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.11	< 0.11	0.50	< 0.50	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tri-o-cresyl-phosphate	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tri-m-cresyl-phosphate	-	368.36	TIC		0.023	0.0331	0.10	0.145	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.023	0.0876	0.10	0.383	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.023	0.0779	0.10	0.341	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 1	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 2	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 3	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 4	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 5	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TPP-Isomer 6	-	452.5	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TBP-Isomer 1	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TBP-Isomer 2	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TBP-Isomer 3	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	TBP-Isomer 4	-	494.6	TIC		0.023	< 0.023	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.11	0.971	0.50	4.25	72
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.11	1.34	0.50	5.85	91
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.11	11.6	0.50	50.9	90
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	2-Cyclohexen-1-one	930-68-7	96	TIC		0.11	9.85	0.50	43.1	91
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown	0	118	TIC		0.11	0.749	0.50	3.28	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.11	6.32	0.50	27.7	50
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown	0	114	TIC		0.11	1.62	0.50	7.06	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC		0.11	1.28	0.50	5.59	90

Sample ID		Analyte	CAS		Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG		Number	MW							
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Nonadecane	629-92-5	268	TIC		0.11	0.731	0.50	3.20	97
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Dibutyl phthalate	84-74-2	278	TIC		0.11	0.776	0.50	3.39	95
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown Hydrocarbon	0	282	TIC		0.11	0.875	0.50	3.83	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Eicosane	112-95-8	282	TIC		0.11	1.04	0.50	4.55	97
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown	0	282	TIC		0.11	0.809	0.50	3.54	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown Hydrocarbon	0	296	TIC		0.11	0.984	0.50	4.31	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown Hydrocarbon	0	296	TIC		0.11	1.29	0.50	5.65	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown	0	296	TIC		0.11	1.06	0.50	4.63	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown Hydrocarbon	0	310	TIC		0.11	0.733	0.50	3.21	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown Hydrocarbon	0	310	TIC		0.11	0.737	0.50	3.22	0
Baseline - 300C - Ozone In/Ambient (21)	W305169-21	Unknown	0	394	TIC		0.11	0.817	0.50	3.57	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL.

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

N = Identification based on mass spectral library search

P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

 Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

 Sampling Date: 05/17/23
 Sampling Time (min): 19
 Air Volume (L): 4924

 RJLG Lab #: W305169
 Samples Received: 05/24/22
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Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Ozone Out (22)	W305169-22	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Nitrobenzene-d4	4165-60-0	128.14	Surr	100	0.10	5.09	0.50	25.1	
Baseline - 300C - Ozone Out (22)	W305169-22	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.9	0.10	4.62	0.50	22.7	
Baseline - 300C - Ozone Out (22)	W305169-22	Triisobutyl phosphate	126-71-6	266.31	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tributyl phosphate	126-73-8	266.31	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Pyrene-d10	1718-52-1	212.31	Surr	158	0.10	8.03	0.50	39.5	S
Baseline - 300C - Ozone Out (22)	W305169-22	Chrysene-d12	1719-03-5	240.4	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Terphenyl-d14	1718-51-0	244.4	Surr	92.1	0.10	4.68	0.50	23.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Triphenyl phosphate	115-86-6	326.3	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Perylene-d12	1520-96-3	264.4	Int. Std		0.10	5.08	0.50	25.0	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.10	< 0.10	0.50	< 0.50	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.10	< 0.10	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Ozone Out (22)	W305169-22	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	Tri-o-cresyl-phosphate	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	

Sample ID		CAS		Surr %		RL	Result	Page 178 of 203		Sub	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 300C - Ozone Out (22)	W305169-22	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	Tri-m-cresyl-phosphate	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 1	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 2	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 3	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 4	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 5	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TPP-Isomer 6	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TBP-Isomer 1	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TBP-Isomer 2	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TBP-Isomer 3	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
Baseline - 300C - Ozone Out (22)	W305169-22	TBP-Isomer 4	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Ozone Out (22)	W305169-22	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.10	0.797	0.50	3.92	80
Baseline - 300C - Ozone Out (22)	W305169-22	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.10	1.14	0.50	5.62	91
Baseline - 300C - Ozone Out (22)	W305169-22	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.10	10.2	0.50	50.3	90
Baseline - 300C - Ozone Out (22)	W305169-22	2-Cyclohexen-1-one	930-68-7	96	TIC		0.10	8.55	0.50	42.1	91
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	134	TIC		0.10	0.688	0.50	3.39	0
Baseline - 300C - Ozone Out (22)	W305169-22	(1S,2S)-2-chloranlylcyclohexan-1-ol	990006-53-3	134	TIC		0.10	4.12	0.50	20.3	91
Baseline - 300C - Ozone Out (22)	W305169-22	(1R,6S)-7-oxabicyclo[4.1.0]heptan-6-ol	990002-18-3	114	TIC		0.10	1.35	0.50	6.65	72
Baseline - 300C - Ozone Out (22)	W305169-22	Nonadecane	629-92-5	268	TIC		0.10	0.711	0.50	3.50	97
Baseline - 300C - Ozone Out (22)	W305169-22	Dibutyl phthalate	84-74-2	278	TIC		0.10	0.713	0.50	3.51	94
Baseline - 300C - Ozone Out (22)	W305169-22	Eicosane	112-95-8	282	TIC		0.10	1.10	0.50	5.42	97

Sample ID		Page 79 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown Hydrocarbon	0	282	TIC		0.10	0.646	0.50	3.18	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown Hydrocarbon	0	282	TIC		0.10	0.850	0.50	4.18	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown Hydrocarbon	0	296	TIC		0.10	0.904	0.50	4.45	0
Baseline - 300C - Ozone Out (22)	W305169-22	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.10	1.02	0.50	5.02	86
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown Hydrocarbon	0	310	TIC		0.10	1.02	0.50	5.02	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown Hydrocarbon	0	324	TIC		0.10	0.629	0.50	3.10	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	324	TIC		0.10	0.982	0.50	4.83	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	324	TIC		0.10	0.635	0.50	3.13	0
Baseline - 300C - Ozone Out (22)	W305169-22	Docosane	990330-61-8	310	TIC		0.10	0.659	0.50	3.25	95
Baseline - 300C - Ozone Out (22)	W305169-22	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.10	2.46	0.50	12.1	98
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	352	TIC		0.10	0.614	0.50	3.02	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	352	TIC		0.10	0.893	0.50	4.40	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	366	TIC		0.10	1.00	0.50	4.93	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	382	TIC		0.10	0.825	0.50	4.06	0
Baseline - 300C - Ozone Out (22)	W305169-22	Unknown	0	396	TIC		0.10	0.652	0.50	3.21	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.



Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 19
 Air Volume (L): 3592

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 300C - Pack Exit (23)	W305169-23	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.2	0.14	6.83	0.50	24.5	
Baseline - 300C - Pack Exit (23)	W305169-23	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	2-Fluorobiphenyl	321-60-8	172.2	Surr	94.6	0.14	6.59	0.50	23.7	
Baseline - 300C - Pack Exit (23)	W305169-23	Triisobutyl phosphate	126-71-6	266.31	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tributyl phosphate	126-73-8	266.31	T		0.14	0.526	0.50	1.89	
Baseline - 300C - Pack Exit (23)	W305169-23	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Pyrene-d10	1718-52-1	212.31	Surr	118	0.14	8.20	0.50	29.5	
Baseline - 300C - Pack Exit (23)	W305169-23	Chrysene-d12	1719-03-5	240.4	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	Terphenyl-d14	1718-51-0	244.4	Surr	96.4	0.14	6.71	0.50	24.1	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Triphenyl phosphate	115-86-6	326.3	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.14	0.150	0.50	0.540	
Baseline - 300C - Pack Exit (23)	W305169-23	Perylene-d12	1520-96-3	264.4	Int. Std		0.14	6.96	0.50	25.0	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.14	< 0.14	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 300C - Pack Exit (23)	W305169-23	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	Tri-o-cresyl-phosphate	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere.81 of 2R3e5ult	µg/sample	Qualifier
Baseline - 300C - Pack Exit (23)	W305169-23	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	Tri-m-cresyl-phosphate	-	368.36	TIC		0.028	0.116	0.10	0.416	
Baseline - 300C - Pack Exit (23)	W305169-23	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.028	0.279	0.10	1.00	
Baseline - 300C - Pack Exit (23)	W305169-23	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.028	0.242	0.10	0.870	
Baseline - 300C - Pack Exit (23)	W305169-23	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 1	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 2	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 3	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 4	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 5	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TPP-Isomer 6	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TBP-Isomer 1	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TBP-Isomer 2	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TBP-Isomer 3	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 300C - Pack Exit (23)	W305169-23	TBP-Isomer 4	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 300C - Pack Exit (23)	W305169-23	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.14	1.16	0.50	4.17	72
Baseline - 300C - Pack Exit (23)	W305169-23	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.14	1.31	0.50	4.71	72
Baseline - 300C - Pack Exit (23)	W305169-23	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.14	12.2	0.50	43.9	90
Baseline - 300C - Pack Exit (23)	W305169-23	2-Cyclohexen-1-one	930-68-7	96	TIC		0.14	10.1	0.50	36.1	91
Baseline - 300C - Pack Exit (23)	W305169-23	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.14	5.45	0.50	19.6	76
Baseline - 300C - Pack Exit (23)	W305169-23	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC		0.14	1.74	0.50	6.26	64
Baseline - 300C - Pack Exit (23)	W305169-23	Nonadecane	629-92-5	268	TIC		0.14	0.944	0.50	3.39	96
Baseline - 300C - Pack Exit (23)	W305169-23	Dibutyl phthalate	84-74-2	278	TIC		0.14	1.40	0.50	5.03	96
Baseline - 300C - Pack Exit (23)	W305169-23	Eicosane	112-95-8	282	TIC		0.14	1.22	0.50	4.38	94
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	296	TIC		0.14	1.21	0.50	4.35	0

Sample ID			CAS			Surr %		RL	Result	Page 82 of 203		5/11/23
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	296	TIC			0.14	1.43	0.50	5.12	0
Baseline - 300C - Pack Exit (23)	W305169-23	Cyclohexane, tetradecyl-	1795-18-2	280	TIC			0.14	1.26	0.50	4.52	87
Baseline - 300C - Pack Exit (23)	W305169-23	N-heneicosane	990295-43-7	296	TIC			0.14	0.905	0.50	3.25	93
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	310	TIC			0.14	0.986	0.50	3.54	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	324	TIC			0.14	1.55	0.50	5.55	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	324	TIC			0.14	0.945	0.50	3.39	0
Baseline - 300C - Pack Exit (23)	W305169-23	Docosane	990330-61-8	310	TIC			0.14	1.03	0.50	3.70	99
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	310	TIC			0.14	0.914	0.50	3.28	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	324	TIC			0.14	0.915	0.50	3.29	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	324	TIC			0.14	1.36	0.50	4.89	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	324	TIC			0.14	1.07	0.50	3.84	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	324	TIC			0.14	1.08	0.50	3.86	0
Baseline - 300C - Pack Exit (23)	W305169-23	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.14	3.32	0.50	11.9	99
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown Hydrocarbon	0	338	TIC			0.14	1.14	0.50	4.11	0
Baseline - 300C - Pack Exit (23)	W305169-23	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC			0.14	1.73	0.50	6.21	90
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	352	TIC			0.14	1.21	0.50	4.36	0
Baseline - 300C - Pack Exit (23)	W305169-23	Unknown	0	366	TIC			0.14	0.894	0.50	3.21	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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LABORATORY REPORT

EPA Compendium Method TO-13

Quartz Filters

Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 20
 Air Volume (L): 4551

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.11	5.54	0.50	25.2	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	2-Fluorobiphenyl	321-60-8	172.2	Surr	87.4	0.11	4.80	0.50	21.9	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Triisobutyl phosphate	126-71-6	266.31	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tributyl phosphate	126-73-8	266.31	T		0.11	0.138	0.50	0.630	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Pyrene-d10	1718-52-1	212.31	Surr	110	0.11	6.03	0.50	27.4	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Chrysene-d12	1719-03-5	240.4	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Terphenyl-d14	1718-51-0	244.4	Surr	96.0	0.11	5.27	0.50	24.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Triphenyl phosphate	115-86-6	326.3	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.11	5.32	0.50	24.2	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Perylene-d12	1520-96-3	264.4	Int. Std		0.11	5.49	0.50	25.0	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.11	5.78	0.50	26.3	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C3-Triphenyl phosphate (I-I)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tri-o-cresyl-phosphate	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 84 of 235		Unit
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tri-m-cresyl-phosphate	-	368.36	TIC		0.022	8.99	0.10	40.9	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.022	25.4	0.10	115	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.022	24.4	0.10	111	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 1	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 2	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 3	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 4	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 5	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TPP-Isomer 6	-	452.5	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TBP-Isomer 1	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TBP-Isomer 2	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TBP-Isomer 3	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	TBP-Isomer 4	-	494.6	TIC		0.022	< 0.022	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.11	9.90	0.50	45.1	91
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	2-Cyclohexen-1-one	930-68-7	96	TIC		0.11	8.07	0.50	36.7	90
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	324	TIC		0.11	7.23	0.50	32.9	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	990002-23-1	352	TIC		0.11	7.88	0.50	35.9	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Phosphoric acid, tris(3-methylphenyl.)	563-04-2	368	TIC		0.11	46.2	0.50	210	99
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	372	TIC		0.11	8.52	0.50	38.8	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Phosphoric acid, tris(4-methylphenyl) ester	78-32-0	368	TIC		0.11	50.4	0.50	229	99
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	386	TIC		0.11	297	0.50	1350	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	400	TIC		0.11	11.0	0.50	50.0	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	400	TIC		0.11	16.9	0.50	76.7	0

Sample ID			CAS			Surr %		RL	Result	Page 1.85 of 2r3e5ult		
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	400	TIC			0.11	44.0	0.50	200	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	414	TIC			0.11	5.49	0.50	25.0	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	414	TIC			0.11	439	0.50	2000	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	414	TIC			0.11	201	0.50	915	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	393	TIC			0.11	28.3	0.50	129	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	13.5	0.50	61.6	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	24.7	0.50	112	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	24.1	0.50	110	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	5.55	0.50	25.3	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	315	0.50	1430	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	428	TIC			0.11	147	0.50	668	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	190	0.50	866	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	51.8	0.50	236	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	14.6	0.50	66.4	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	7.38	0.50	33.6	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	7.36	0.50	33.5	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	442	TIC			0.11	5.61	0.50	25.5	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	456	TIC			0.11	61.3	0.50	279	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	456	TIC			0.11	175	0.50	796	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	456	TIC			0.11	53.1	0.50	241	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	456	TIC			0.11	69.8	0.50	318	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	470	TIC			0.11	22.0	0.50	100	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	470	TIC			0.11	11.3	0.50	51.3	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	470	TIC			0.11	4.78	0.50	21.7	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	484	TIC			0.11	36.2	0.50	165	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	484	TIC			0.11	28.3	0.50	129	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	484	TIC			0.11	4.79	0.50	21.8	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	498	TIC			0.11	26.9	0.50	122	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	498	TIC			0.11	6.80	0.50	30.9	0
2197 - 300C - 5ppmw - Ozone In (24)	W305169-24	Unknown	0	512	TIC			0.11	9.74	0.50	44.3	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

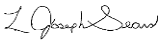
Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

N = Identification based on mass spectral library search

Sample ID										Page 1.86 of 23.51	
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes both					
I = Response failure of an internal standard; concentration should be considered an estimate						chemical library matches, chemist identified compounds, and					
J = Reported concentration was estimated						unknowns.					
X = Detected but not quantifiable											

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: See Report

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

 Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

 Sampling Date: 05/17/23
 Sampling Time (min): 20
 Air Volume (L): 4719

 RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.9	0.11	5.29	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.3	0.11	4.84	0.50	22.8	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Triisobutyl phosphate	126-71-6	266.31	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tributyl phosphate	126-73-8	266.31	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Pyrene-d10	1718-52-1	212.31	Surr	121	0.11	6.42	0.50	30.3	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Chrysene-d12	1719-03-5	240.4	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Terphenyl-d14	1718-51-0	244.4	Surr	94.2	0.11	4.99	0.50	23.5	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Triphenyl phosphate	115-86-6	326.3	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.11	0.131	0.50	0.620	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Perylene-d12	1520-96-3	264.4	Int. Std		0.11	5.30	0.50	25.0	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.11	0.142	0.50	0.670	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.11	< 0.11	0.50	< 0.50	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.11	< 0.11	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tri-o-cresyl-phosphate	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 188 of 203		500
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tri-m-cresyl-phosphate	-	368.36	TIC		0.021	0.114	0.10	0.538	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.021	0.329	0.10	1.55	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.021	0.325	0.10	1.53	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 1	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 2	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 3	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 4	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 5	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TPP-Isomer 6	-	452.5	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TBP-Isomer 1	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TBP-Isomer 2	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TBP-Isomer 3	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	TBP-Isomer 4	-	494.6	TIC		0.021	< 0.021	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.11	0.901	0.50	4.25	80
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.11	1.13	0.50	5.33	91
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.11	10.2	0.50	48.3	90
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	2-Cyclohexen-1-one	930-68-7	96	TIC		0.11	8.27	0.50	39.0	91
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	(1S,2S)-2-chloranylcyclohexan-1-ol	990006-53-3	134	TIC		0.11	4.20	0.50	19.8	87
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC		0.11	1.43	0.50	6.76	64
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Hexadecanamide	629-54-9	255	TIC		0.11	1.08	0.50	5.09	87
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Tridecane, 1-iodo-	35599-77-0	310	TIC		0.11	0.771	0.50	3.64	86
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.11	3.39	0.50	16.0	98
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	372	TIC		0.11	1.80	0.50	8.50	0

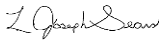
Sample ID			CAS			Surr %		RL	Result	Page 89 of 203		5/11/2018
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	372	TIC			0.11	0.935	0.50	4.41	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	386	TIC			0.11	4.49	0.50	21.2	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	386	TIC			0.11	1.40	0.50	6.62	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	400	TIC			0.11	1.08	0.50	5.11	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	400	TIC			0.11	1.51	0.50	7.11	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	414	TIC			0.11	0.894	0.50	4.22	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	414	TIC			0.11	1.78	0.50	8.39	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	428	TIC			0.11	1.61	0.50	7.61	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	428	TIC			0.11	4.49	0.50	21.2	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	428	TIC			0.11	4.39	0.50	20.7	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	428	TIC			0.11	3.67	0.50	17.3	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	442	TIC			0.11	0.735	0.50	3.47	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	456	TIC			0.11	2.27	0.50	10.7	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	456	TIC			0.11	8.76	0.50	41.3	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	470	TIC			0.11	2.60	0.50	12.3	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	470	TIC			0.11	3.94	0.50	18.6	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	470	TIC			0.11	1.33	0.50	6.26	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	484	TIC			0.11	5.67	0.50	26.7	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	484	TIC			0.11	4.66	0.50	22.0	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	484	TIC			0.11	0.866	0.50	4.08	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	498	TIC			0.11	4.95	0.50	23.4	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	498	TIC			0.11	1.45	0.50	6.84	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	512	TIC			0.11	1.18	0.50	5.56	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	512	TIC			0.11	5.07	0.50	23.9	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	526	TIC			0.11	1.31	0.50	6.18	0
2197 - 300C - 5ppmw - Ozone Out (25)	W305169-25	Unknown	0	526	TIC			0.11	2.01	0.50	9.51	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

<i>ng</i> = nanogram <i>ppbv</i> = parts per billion volume <i>ug/m3</i> = micrograms per cubic meter <i>µg/Kg</i> = micrograms per kilogram	<i>BDL</i> = Below Detection Limit <i>N/A</i> = Not Applicable <i>ND</i> = Not detected. Qualitative analysis only	<i>Surr</i> = Surrogate Compound <i>Int. Std</i> = Internal Standard <i>T</i> = Target Analyte <i>TIC</i> = Tentatively Identified Compound
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Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Sample ID							Surr %	RL	Result	Page 1 of 2		
Client	RJLG	Analyte	CAS Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 20
 Air Volume (L): 3800

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Nitrobenzene-d4	4165-60-0	128.14	Surr	100	0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.0	0.13	5.92	0.50	22.5	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Triisobutyl phosphate	126-71-6	266.31	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tributyl phosphate	126-73-8	266.31	T		0.13	0.668	0.50	2.54	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Pyrene-d10	1718-52-1	212.31	Surr	138	0.13	9.11	0.50	34.6	S
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Chrysene-d12	1719-03-5	240.4	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Terphenyl-d14	1718-51-0	244.4	Surr	93.4	0.13	6.14	0.50	23.3	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Triphenyl phosphate	115-86-6	326.3	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.13	0.776	0.50	2.95	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Perylene-d12	1520-96-3	264.4	Int. Std		0.13	6.58	0.50	25.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.13	0.761	0.50	2.89	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.13	< 0.13	0.50	< 0.50	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.13	< 0.13	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tri-o-cresyl-phosphate	-	368.36	TIC		0.026	< 0.026	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagere	92 of 203	5ult
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tri-m-cresyl-phosphate	-	368.36	TIC		0.026	1.18	0.10	4.48	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.026	3.21	0.10	12.2	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.026	3.15	0.10	12.0	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 1	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 2	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 3	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 4	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 5	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TPP-Isomer 6	-	452.5	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TBP-Isomer 1	-	494.6	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TBP-Isomer 2	-	494.6	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TBP-Isomer 3	-	494.6	TIC		0.026	< 0.026	0.10	< 0.10	
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	TBP-Isomer 4	-	494.6	TIC		0.026	< 0.026	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Bicyclo[3.1.0]hexan-3-one	1755-04-0	98	TIC		0.13	1.20	0.50	4.56	86
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.13	1.51	0.50	5.73	72
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.13	15.1	0.50	57.3	87
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	2-Cyclohexen-1-one	930-68-7	96	TIC		0.13	10.8	0.50	40.9	91
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	(1S,2S)-2-chloranylcyclohexan-1-ol	990006-53-3	134	TIC		0.13	5.46	0.50	20.7	91
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	(1R,6S)-7-oxabicyclo[4.1.0]heptan-6-ol	990002-18-3	114	TIC		0.13	2.11	0.50	8.04	64
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Heptanoic acid	111-14-8	130	TIC		0.13	2.51	0.50	9.52	59
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Hexanoic acid, 3,5,5-trimethyl-	3302-10-1	158	TIC		0.13	9.09	0.50	34.6	90
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	170	TIC		0.13	1.47	0.50	5.58	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Nonanoic acid	112-05-0	158	TIC		0.13	11.7	0.50	44.5	96

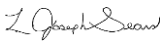
Sample ID			CAS			Surr %		RL	Result	Page 93 of 203		5/11/2011
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	198	TIC			0.13	2.38	0.50	9.04	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	226	TIC			0.13	3.61	0.50	13.7	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown Hydrocarbon	0	296	TIC			0.13	1.35	0.50	5.14	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	296	TIC			0.13	2.03	0.50	7.70	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown Hydrocarbon	0	296	TIC			0.13	1.60	0.50	6.09	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Cyclohexane, tetradecyl-	1795-18-2	280	TIC			0.13	1.29	0.50	4.88	91
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	294	TIC			0.13	1.45	0.50	5.51	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	1-Docosene	1599-67-3	308	TIC			0.13	1.62	0.50	6.16	96
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	308	TIC			0.13	1.36	0.50	5.18	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	308	TIC			0.13	1.27	0.50	4.84	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	322	TIC			0.13	1.42	0.50	5.41	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.13	2.32	0.50	8.81	98
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	328	TIC			0.13	1.17	0.50	4.43	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC			0.13	2.55	0.50	9.68	55
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	342	TIC			0.13	1.33	0.50	5.05	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	342	TIC			0.13	1.18	0.50	4.49	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	358	TIC			0.13	1.23	0.50	4.69	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	358	TIC			0.13	1.76	0.50	6.69	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	358	TIC			0.13	3.32	0.50	12.6	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	386	TIC			0.13	2.47	0.50	9.40	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	414	TIC			0.13	3.72	0.50	14.1	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	428	TIC			0.13	3.10	0.50	11.8	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	428	TIC			0.13	2.83	0.50	10.7	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	456	TIC			0.13	1.18	0.50	4.49	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	456	TIC			0.13	3.46	0.50	13.2	0
2197 - 300C - 5ppmw - Pack Exit (26)	W305169-26	Unknown	0	470	TIC			0.13	1.48	0.50	5.63	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

<i>ng</i> = nanogram <i>ppbv</i> = parts per billion volume <i>ug/m3</i> = micrograms per cubic meter <i>µg/Kg</i> = micrograms per kilogram	<i>BDL</i> = Below Detection Limit <i>N/A</i> = Not Applicable <i>ND</i> = Not detected. Qualitative analysis only	<i>Surr</i> = Surrogate Compound <i>Int. Std</i> = Internal Standard <i>T</i> = Target Analyte <i>TIC</i> = Tentatively Identified Compound
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Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Sample ID					Surr %		RL	Result	Page 1 of 2		
Client	RJLG	Analyte	CAS Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Burnout - Ozone In (27)	W305169-27	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	Nitrobenzene-d4	4165-60-0	128.14	Surr	104			0.50	25.9	
Burnout - Ozone In (27)	W305169-27	Naphthalene-d8	1146-65-2	136.22	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	Acenaphthene-d10	15067-26-2	164.27	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	2-Fluorobiphenyl	321-60-8	172.2	Surr	93.9			0.50	23.5	
Burnout - Ozone In (27)	W305169-27	Triisobutyl phosphate	126-71-6	266.31	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tributyl phosphate	126-73-8	266.31	T				0.50	46.6	
Burnout - Ozone In (27)	W305169-27	Phenanthrene-d10	1517-22-2	188.29	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Pyrene-d10	1718-52-1	212.31	Surr	154			0.50	38.6	S
Burnout - Ozone In (27)	W305169-27	Chrysene-d12	1719-03-5	240.4	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	Terphenyl-d14	1718-51-0	244.4	Surr	95.9			0.50	24.0	
Burnout - Ozone In (27)	W305169-27	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Triphenyl phosphate	115-86-6	326.3	T				0.50	0.570	
Burnout - Ozone In (27)	W305169-27	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tri-o-cresyl phosphate	78-30-8	368.36	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tri-m-cresyl phosphate	563-04-2	368.36	T				0.50	0.900	
Burnout - Ozone In (27)	W305169-27	Perylene-d12	1520-96-3	264.4	Int. Std				0.50	25.0	
Burnout - Ozone In (27)	W305169-27	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tri-p-cresyl phosphate	78-32-0	368.36	T				0.50	0.960	
Burnout - Ozone In (27)	W305169-27	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T				0.50	< 0.50	
Burnout - Ozone In (27)	W305169-27	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T				0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Burnout - Ozone In (27)	W305169-27	C3-Triphenyl phosphate (I-1)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	Tri-o-cresyl-phosphate	-	368.36	TIC				0.10	< 0.10	

Sample ID			CAS			Surr %	RL	Result	Page 96 of 235		
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Burnout - Ozone In (27)	W305169-27	C3-Triphenyl phosphate (I-2)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	Tri-m-cresyl-phosphate	-	368.36	TIC				0.10	1.33	
Burnout - Ozone In (27)	W305169-27	C3-Triphenyl phosphate (I-3)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	C3-Triphenyl phosphate (I-4)	-	368.36	TIC				0.10	3.26	
Burnout - Ozone In (27)	W305169-27	C3-Triphenyl phosphate (I-5)	-	368.36	TIC				0.10	3.31	
Burnout - Ozone In (27)	W305169-27	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 1	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 2	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 3	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 4	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 5	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TPP-Isomer 6	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TBP-Isomer 1	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TBP-Isomer 2	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TBP-Isomer 3	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone In (27)	W305169-27	TBP-Isomer 4	-	494.6	TIC				0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Burnout - Ozone In (27)	W305169-27	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC				0.50	5.58	90
Burnout - Ozone In (27)	W305169-27	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC				0.50	48.2	90
Burnout - Ozone In (27)	W305169-27	2-Cyclohexen-1-one	930-68-7	96	TIC				0.50	41.1	91
Burnout - Ozone In (27)	W305169-27	Decane	124-18-5	142	TIC				0.50	6.55	95
Burnout - Ozone In (27)	W305169-27	(1S,2S)-2-chloranylcyclohexan-1-ol	990006-53-3	134	TIC				0.50	19.1	90
Burnout - Ozone In (27)	W305169-27	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC				0.50	6.94	56
Burnout - Ozone In (27)	W305169-27	Eicosane	112-95-8	282	TIC				0.50	5.62	97
Burnout - Ozone In (27)	W305169-27	Unknown Hydrocarbon	0	296	TIC				0.50	5.42	0
Burnout - Ozone In (27)	W305169-27	Unknown Hydrocarbon	0	296	TIC				0.50	5.56	0
Burnout - Ozone In (27)	W305169-27	Cyclohexane, tetradecyl	1795-18-2	280	TIC				0.50	4.77	78

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Pagrel. µg/sample	97 of 2R3e5ult µg/sample	Qualifier
Burnout - Ozone In (27)	W305169-27	Unknown Hydrocarbon	0	310	TIC				0.50	4.52	0
Burnout - Ozone In (27)	W305169-27	Hexadecanamide	629-54-9	255	TIC				0.50	5.73	90
Burnout - Ozone In (27)	W305169-27	1-Docosene	1599-67-3	308	TIC				0.50	4.86	92
Burnout - Ozone In (27)	W305169-27	9-Octadecenamide	3322-62-1	281	TIC				0.50	15.8	98
Burnout - Ozone In (27)	W305169-27	Unknown	0	310	TIC				0.50	5.78	0
Burnout - Ozone In (27)	W305169-27	Phosphoric acid, tris(3-methylphenyl) ester	78-32-0	368	TIC				0.50	6.23	99
Burnout - Ozone In (27)	W305169-27	Phosphoric acid, tris(4-methylphenyl) ester	563-04-2	368	TIC				0.50	6.26	99
Burnout - Ozone In (27)	W305169-27	Unknown	0	408	TIC				0.50	6.54	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	386	TIC				0.50	11.8	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	386	TIC				0.50	24.7	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	386	TIC				0.50	6.42	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	400	TIC				0.50	10.8	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	414	TIC				0.50	10.4	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	414	TIC				0.50	9.16	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	414	TIC				0.50	29.7	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	428	TIC				0.50	5.51	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	428	TIC				0.50	28.3	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	428	TIC				0.50	16.2	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	442	TIC				0.50	4.75	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	442	TIC				0.50	16.3	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	442	TIC				0.50	9.81	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	456	TIC				0.50	18.6	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	456	TIC				0.50	6.96	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	470	TIC				0.50	7.40	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	470	TIC				0.50	12.4	0
Burnout - Ozone In (27)	W305169-27	Unknown	0	470	TIC				0.50	8.30	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL.	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	
J = Reported concentration was estimated	
X = Detected but not quantifiable	

Sample ID							Surr %	RL	Result	Page 1 of 2	
Client	RJLG	Analyte	CAS Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

2 Joseph Sears

Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

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LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Burnout - Ozone Out (28)	W305169-28	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	Nitrobenzene-d4	4165-60-0	128.14	Surr	100			0.50	25.1	
Burnout - Ozone Out (28)	W305169-28	Naphthalene-d8	1146-65-2	136.22	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	Acenaphthene-d10	15067-26-2	164.27	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.1			0.50	22.8	
Burnout - Ozone Out (28)	W305169-28	Triisobutyl phosphate	126-71-6	266.31	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tributyl phosphate	126-73-8	266.31	T				0.50	1.98	
Burnout - Ozone Out (28)	W305169-28	Phenanthrene-d10	1517-22-2	188.29	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Pyrene-d10	1718-52-1	212.31	Surr	123			0.50	30.8	
Burnout - Ozone Out (28)	W305169-28	Chrysene-d12	1719-03-5	240.4	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	Terphenyl-d14	1718-51-0	244.4	Surr	93.4			0.50	23.4	
Burnout - Ozone Out (28)	W305169-28	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Triphenyl phosphate	115-86-6	326.3	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tri-o-cresyl phosphate	78-30-8	368.36	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tri-m-cresyl phosphate	563-04-2	368.36	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Perylene-d12	1520-96-3	264.4	Int. Std				0.50	25.0	
Burnout - Ozone Out (28)	W305169-28	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tri-p-cresyl phosphate	78-32-0	368.36	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T				0.50	< 0.50	
Burnout - Ozone Out (28)	W305169-28	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T				0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Burnout - Ozone Out (28)	W305169-28	C3-Triphenyl phosphate (I-1)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	Tri-o-cresyl-phosphate	-	368.36	TIC				0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	PageRL100 of 2R3es5ult	µg/sample	Qualifier
Burnout - Ozone Out (28)	W305169-28	C3-Triphenyl phosphate (I-2)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	Tri-m-cresyl-phosphate	-	368.36	TIC				0.10	0.156	
Burnout - Ozone Out (28)	W305169-28	C3-Triphenyl phosphate (I-3)	-	368.36	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	C3-Triphenyl phosphate (I-4)	-	368.36	TIC				0.10	0.416	
Burnout - Ozone Out (28)	W305169-28	C3-Triphenyl phosphate (I-5)	-	368.36	TIC				0.10	0.457	
Burnout - Ozone Out (28)	W305169-28	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 1	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 2	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 3	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 4	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 5	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TPP-Isomer 6	-	452.5	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TBP-Isomer 1	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TBP-Isomer 2	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TBP-Isomer 3	-	494.6	TIC				0.10	< 0.10	
Burnout - Ozone Out (28)	W305169-28	TBP-Isomer 4	-	494.6	TIC				0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Burnout - Ozone Out (28)	W305169-28	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC				0.50	46.0	87
Burnout - Ozone Out (28)	W305169-28	2-Cyclohexen-1-one	930-68-7	96	TIC				0.50	40.5	91
Burnout - Ozone Out (28)	W305169-28	Decane	124-18-5	142	TIC				0.50	10.4	95
Burnout - Ozone Out (28)	W305169-28	(1S,2S)-2-chloranilycyclohexan-1-ol	990006-53-3	134	TIC				0.50	18.2	87
Burnout - Ozone Out (28)	W305169-28	7-Oxabicyclo[4.1.0]heptan-2-ol	1192-78-5	114	TIC				0.50	6.93	56
Burnout - Ozone Out (28)	W305169-28	Diethyl Phthalate	84-66-2	222	TIC				0.50	6.02	98
Burnout - Ozone Out (28)	W305169-28	Hexadecanamide	629-54-9	255	TIC				0.50	5.87	90
Burnout - Ozone Out (28)	W305169-28	9-Octadecenamide, (Z)-	301-02-0	281	TIC				0.50	11.8	98
Burnout - Ozone Out (28)	W305169-28	Unknown	0	386	TIC				0.50	13.1	0
Burnout - Ozone Out (28)	W305169-28	Unknown	0	400	TIC				0.50	8.01	0

Sample ID			CAS					Surr %		RL		Result		Page 101 of 235	
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	414	TIC					0.50	9.31	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	428	TIC					0.50	10.9	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	428	TIC					0.50	8.47	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	442	TIC					0.50	11.8	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	442	TIC					0.50	9.03	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	28.5	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	14.3	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	15.5	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	50.8	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	28.5	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	8.74	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	11.0	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	35.6	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	25.9	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	6.35	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	456	TIC					0.50	17.0	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	34.7	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	40.1	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	59.9	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	7.60	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	15.8	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	6.21	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	14.5	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	470	TIC					0.50	27.1	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	512	TIC					0.50	6.93	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	526	TIC					0.50	16.3	0			
Burnout - Ozone Out (28)	W305169-28	Unknown	0	526	TIC					0.50	7.64	0			

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers											
c = Sample RPD failure						N = Identification based on mass spectral library search					
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes both chemical					
I = Response failure of an internal standard; concentration should be considered an estimate						library matches, chemist identified compounds, and unknowns.					
J = Reported concentration was estimated											
X = Detected but not quantifiable											

LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/17/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO# 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Burnout - Pack Exit (29)	W305169-29	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	Nitrobenzene-d4	4165-60-0	128.14	Surr	94.3			0.50	23.6	
Burnout - Pack Exit (29)	W305169-29	Naphthalene-d8	1146-65-2	136.22	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	Acenaphthene-d10	15067-26-2	164.27	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	2-Fluorobiphenyl	321-60-8	172.2	Surr	89.9			0.50	22.5	
Burnout - Pack Exit (29)	W305169-29	Triisobutyl phosphate	126-71-6	266.31	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tributyl phosphate	126-73-8	266.31	T				0.50	35.7	
Burnout - Pack Exit (29)	W305169-29	Phenanthrene-d10	1517-22-2	188.29	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Pyrene-d10	1718-52-1	212.31	Surr	121			0.50	30.3	
Burnout - Pack Exit (29)	W305169-29	Chrysene-d12	1719-03-5	240.4	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	Terphenyl-d14	1718-51-0	244.4	Surr	91.2			0.50	22.8	
Burnout - Pack Exit (29)	W305169-29	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Triphenyl phosphate	115-86-6	326.3	T				0.50	0.570	
Burnout - Pack Exit (29)	W305169-29	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tri-o-cresyl phosphate	78-30-8	368.36	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tri-m-cresyl phosphate	563-04-2	368.36	T				0.50	2.06	
Burnout - Pack Exit (29)	W305169-29	Perylene-d12	1520-96-3	264.4	Int. Std				0.50	25.0	
Burnout - Pack Exit (29)	W305169-29	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tri-p-cresyl phosphate	78-32-0	368.36	T				0.50	1.55	
Burnout - Pack Exit (29)	W305169-29	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T				0.50	< 0.50	
Burnout - Pack Exit (29)	W305169-29	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T				0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Burnout - Pack Exit (29)	W305169-29	C3-Triphenyl phosphate (I-1)	-	368.36	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	Tri-o-cresyl-phosphate	-	368.36	TIC				0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 104 of 235	Result µg/sample	Qualifier
Burnout - Pack Exit (29)	W305169-29	C3-Triphenyl phosphate (I-2)	-	368.36	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	Tri-m-cresyl-phosphate	-	368.36	TIC				0.10	3.10	
Burnout - Pack Exit (29)	W305169-29	C3-Triphenyl phosphate (I-3)	-	368.36	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	C3-Triphenyl phosphate (I-4)	-	368.36	TIC				0.10	7.59	
Burnout - Pack Exit (29)	W305169-29	C3-Triphenyl phosphate (I-5)	-	368.36	TIC				0.10	6.78	
Burnout - Pack Exit (29)	W305169-29	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 1	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 2	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 3	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 4	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 5	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TPP-Isomer 6	-	452.5	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TBP-Isomer 1	-	494.6	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TBP-Isomer 2	-	494.6	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TBP-Isomer 3	-	494.6	TIC				0.10	< 0.10	
Burnout - Pack Exit (29)	W305169-29	TBP-Isomer 4	-	494.6	TIC				0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Burnout - Pack Exit (29)	W305169-29	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC				0.50	24.0	90
Burnout - Pack Exit (29)	W305169-29	2-Cyclohexen-1-one	000930-68-7	96	TIC				0.50	21.1	91
Burnout - Pack Exit (29)	W305169-29	2-Chlorocyclohexanol	001561-86-0	134	TIC				0.50	11.2	76
Burnout - Pack Exit (29)	W305169-29	1H-Isoidole-1,3(2H)-dione, 2-phenyl-	000520-03-6	223	TIC				0.50	6.37	92
Burnout - Pack Exit (29)	W305169-29	Unknown	0	296	TIC				0.50	7.23	0
Burnout - Pack Exit (29)	W305169-29	Unknown Hydrocarbon	0	296	TIC				0.50	6.12	0
Burnout - Pack Exit (29)	W305169-29	Unknown Hydrocarbon	0	296	TIC				0.50	6.91	0
Burnout - Pack Exit (29)	W305169-29	Hexadecanamide	000629-54-9	255	TIC				0.50	5.66	97
Burnout - Pack Exit (29)	W305169-29	Unknown	0	296	TIC				0.50	6.11	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	296	TIC				0.50	5.65	0

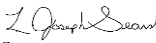
Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 105 of 235		
Client	RJLG								µg/sample	µg/sample	Qualifier
Burnout - Pack Exit (29)	W305169-29	Unknown Hydrocarbon	0	310	TIC				0.50	7.70	0
Burnout - Pack Exit (29)	W305169-29	9-Octadecenamide, (Z)-	000301-02-0	281	TIC				0.50	10.3	91
Burnout - Pack Exit (29)	W305169-29	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC				0.50	11.1	90
Burnout - Pack Exit (29)	W305169-29	Unknown	0	324	TIC				0.50	6.17	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	340	TIC				0.50	7.16	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	354	TIC				0.50	9.35	0
Burnout - Pack Exit (29)	W305169-29	Phosphoric acid, tris(3-methylphenyl) ester	563-04-02	368	TIC				0.50	10.6	99
Burnout - Pack Exit (29)	W305169-29	Unknown Hydrocarbon	0	342	TIC				0.50	5.69	0
Burnout - Pack Exit (29)	W305169-29	Phosphoric acid, tris(4-methylphenyl) ester	000078-32-0	368	TIC				0.50	8.21	99
Burnout - Pack Exit (29)	W305169-29	Unknown	0	386	TIC				0.50	9.63	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	386	TIC				0.50	6.00	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	386	TIC				0.50	14.3	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	400	TIC				0.50	23.9	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	400	TIC				0.50	6.94	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	400	TIC				0.50	9.48	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	414	TIC				0.50	9.15	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	414	TIC				0.50	8.25	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	428	TIC				0.50	22.0	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	428	TIC				0.50	21.9	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	428	TIC				0.50	12.7	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	442	TIC				0.50	12.7	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	442	TIC				0.50	7.64	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	442	TIC				0.50	14.5	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	456	TIC				0.50	6.28	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	456	TIC				0.50	6.45	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	456	TIC				0.50	10.9	0
Burnout - Pack Exit (29)	W305169-29	Unknown	0	456	TIC				0.50	7.81	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

<i>ng</i> = nanogram <i>ppbv</i> = parts per billion volume <i>ug/m3</i> = micrograms per cubic meter <i>µg/Kg</i> = micrograms per kilogram	<i>BDL</i> = Below Detection Limit <i>N/A</i> = Not Applicable <i>ND</i> = Not detected. Qualitative analysis only	<i>Surr</i> = Surrogate Compound <i>Int. Std</i> = Internal Standard <i>T</i> = Target Analyte <i>TIC</i> = Tentatively Identified Compound
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<i>c</i> = Sample RPD failure <i>r</i> = %REC failure in the MRL <i>p</i> = Positively identified compound, for non-calibrated compounds <i>B</i> = Compound found in associated laboratory blank above the MDL. <i>D</i> = Diluted sample <i>E</i> = Report concentration was above the instrumental calibration range <i>I</i> = Response failure of an internal standard; concentration should be considered an estimate <i>J</i> = Reported concentration was estimated <i>X</i> = Detected but not quantifiable	Qualifiers N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = TIC =
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Sample ID							Surr %	RL	Result	Page		RL	106 of 235
Client	RJLG	Analyte	CAS Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier	

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 1
 Air Volume (L): 2000

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Field Blank (30)	W305169-30	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.6	0.167	8.300	0.50	24.9	
Field Blank (30)	W305169-30	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.8	0.167	7.677	0.50	23.0	
Field Blank (30)	W305169-30	Triisobutyl phosphate	126-71-6	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tributyl phosphate	126-73-8	266.31	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Pyrene-d10	1718-52-1	212.31	Surr	151	0.167	12.567	0.50	37.7	S
Field Blank (30)	W305169-30	Chrysene-d12	1719-03-5	240.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	Terphenyl-d14	1718-51-0	244.4	Surr	94.0	0.167	7.833	0.50	23.5	
Field Blank (30)	W305169-30	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Triphenyl phosphate	115-86-6	326.3	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Perylene-d12	1520-96-3	264.4	Int. Std		0.167	8.333	0.50	25.0	
Field Blank (30)	W305169-30	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.167	< 0.167	0.50	< 0.50	
Field Blank (30)	W305169-30	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.167	< 0.167	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Field Blank (30)	W305169-30	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	Tri-o-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID		CAS				Surr %		RL	Result	PageRL108 of 2R3es5ult	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank (30)	W305169-30	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	0.063	0.10	0.189	
Field Blank (30)	W305169-30	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	0.065	0.10	0.194	
Field Blank (30)	W305169-30	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Field Blank (30)	W305169-30	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Field Blank (30)	W305169-30	1-cyclopentene-1-carbaldehyde	990000-55-8	96	TIC		0.167	9.200	0.50	27.6	86
Field Blank (30)	W305169-30	2-Cyclohexen-1-one	930-68-7	96	TIC		0.167	8.133	0.50	24.4	91
Field Blank (30)	W305169-30	Decane	124-18-5	142	TIC		0.167	2.450	0.50	7.35	93
Field Blank (30)	W305169-30	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.167	6.100	0.50	18.3	64
Field Blank (30)	W305169-30	(1R,6S)-7-oxabicyclo[4.1.0]heptan-6-ol	990002-18-3	114	TIC		0.167	1.407	0.50	4.22	64
Field Blank (30)	W305169-30	5-Nonanol	623-93-8	144	TIC		0.167	1.390	0.50	4.17	78
Field Blank (30)	W305169-30	1,2-Hexanediol	6920-22-5	118	TIC		0.167	1.977	0.50	5.93	72
Field Blank (30)	W305169-30	2-Pyrrolidinone	616-45-5	85	TIC		0.167	4.633	0.50	13.9	91
Field Blank (30)	W305169-30	Acetic acid, 2-ethylhexyl ester	103-09-3	172	TIC		0.167	2.480	0.50	7.44	91
Field Blank (30)	W305169-30	2-Propanol, 1-[2-(2-methoxy-1-methylethoxy)-1-methylethoxy]-	20324-33-8	206	TIC		0.167	1.570	0.50	4.71	90

Sample ID			CAS			Surr %		RL	Result	PageRL109 of 2R3es5ult		
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Field Blank (30)	W305169-30	2-Propanol, 1-[2-(2-methoxy-1-methylethoxy)-1-methylethoxy]-	20324-33-8	206	TIC			0.167	1.223	0.50	3.67	90
Field Blank (30)	W305169-30	Unknown	0	226	TIC			0.167	2.043	0.50	6.13	0
Field Blank (30)	W305169-30	Ethanol, 2-[2-(2-butoxyethoxy)ethoxy]-	143-22-6	206	TIC			0.167	3.800	0.50	11.4	91
Field Blank (30)	W305169-30	Benzoic acid, 2-benzoyl-, methyl ester	606-28-0	240	TIC			0.167	1.283	0.50	3.85	64
Field Blank (30)	W305169-30	Unknown	0	243	TIC			0.167	1.247	0.50	3.74	0
Field Blank (30)	W305169-30	Unknown	0	243	TIC			0.167	2.503	0.50	7.51	0
Field Blank (30)	W305169-30	Unknown	0	278	TIC			0.167	1.217	0.50	3.65	0
Field Blank (30)	W305169-30	Unknown	0	258	TIC			0.167	2.227	0.50	6.68	0
Field Blank (30)	W305169-30	Eicosane	112-95-8	282	TIC			0.167	1.917	0.50	5.75	96
Field Blank (30)	W305169-30	Unknown	0	280	TIC			0.167	1.740	0.50	5.22	0
Field Blank (30)	W305169-30	Unknown Hydrocarbon	0	296	TIC			0.167	1.490	0.50	4.47	0
Field Blank (30)	W305169-30	10,18-Bisnorabieta-8,11,13-triene	32624-67-2	242	TIC			0.167	2.163	0.50	6.49	93
Field Blank (30)	W305169-30	Octadecane	593-45-3	268	TIC			0.167	1.307	0.50	3.92	94
Field Blank (30)	W305169-30	Unknown	0	282	TIC			0.167	2.083	0.50	6.25	0
Field Blank (30)	W305169-30	Unknown Hydrocarbon	0	296	TIC			0.167	1.730	0.50	5.19	0
Field Blank (30)	W305169-30	5-Octadecene, (E)-	7206-21-5	296	TIC			0.167	2.633	0.50	7.90	0
Field Blank (30)	W305169-30	Unknown	0	296	TIC			0.167	1.527	0.50	4.58	0
Field Blank (30)	W305169-30	Docosane	990330-61-8	310	TIC			0.167	1.243	0.50	3.73	98
Field Blank (30)	W305169-30	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.167	1.717	0.50	5.15	98
Field Blank (30)	W305169-30	Unknown Hydrocarbon	0	348	TIC			0.167	1.663	0.50	4.99	0
Field Blank (30)	W305169-30	13-Docosenamide, (Z)-	112-84-5	337	TIC			0.167	1.793	0.50	5.38	97

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

20 Joseph Sears

Authorized Signature:

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

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LABORATORY REPORT
EPA Compendium Method TO-13
Quartz Filters
Air & Emissions

RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratory
 2710 North 20th Avenue, Pasco WA 99301
 Tel: (509) 792-1955

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 e-mail:

Sampling Date: 05/18/23
 Sampling Time (min): 25
 Air Volume (L): 6080

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 220C - Ozone In (31)	W305169-31	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Nitrobenzene-d4	4165-60-0	128.14	Surr	104	0.082	4.26	0.50	25.9	
MJ-II - 220C - Ozone In (31)	W305169-31	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.3	0.082	3.71	0.50	22.6	
MJ-II - 220C - Ozone In (31)	W305169-31	Triisobutyl phosphate	126-71-6	266.31	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tributyl phosphate	126-73-8	266.31	T		0.082	0.783	0.50	4.76	
MJ-II - 220C - Ozone In (31)	W305169-31	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Pyrene-d10	1718-52-1	212.31	Surr	104	0.082	4.27	0.50	26.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Chrysene-d12	1719-03-5	240.4	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Terphenyl-d14	1718-51-0	244.4	Surr	98.8	0.082	4.06	0.50	24.7	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Triphenyl phosphate	115-86-6	326.3	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.082	10.5	0.50	63.9	
MJ-II - 220C - Ozone In (31)	W305169-31	Perylene-d12	1520-96-3	264.4	Int. Std		0.082	4.11	0.50	25.0	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.082	11.7	0.50	71.2	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.082	< 0.082	0.50	< 0.50	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.082	< 0.082	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 220C - Ozone In (31)	W305169-31	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
MJ-II - 220C - Ozone In (31)	W305169-31	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	Tri-m-cresyl-phosphate	-	368.36	TIC		0.016	20.5	0.10	125	
MJ-II - 220C - Ozone In (31)	W305169-31	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.016	54.7	0.10	332	
MJ-II - 220C - Ozone In (31)	W305169-31	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.016	49.0	0.10	298	
MJ-II - 220C - Ozone In (31)	W305169-31	Tri-p-cresyl-phosphate	-	368.36	TIC		0.016	16.1	0.10	98.2	
MJ-II - 220C - Ozone In (31)	W305169-31	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 1	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 2	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 3	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 4	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 5	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TPP-Isomer 6	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TBP-Isomer 1	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TBP-Isomer 2	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TBP-Isomer 3	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone In (31)	W305169-31	TBP-Isomer 4	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 220C - Ozone In (31)	W305169-31	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.082	8.19	0.50	49.8	81
MJ-II - 220C - Ozone In (31)	W305169-31	2-Cyclohexen-1-one	930-68-7	96	TIC		0.082	6.71	0.50	40.8	91
MJ-II - 220C - Ozone In (31)	W305169-31	Decane	124-18-5	142	TIC		0.082	2.96	0.50	18.0	95
MJ-II - 220C - Ozone In (31)	W305169-31	(1S,2S)-2-chloranilylcyclohexan-1-ol	990006-53-3	134	TIC		0.082	3.50	0.50	21.3	87
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	288	TIC		0.082	2.34	0.50	14.2	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	990019-07-2	296	TIC		0.082	2.08	0.50	12.7	0
MJ-II - 220C - Ozone In (31)	W305169-31	1-Naphthalenamine, N-phenyl-	90-30-2	219	TIC		0.082	12.5	0.50	75.9	95
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	296	TIC		0.082	3.46	0.50	21.1	0

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
MJ-II - 220C - Ozone In (31)	W305169-31	(2E)-2-Hexenyl pentanoate	0	318	TIC		0.082	2.96	0.50	18.0	0
MJ-II - 220C - Ozone In (31)	W305169-31	(4S*,6S*)-4-Methyl-6-isopropyl-tetrahydropyran-2-one	0	332	TIC		0.082	4.69	0.50	28.5	0
MJ-II - 220C - Ozone In (31)	W305169-31	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.082	4.05	0.50	24.6	98
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	346	TIC		0.082	2.34	0.50	14.2	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	346	TIC		0.082	2.98	0.50	18.1	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	360	TIC		0.082	11.3	0.50	68.7	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	360	TIC		0.082	3.51	0.50	21.3	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	374	TIC		0.082	27.7	0.50	168	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	374	TIC		0.082	4.20	0.50	25.6	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	388	TIC		0.082	7.39	0.50	44.9	0
MJ-II - 220C - Ozone In (31)	W305169-31	Phosphoric acid, tris(4-methylphenyl) ester	78-32-0	368	TIC		0.082	4.75	0.50	28.9	99
MJ-II - 220C - Ozone In (31)	W305169-31	Phosphoric acid ester	0	368	TIC		0.082	8.47	0.50	51.5	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	402	TIC		0.082	2.83	0.50	17.2	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	402	TIC		0.082	11.2	0.50	68.0	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	416	TIC		0.082	16.2	0.50	98.7	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	416	TIC		0.082	4.11	0.50	25.0	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	416	TIC		0.082	11.8	0.50	71.6	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	430	TIC		0.082	7.70	0.50	46.8	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	430	TIC		0.082	6.80	0.50	41.3	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	430	TIC		0.082	4.79	0.50	29.1	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	444	TIC		0.082	13.5	0.50	82.4	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	458	TIC		0.082	2.55	0.50	15.5	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	458	TIC		0.082	11.8	0.50	71.7	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	472	TIC		0.082	7.36	0.50	44.7	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	472	TIC		0.082	5.96	0.50	36.3	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	486	TIC		0.082	3.75	0.50	22.8	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	486	TIC		0.082	5.81	0.50	35.3	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	500	TIC		0.082	2.12	0.50	12.9	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	514	TIC		0.082	2.16	0.50	13.1	0
MJ-II - 220C - Ozone In (31)	W305169-31	Unknown	0	514	TIC		0.082	3.10	0.50	18.8	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte

Sample ID		Analyte	CAS Number	MW	Type	Surr %	RL	Result	RL	Result	Qualifier
Client	RJLG					REC	µg/m3	µg/m3	µg/sample	µg/sample	
µg/Kg = micrograms per kilogram						TIC = Tentatively Identified Compound					
Qualifiers											
c = Sample RPD failure						N = Identification based on mass spectral library search					
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL.						R = Analyte %REC Failure					
D = Diluted sample						S = Surrogate recovery failure					
E = Report concentration was above the instrumental calibration range						TIC = Compound is tentatively identified compound. Includes					
I = Response failure of an internal standard; concentration should be considered an estimate						both chemical library matches, chemist identified compounds,					
J = Reported concentration was estimated						and unknowns.					
X = Detected but not quantifiable											

Authorized Signature: _____

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 25
 Air Volume (L): 6219

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 220C - Ozone Out (32)	W305169-32	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.1	0.080	3.98	0.50	24.8	
MJ-II - 220C - Ozone Out (32)	W305169-32	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.2	0.080	3.62	0.50	22.5	
MJ-II - 220C - Ozone Out (32)	W305169-32	Triisobutyl phosphate	126-71-6	266.31	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tributyl phosphate	126-73-8	266.31	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Pyrene-d10	1718-52-1	212.31	Surr	98.0	0.080	3.94	0.50	24.5	
MJ-II - 220C - Ozone Out (32)	W305169-32	Chrysene-d12	1719-03-5	240.4	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	Terphenyl-d14	1718-51-0	244.4	Surr	98.6	0.080	3.96	0.50	24.7	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Triphenyl phosphate	115-86-6	326.3	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.080	1.69	0.50	10.5	
MJ-II - 220C - Ozone Out (32)	W305169-32	Perylene-d12	1520-96-3	264.4	Int. Std		0.080	4.02	0.50	25.0	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.080	3.00	0.50	18.7	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.080	< 0.080	0.50	< 0.50	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.080	< 0.080	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 220C - Ozone Out (32)	W305169-32	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
MJ-II - 220C - Ozone Out (32)	W305169-32	Tri-m-cresyl-phosphate	-	368.36	TIC		0.016	2.71	0.10	16.8	
MJ-II - 220C - Ozone Out (32)	W305169-32	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.016	8.62	0.10	53.6	
MJ-II - 220C - Ozone Out (32)	W305169-32	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.016	8.83	0.10	54.9	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tri-p-cresyl-phosphate	-	368.36	TIC		0.016	3.14	0.10	19.5	
MJ-II - 220C - Ozone Out (32)	W305169-32	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 1	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 2	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 3	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 4	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 5	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TPP-Isomer 6	-	452.5	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TBP-Isomer 1	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TBP-Isomer 2	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TBP-Isomer 3	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
MJ-II - 220C - Ozone Out (32)	W305169-32	TBP-Isomer 4	-	494.6	TIC		0.016	< 0.016	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 220C - Ozone Out (32)	W305169-32	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.080	6.30	0.50	39.2	90
MJ-II - 220C - Ozone Out (32)	W305169-32	2-Cyclohexen-1-one	930-68-7	96	TIC		0.080	5.65	0.50	35.2	91
MJ-II - 220C - Ozone Out (32)	W305169-32	Decane	124-18-5	142	TIC		0.080	2.68	0.50	16.7	95
MJ-II - 220C - Ozone Out (32)	W305169-32	(1S,2S)-2-chloranylcyclohexan-1-ol	990006-53-3	134	TIC		0.080	2.87	0.50	17.8	90
MJ-II - 220C - Ozone Out (32)	W305169-32	Diethyl Phthalate	84-66-2	222	TIC		0.080	1.42	0.50	8.83	97
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	332	TIC		0.080	1.26	0.50	7.81	0
MJ-II - 220C - Ozone Out (32)	W305169-32	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.080	3.15	0.50	19.6	98
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	346	TIC		0.080	2.26	0.50	14.1	0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	346	TIC		0.080	1.28	0.50	7.95	0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	360	TIC		0.080	2.46	0.50	15.3	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 116 of 235			Qualifier
Client	RJLG								µg/sample	µg/sample	µg/sample	
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown Hydrocarbon	0	360	TIC		0.080	1.20	0.50	7.46		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	360	TIC		0.080	1.41	0.50	8.75		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	360	TIC		0.080	2.14	0.50	13.3		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	360	TIC		0.080	2.42	0.50	15.0		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	374	TIC		0.080	6.20	0.50	38.6		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	374	TIC		0.080	6.37	0.50	39.6		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	374	TIC		0.080	5.99	0.50	37.3		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	388	TIC		0.080	10.2	0.50	63.3		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	388	TIC		0.080	3.16	0.50	19.7		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	388	TIC		0.080	5.50	0.50	34.2		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	402	TIC		0.080	1.30	0.50	8.09		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	402	TIC		0.080	4.02	0.50	25.0		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	416	TIC		0.080	3.14	0.50	19.5		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	416	TIC		0.080	2.55	0.50	15.9		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	430	TIC		0.080	2.13	0.50	13.2		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	430	TIC		0.080	6.39	0.50	39.8		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	430	TIC		0.080	1.13	0.50	7.01		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	444	TIC		0.080	6.44	0.50	40.0		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	458	TIC		0.080	4.18	0.50	26.0		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	458	TIC		0.080	1.23	0.50	7.65		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	472	TIC		0.080	4.17	0.50	26.0		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	472	TIC		0.080	2.92	0.50	18.2		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	486	TIC		0.080	5.17	0.50	32.2		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	486	TIC		0.080	1.89	0.50	11.8		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	500	TIC		0.080	1.83	0.50	11.4		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	500	TIC		0.080	3.16	0.50	19.7		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	500	TIC		0.080	1.58	0.50	9.81		0
MJ-II - 220C - Ozone Out (32)	W305169-32	Unknown	0	514	TIC		0.080	1.22	0.50	7.60		0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

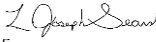
BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL.	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	

Sample ID					CAS		Surr %	RL	Result	Page		RL117 of 2351	
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier	

J = Reported concentration was estimated
X = Detected but not quantifiable


Authorized Signature: _____
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 25
 Air Volume (L): 5006

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
MJ-II - 220C - Pack Exit (33)	W305169-33	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.100	5.07	0.50	25.4	
MJ-II - 220C - Pack Exit (33)	W305169-33	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.8	0.100	4.58	0.50	23.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Triisobutyl phosphate	126-71-6	266.31	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tributyl phosphate	126-73-8	266.31	T		0.100	0.396	0.50	1.98	
MJ-II - 220C - Pack Exit (33)	W305169-33	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Pyrene-d10	1718-52-1	212.31	Surr	109	0.100	5.45	0.50	27.3	
MJ-II - 220C - Pack Exit (33)	W305169-33	Chrysene-d12	1719-03-5	240.4	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Terphenyl-d14	1718-51-0	244.4	Surr	95.1	0.100	4.75	0.50	23.8	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Triphenyl phosphate	115-86-6	326.3	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.100	4.90	0.50	24.5	
MJ-II - 220C - Pack Exit (33)	W305169-33	Perylene-d12	1520-96-3	264.4	Int. Std		0.100	4.99	0.50	25.0	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.100	4.48	0.50	22.5	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.100	< 0.100	0.50	< 0.50	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.100	< 0.100	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
MJ-II - 220C - Pack Exit (33)	W305169-33	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	

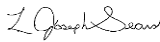
Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
MJ-II - 220C - Pack Exit (33)	W305169-33	Tri-m-cresyl-phosphate	-	368.36	TIC		0.020	8.290	0.10	41.5	
MJ-II - 220C - Pack Exit (33)	W305169-33	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.020	22.8	0.10	114	
MJ-II - 220C - Pack Exit (33)	W305169-33	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.020	21.4	0.10	107	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tri-p-cresyl-phosphate	-	368.36	TIC		0.020	7.08	0.10	35.4	
MJ-II - 220C - Pack Exit (33)	W305169-33	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 1	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 2	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 3	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 4	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 5	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TPP-Isomer 6	-	452.5	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TBP-Isomer 1	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TBP-Isomer 2	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TBP-Isomer 3	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
MJ-II - 220C - Pack Exit (33)	W305169-33	TBP-Isomer 4	-	494.6	TIC		0.020	< 0.020	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
MJ-II - 220C - Pack Exit (33)	W305169-33	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.100	7.70	0.50	38.5	81
MJ-II - 220C - Pack Exit (33)	W305169-33	2-Cyclohexen-1-one	930-68-7	96	TIC		0.100	6.20	0.50	31.0	91
MJ-II - 220C - Pack Exit (33)	W305169-33	Decane	124-18-5	142	TIC		0.100	2.74	0.50	13.7	95
MJ-II - 220C - Pack Exit (33)	W305169-33	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.100	3.51	0.50	17.6	76
MJ-II - 220C - Pack Exit (33)	W305169-33	Heptanoic acid	111-14-8	130	TIC		0.100	7.39	0.50	37.0	64
MJ-II - 220C - Pack Exit (33)	W305169-33	Octanoic acid	124-07-2	144	TIC		0.100	3.31	0.50	16.6	93
MJ-II - 220C - Pack Exit (33)	W305169-33	Decanoic acid	334-48-5	172	TIC		0.100	26.8	0.50	134	96
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	198	TIC		0.100	4.07	0.50	20.4	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	212	TIC		0.100	3.57	0.50	17.9	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	300	TIC		0.100	7.85	0.50	39.3	0

Sample ID		CAS				Surr %		RL	Result	PageRL 120 of 2R3e5ult		
Client	RJLG	Analyte	Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	332	TIC			0.100	2.10	0.50	10.5	0
MJ-II - 220C - Pack Exit (33)	W305169-33	9-Octadecenamide, (Z)-	301-02-0	281	TIC			0.100	3.61	0.50	18.1	98
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	346	TIC			0.100	3.24	0.50	16.2	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	246	TIC			0.100	2.03	0.50	10.1	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	5.60	0.50	28.0	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	4.43	0.50	22.2	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	2.56	0.50	12.8	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	5.94	0.50	29.7	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	2.41	0.50	12.1	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	360	TIC			0.100	6.16	0.50	30.8	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	374	TIC			0.100	13.2	0.50	66.0	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	374	TIC			0.100	5.38	0.50	26.9	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	388	TIC			0.100	16.3	0.50	81.8	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	388	TIC			0.100	4.37	0.50	21.9	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	402	TIC			0.100	6.60	0.50	33.0	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	402	TIC			0.100	4.99	0.50	25.0	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	402	TIC			0.100	3.18	0.50	15.9	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	430	TIC			0.100	2.49	0.50	12.5	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	430	TIC			0.100	6.56	0.50	32.8	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	430	TIC			0.100	6.09	0.50	30.5	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	444	TIC			0.100	3.99	0.50	20.0	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	444	TIC			0.100	3.50	0.50	17.5	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	472	TIC			0.100	2.41	0.50	12.1	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	486	TIC			0.100	4.04	0.50	20.2	0
MJ-II - 220C - Pack Exit (33)	W305169-33	Unknown	0	500	TIC			0.100	2.50	0.50	12.5	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

<i>ng</i> = nanogram <i>ppbv</i> = parts per billion volume <i>ug/m3</i> = micrograms per cubic meter <i>µg/Kg</i> = micrograms per kilogram	<i>BDL</i> = Below Detection Limit <i>N/A</i> = Not Applicable <i>ND</i> = Not detected. Qualitative analysis only	<i>Surr</i> = Surrogate Compound <i>Int. Std</i> = Internal Standard <i>T</i> = Target Analyte <i>TIC</i> = Tentatively Identified Compound
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<i>Qualifiers</i> c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
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Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

Sample ID				CAS			Surr %	RL	Result	PageRL121 of 2351	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 15
 Air Volume (L): 3582

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 220C - Ozone In (34)	W305169-34	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.2	0.14	6.85	0.50	24.6	
Baseline - 220C - Ozone In (34)	W305169-34	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	2-Fluorobiphenyl	321-60-8	172.2	Surr	93.7	0.14	6.54	0.50	23.4	
Baseline - 220C - Ozone In (34)	W305169-34	Triisobutyl phosphate	126-71-6	266.31	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tributyl phosphate	126-73-8	266.31	T		0.14	0.910	0.50	3.26	
Baseline - 220C - Ozone In (34)	W305169-34	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Pyrene-d10	1718-52-1	212.31	Surr	121	0.14	8.41	0.50	30.1	
Baseline - 220C - Ozone In (34)	W305169-34	Chrysene-d12	1719-03-5	240.4	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	Terphenyl-d14	1718-51-0	244.4	Surr	94.6	0.14	6.61	0.50	23.7	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Triphenyl phosphate	115-86-6	326.3	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.14	0.946	0.50	3.39	
Baseline - 220C - Ozone In (34)	W305169-34	Perylene-d12	1520-96-3	264.4	Int. Std		0.14	6.98	0.50	25.0	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.14	0.849	0.50	3.04	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.14	< 0.14	0.50	< 0.50	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.14	< 0.14	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 220C - Ozone In (34)	W305169-34	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 220C - Ozone In (34)	W305169-34	Tri-m-cresyl-phosphate	-	368.36	TIC		0.028	1.45	0.10	5.18	
Baseline - 220C - Ozone In (34)	W305169-34	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.028	3.96	0.10	14.2	
Baseline - 220C - Ozone In (34)	W305169-34	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.028	3.84	0.10	13.8	
Baseline - 220C - Ozone In (34)	W305169-34	Tri-p-cresyl-phosphate	-	368.36	TIC		0.028	1.29	0.10	4.61	
Baseline - 220C - Ozone In (34)	W305169-34	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 1	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 2	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 3	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 4	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 5	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TPP-Isomer 6	-	452.5	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TBP-Isomer 1	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TBP-Isomer 2	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TBP-Isomer 3	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
Baseline - 220C - Ozone In (34)	W305169-34	TBP-Isomer 4	-	494.6	TIC		0.028	< 0.028	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 220C - Ozone In (34)	W305169-34	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.14	1.59	0.50	5.71	72
Baseline - 220C - Ozone In (34)	W305169-34	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.14	10.5	0.50	37.6	81
Baseline - 220C - Ozone In (34)	W305169-34	2-Cyclohexen-1-one	930-68-7	96	TIC		0.14	8.70	0.50	31.2	91
Baseline - 220C - Ozone In (34)	W305169-34	Decane	124-18-5	142	TIC		0.14	3.72	0.50	13.3	95
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	140	TIC		0.14	1.26	0.50	4.53	0
Baseline - 220C - Ozone In (34)	W305169-34	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.14	4.78	0.50	17.1	76
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	140	TIC		0.14	1.49	0.50	5.34	0
Baseline - 220C - Ozone In (34)	W305169-34	Diethyl Phthalate	84-66-2	222	TIC		0.14	1.70	0.50	6.08	96
Baseline - 220C - Ozone In (34)	W305169-34	1H-Isoindole-1,3(2H)-dione, 2-phenyl-	520-03-6	223	TIC		0.14	1.15	0.50	4.14	95
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	296	TIC		0.14	1.15	0.50	4.12	0

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 124 of 235			Qualifier
Client	RJLG								µg/sample	µg/sample	µg/sample	
Baseline - 220C - Ozone In (34)	W305169-34	9-Octadecenamide	3322-62-1	281	TIC		0.14	1.92	0.50	6.89		98
Baseline - 220C - Ozone In (34)	W305169-34	Unknown Hydrocabon	0	352	TIC		0.14	1.22	0.50	4.36		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	360	TIC		0.14	1.23	0.50	4.41		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	360	TIC		0.14	2.08	0.50	7.46		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	360	TIC		0.14	2.83	0.50	10.1		0
Baseline - 220C - Ozone In (34)	W305169-34	Phosphoric acid, tris(3-methylphenyl) ester	563-04-2	368	TIC		0.14	1.40	0.50	5.02		99
Baseline - 220C - Ozone In (34)	W305169-34	Phosphoric acid, tris(4-methylphenyl) ester	78-32-0	368	TIC		0.14	1.28	0.50	4.60		99
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	388	TIC		0.14	1.56	0.50	5.58		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	402	TIC		0.14	2.54	0.50	9.10		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	402	TIC		0.14	4.44	0.50	15.9		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	402	TIC		0.14	1.94	0.50	6.96		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	430	TIC		0.14	1.46	0.50	5.24		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	430	TIC		0.14	1.21	0.50	4.35		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	430	TIC		0.14	4.52	0.50	16.2		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	444	TIC		0.14	4.32	0.50	15.5		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	444	TIC		0.14	2.73	0.50	9.77		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	444	TIC		0.14	2.66	0.50	9.54		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	472	TIC		0.14	1.84	0.50	6.58		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	472	TIC		0.14	3.76	0.50	13.5		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	472	TIC		0.14	1.13	0.50	4.06		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	472	TIC		0.14	1.49	0.50	5.34		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	486	TIC		0.14	1.65	0.50	5.91		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	486	TIC		0.14	2.98	0.50	10.7		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	500	TIC		0.14	1.75	0.50	6.25		0
Baseline - 220C - Ozone In (34)	W305169-34	Unknown	0	514	TIC		0.14	1.65	0.50	5.90		0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram
c = Sample RPD failure
r = %REC failure in the MRL
p = Positively identified compound, for non-calibrated compounds
B = Compound found in associated laboratory blank above the MDL.
D = Diluted sample
E = Report concentration was above the instrumental calibration range
I = Response failure of an internal standard; concentration should be considered an estimate
J = Reported concentration was estimated
X = Detected but not quantifiable

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound
N = Identification based on mass spectral library search
P = Library spectrum match, rsd >90% w RT match
Q = Qualitative results for non detects
R = Analyte %REC Failure
S = Surrogate recovery failure
TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.



Authorized Signature: _____
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: _____ See Report

Sample ID					Surr %		RL	Result	Page		RL	
Client	RJLG	Analyte	CAS Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	125 of 235	1
Qualifier												

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

 Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

 Sampling Date: 05/18/23
 Sampling Time (min): 15
 Air Volume (L): 3720

 RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 220C - Ozone Out (35)	W305169-35	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Nitrobenzene-d4	4165-60-0	128.14	Surr	99.7	0.13	6.70	0.50	24.9	
Baseline - 220C - Ozone Out (35)	W305169-35	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	2-Fluorobiphenyl	321-60-8	172.2	Surr	90.8	0.13	6.10	0.50	22.7	
Baseline - 220C - Ozone Out (35)	W305169-35	Triisobutyl phosphate	126-71-6	266.31	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tributyl phosphate	126-73-8	266.31	T		0.13	0.304	0.50	1.13	
Baseline - 220C - Ozone Out (35)	W305169-35	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Pyrene-d10	1718-52-1	212.31	Surr	135	0.13	9.04	0.50	33.6	S
Baseline - 220C - Ozone Out (35)	W305169-35	Chrysene-d12	1719-03-5	240.4	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Terphenyl-d14	1718-51-0	244.4	Surr	95.6	0.13	6.42	0.50	23.9	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Triphenyl phosphate	115-86-6	326.3	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.13	2.49	0.50	9.28	
Baseline - 220C - Ozone Out (35)	W305169-35	Perylene-d12	1520-96-3	264.4	Int. Std		0.13	6.72	0.50	25.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.13	2.25	0.50	8.36	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.13	< 0.13	0.50	< 0.50	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.13	< 0.13	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 220C - Ozone Out (35)	W305169-35	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.027	< 0.027	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 220C - Ozone Out (35)	W305169-35	Tri-m-cresyl-phosphate	-	368.36	TIC		0.027	3.952	0.10	14.7	
Baseline - 220C - Ozone Out (35)	W305169-35	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.027	10.9	0.10	40.4	
Baseline - 220C - Ozone Out (35)	W305169-35	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.027	10.5	0.10	39.0	
Baseline - 220C - Ozone Out (35)	W305169-35	Tri-p-cresyl-phosphate	-	368.36	TIC		0.027	3.50	0.10	13.0	
Baseline - 220C - Ozone Out (35)	W305169-35	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 1	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 2	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 3	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 4	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 5	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TPP-Isomer 6	-	452.5	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TBP-Isomer 1	-	494.6	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TBP-Isomer 2	-	494.6	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TBP-Isomer 3	-	494.6	TIC		0.027	< 0.027	0.10	< 0.10	
Baseline - 220C - Ozone Out (35)	W305169-35	TBP-Isomer 4	-	494.6	TIC		0.027	< 0.027	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 220C - Ozone Out (35)	W305169-35	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.13	1.55	0.50	5.75	91
Baseline - 220C - Ozone Out (35)	W305169-35	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.13	11.0	0.50	40.8	90
Baseline - 220C - Ozone Out (35)	W305169-35	2-Cyclohexen-1-one	930-68-7	96	TIC		0.13	9.25	0.50	34.4	91
Baseline - 220C - Ozone Out (35)	W305169-35	Decane	124-18-5	142	TIC		0.13	6.48	0.50	24.1	95
Baseline - 220C - Ozone Out (35)	W305169-35	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.13	4.62	0.50	17.2	76
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	140	TIC		0.13	1.70	0.50	6.34	0
Baseline - 220C - Ozone Out (35)	W305169-35	Diethyl Phthalate	84-66-2	222	TIC		0.13	4.10	0.50	15.3	96
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown Hydrocarbon	0	282	TIC		0.13	1.51	0.50	5.61	0
Baseline - 220C - Ozone Out (35)	W305169-35	Hexadecamide	629-54-8	255	TIC		0.13	1.53	0.50	5.70	86
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	296	TIC		0.13	1.52	0.50	5.67	0

Sample ID		CAS		Surr %		RL		Result		PageRL 128 of 2R3es5ult	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 220C - Ozone Out (35)	W305169-35	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.13	3.78	0.50	14.1	98
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	338	TIC		0.13	1.75	0.50	6.51	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	352	TIC		0.13	3.04	0.50	11.3	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	352	TIC		0.13	2.31	0.50	8.59	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	1.81	0.50	6.75	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	2.89	0.50	10.8	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	1.65	0.50	6.14	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	3.28	0.50	12.2	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	6.82	0.50	25.4	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	2.14	0.50	7.96	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	8.68	0.50	32.3	0
Baseline - 220C - Ozone Out (35)	W305169-35	Phosphoric acid, tris(3-methylphenyl) ester	563-04-2	368	TIC		0.13	2.53	0.50	9.40	99
Baseline - 220C - Ozone Out (35)	W305169-35	Phosphoric acid, tris(4-methylphenyl) ester	78-32-0	368	TIC		0.13	2.41	0.50	8.96	99
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	368	TIC		0.13	2.54	0.50	9.43	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	402	TIC		0.13	5.07	0.50	18.9	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	402	TIC		0.13	7.85	0.50	29.2	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	402	TIC		0.13	1.64	0.50	6.11	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	402	TIC		0.13	2.85	0.50	10.6	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	430	TIC		0.13	2.06	0.50	7.67	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	430	TIC		0.13	1.61	0.50	5.99	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	430	TIC		0.13	5.67	0.50	21.1	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	444	TIC		0.13	4.78	0.50	17.8	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	444	TIC		0.13	2.97	0.50	11.0	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	458	TIC		0.13	2.51	0.50	9.34	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	458	TIC		0.13	1.66	0.50	6.18	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	486	TIC		0.13	3.05	0.50	11.3	0
Baseline - 220C - Ozone Out (35)	W305169-35	Unknown	0	486	TIC		0.13	2.10	0.50	7.80	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

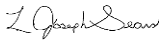
ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure	N = Identification based on mass spectral library search
r = %REC failure in the MRL	P = Library spectrum match, rsd >90% w RT match
p = Positively identified compound, for non-calibrated compounds	Q = Qualitative results for non detects
B = Compound found in associated laboratory blank above the MDL.	R = Analyte %REC Failure
D = Diluted sample	S = Surrogate recovery failure
E = Report concentration was above the instrumental calibration range	TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
I = Response failure of an internal standard; concentration should be considered an estimate	
J = Reported concentration was estimated	
X = Detected but not quantifiable	

Sample ID							Surr %	RL	Result	Page		RL	129 of 235	
Client	RJLG	Analyte	CAS Number	MW	Type	REC		µg/m3	µg/m3	µg/sample	µg/sample	Qualifier		

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 15
 Air Volume (L): 3002

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Baseline - 220C - Pack Exit (36)	W305169-36	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	Nitrobenzene-d4	4165-60-0	128.14	Surr	98.5	0.17	8.20	0.50	24.6	
Baseline - 220C - Pack Exit (36)	W305169-36	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	2-Fluorobiphenyl	321-60-8	172.2	Surr	95.2	0.17	7.93	0.50	23.8	
Baseline - 220C - Pack Exit (36)	W305169-36	Triisobutyl phosphate	126-71-6	266.31	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tributyl phosphate	126-73-8	266.31	T		0.17	0.356	0.50	1.07	
Baseline - 220C - Pack Exit (36)	W305169-36	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Pyrene-d10	1718-52-1	212.31	Surr	127	0.17	10.6	0.50	31.7	
Baseline - 220C - Pack Exit (36)	W305169-36	Chrysene-d12	1719-03-5	240.4	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	Terphenyl-d14	1718-51-0	244.4	Surr	96.7	0.17	8.05	0.50	24.2	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Triphenyl phosphate	115-86-6	326.3	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Perylene-d12	1520-96-3	264.4	Int. Std		0.17	8.33	0.50	25.0	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.17	0.167	0.50	0.500	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.17	< 0.17	0.50	< 0.50	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.17	< 0.17	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Baseline - 220C - Pack Exit (36)	W305169-36	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 220C - Pack Exit (36)	W305169-36	Tri-m-cresyl-phosphate	-	368.36	TIC		0.033	0.0952	0.10	0.286	
Baseline - 220C - Pack Exit (36)	W305169-36	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.033	0.254	0.10	0.762	
Baseline - 220C - Pack Exit (36)	W305169-36	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.033	0.252	0.10	0.757	
Baseline - 220C - Pack Exit (36)	W305169-36	Tri-p-cresyl-phosphate	-	368.36	TIC		0.033	0.0876	0.10	0.263	
Baseline - 220C - Pack Exit (36)	W305169-36	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 1	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 2	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 3	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 4	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 5	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TPP-Isomer 6	-	452.5	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TBP-Isomer 1	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TBP-Isomer 2	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TBP-Isomer 3	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
Baseline - 220C - Pack Exit (36)	W305169-36	TBP-Isomer 4	-	494.6	TIC		0.033	< 0.033	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Baseline - 220C - Pack Exit (36)	W305169-36	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.17	2.48	0.50	7.45	90
Baseline - 220C - Pack Exit (36)	W305169-36	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.17	13.5	0.50	40.4	87
Baseline - 220C - Pack Exit (36)	W305169-36	2-Cyclohexen-1-one	930-68-7	96	TIC		0.17	10.8	0.50	32.4	91
Baseline - 220C - Pack Exit (36)	W305169-36	Decane	124-18-5	142	TIC		0.17	3.38	0.50	10.1	95
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	142	TIC		0.17	1.56	0.50	4.67	0
Baseline - 220C - Pack Exit (36)	W305169-36	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.17	5.42	0.50	16.3	76
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	142	TIC		0.17	1.82	0.50	5.47	0
Baseline - 220C - Pack Exit (36)	W305169-36	Hexanoic acid	142-62-1	116	TIC		0.17	1.97	0.50	5.93	50
Baseline - 220C - Pack Exit (36)	W305169-36	Octanoic acid	124-07-2	144	TIC		0.17	1.15	0.50	3.44	91
Baseline - 220C - Pack Exit (36)	W305169-36	Diethyl Phthalate	84-66-2	222	TIC		0.17	1.84	0.50	5.52	96

Sample ID		Page 132 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Baseline - 220C - Pack Exit (36)	W305169-36	Nonadecane	629-92-5	268	TIC		0.17	1.25	0.50	3.75	97
Baseline - 220C - Pack Exit (36)	W305169-36	Benzoic acid, 2-benzoyl-, methyl ester	606-28-0	240	TIC		0.17	1.12	0.50	3.37	97
Baseline - 220C - Pack Exit (36)	W305169-36	Dibutyl phthalate	84-74-2	278	TIC		0.17	1.77	0.50	5.31	96
Baseline - 220C - Pack Exit (36)	W305169-36	Eicosane	112-95-8	282	TIC		0.17	1.64	0.50	4.91	97
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	282	TIC		0.17	1.13	0.50	3.40	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	282	TIC		0.17	1.28	0.50	3.84	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	282	TIC		0.17	1.07	0.50	3.21	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown Hydrocarbon	0	282	TIC		0.17	1.49	0.50	4.48	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown Hydrocarbon	0	282	TIC		0.17	1.57	0.50	4.72	0
Baseline - 220C - Pack Exit (36)	W305169-36	Cyclohexane, tetradecyl-	1795-18-2	280	TIC		0.17	1.28	0.50	3.84	91
Baseline - 220C - Pack Exit (36)	W305169-36	N-heneicosane	990295-43-7	296	TIC		0.17	1.05	0.50	3.14	97
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown Hydrocarbon	0	310	TIC		0.17	1.17	0.50	3.50	0
Baseline - 220C - Pack Exit (36)	W305169-36	Hexadecanamide	629-54-9	255	TIC		0.17	1.83	0.50	5.49	64
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	310	TIC		0.17	1.10	0.50	3.31	0
Baseline - 220C - Pack Exit (36)	W305169-36	Docosane	990330-61-8	310	TIC		0.17	1.17	0.50	3.50	94
Baseline - 220C - Pack Exit (36)	W305169-36	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.17	3.30	0.50	9.91	98
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown Hydrocarbon	0	366	TIC		0.17	1.92	0.50	5.76	0
Baseline - 220C - Pack Exit (36)	W305169-36	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC		0.17	2.14	0.50	6.44	91
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	368	TIC		0.17	1.51	0.50	4.52	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	402	TIC		0.17	1.59	0.50	4.77	0
Baseline - 220C - Pack Exit (36)	W305169-36	Unknown	0	430	TIC		0.17	1.19	0.50	3.58	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 20
 Air Volume (L): 5068

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Nitrobenzene-d4	4165-60-0	128.14	Surr	102	0.099	5.03	0.50	25.5	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	2-Fluorobiphenyl	321-60-8	172.2	Surr	94.6	0.099	4.66	0.50	23.6	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Triisobutyl phosphate	126-71-6	266.31	T		0.099	12.3	0.50	62.3	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tributyl phosphate	126-73-8	266.31	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Pyrene-d10	1718-52-1	212.31	Surr	114	0.099	5.62	0.50	28.5	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Chrysene-d12	1719-03-5	240.4	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Terphenyl-d14	1718-51-0	244.4	Surr	96.0	0.099	4.73	0.50	24.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Triphenyl phosphate	115-86-6	326.3	T		0.099	16.5	0.50	83.6	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.099	0.266	0.50	1.35	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.099	0.531	0.50	2.69	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Perylene-d12	1520-96-3	264.4	Int. Std		0.099	4.93	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.099	0.365	0.50	1.85	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.099	< 0.099	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.099	< 0.099	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.020	29.8	0.10	151	
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.020	1.79	0.10	9.07	

Sample ID		CAS		Surr %		RL		Result		Page		Result	
Client	RJLG	Analyte	Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier	µg/m3	µg/sample
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tri-m-cresyl-phosphate	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.020	12.8	0.10	64.9			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.020	1.68	0.10	8.50			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.020	1.50	0.10	7.60			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tri-p-cresyl-phosphate	-	368.36	TIC		0.020	0.548	0.10	2.78			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.020	10.9	0.10	55.4			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.020	16.5	0.10	83.7			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.020	1.63	0.10	8.27			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.020	9.93	0.10	50.3			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.020	0.0819	0.10	0.415			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.020	8.94	0.10	45.3			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.020	0.0819	0.10	0.415			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.020	2.52	0.10	12.8			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 1	-	452.5	TIC		0.020	9.65	0.10	48.9			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 2	-	452.5	TIC		0.020	1.98	0.10	10.1			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 3	-	452.5	TIC		0.020	3.00	0.10	15.2			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 4	-	452.5	TIC		0.020	6.50	0.10	32.9			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 5	-	452.5	TIC		0.020	1.09	0.10	5.54			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TPP-Isomer 6	-	452.5	TIC		0.020	0.296	0.10	1.50			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TBP-Isomer 1	-	494.6	TIC		0.020	1.31	0.10	6.66			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TBP-Isomer 2	-	494.6	TIC		0.020	0.980	0.10	4.97			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TBP-Isomer 3	-	494.6	TIC		0.020	1.92	0.10	9.75			
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	TBP-Isomer 4	-	494.6	TIC		0.020	0.354	0.10	1.79			
		Tentatively Identified Compounds	CAS#	MW									
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.099	7.13	0.50	36.1	90		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	2-Cyclohexen-1-one	930-68-7	96	TIC		0.099	6.30	0.50	31.9	91		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Decane	124-18-5	142	TIC		0.099	1.98	0.50	10.1	95		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.099	2.56	0.50	13.0	93		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Diethyl Phthalate	84-66-2	222	TIC		0.099	1.20	0.50	6.09	97		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Tributyl phosphate	126-73-8	266	TIC		0.099	77.2	0.50	391	52		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	254	TIC		0.099	1.18	0.50	5.98	0		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	272	TIC		0.099	3.31	0.50	16.8	0		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	282	TIC		0.099	1.38	0.50	6.97	0		
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.099	2.14	0.50	10.9	98		

Sample ID		Page 135 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Phosphoric acid, (1-methylethyl)phenyl diphenyl ester	28108-99-8	368	TIC		0.099	36.6	0.50	185	99
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	252	TIC		0.099	9.55	0.50	48.4	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	9-Carbomethoxy-6,11-dimethoxy-5-oxoxantho[3,2-g]tetalin	90623-70-4	368	TIC		0.099	1.67	0.50	8.44	91
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	352	TIC		0.099	1.08	0.50	5.48	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	2,2-Dimethyl-6-[(E)-2-methylbut-2-enoyl]-5-oxidanyl-10-propylpyrano[2,3-f]chromen-8-one	990460-71-5	368	TIC		0.099	10.0	0.50	50.8	90
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	410	TIC		0.099	1.58	0.50	8.03	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	452	TIC		0.099	8.69	0.50	44.0	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	452	TIC		0.099	7.81	0.50	39.6	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Phosphoric acid, tri(2-isopropylphenyl)ester	64532-95-2	452	TIC		0.099	2.19	0.50	11.1	93
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	410	TIC		0.099	8.07	0.50	40.9	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	452	TIC		0.099	3.68	0.50	18.6	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	452	TIC		0.099	5.78	0.50	29.3	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	402	TIC		0.099	3.78	0.50	19.1	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Benzene, 1-(1-methylethenyl)-3-(1-methylethyl)-	1129-29-9	492	TIC		0.099	1.38	0.50	7.00	89
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	466	TIC		0.099	1.90	0.50	9.65	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	494	TIC		0.099	2.23	0.50	11.3	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	430	TIC		0.099	1.23	0.50	6.21	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	452	TIC		0.099	1.26	0.50	6.41	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	444	TIC		0.099	3.89	0.50	19.7	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	444	TIC		0.099	3.85	0.50	19.5	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	444	TIC		0.099	2.19	0.50	11.1	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	458	TIC		0.099	2.02	0.50	10.2	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	458	TIC		0.099	1.27	0.50	6.43	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	472	TIC		0.099	2.50	0.50	12.7	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	486	TIC		0.099	1.83	0.50	9.25	0
Skydrol - 220C - 5ppmw - Ozone In (37)	W305169-37	Unknown	0	486	TIC		0.099	1.11	0.50	5.62	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers	
c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

L. Joseph Sean

Sample ID				CAS			Surr %	RL	Result	PageRL136 of 2351		
Client	RJLG	Analyte		Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier
Authorized Signature: _____								Date: 10/04/23				
Laboratory Technical Manager - Joe Sears, Ph.D.												

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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 20
 Air Volume (L): 4892

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Nitrobenzene-d4	4165-60-0	128.14	Surr	101	0.10	5.19	0.50	25.4	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	2-Fluorobiphenyl	321-60-8	172.2	Surr	91.7	0.10	4.69	0.50	22.9	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Triisobutyl phosphate	126-71-6	266.31	T		0.10	3.18	0.50	15.5	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tributyl phosphate	126-73-8	266.31	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Pyrene-d10	1718-52-1	212.31	Surr	128	0.10	6.52	0.50	31.9	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Chrysene-d12	1719-03-5	240.4	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Terphenyl-d14	1718-51-0	244.4	Surr	94.4	0.10	4.82	0.50	23.6	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Triphenyl phosphate	115-86-6	326.3	T		0.10	2.97	0.50	14.6	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.10	0.268	0.50	1.31	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Perylene-d12	1520-96-3	264.4	Int. Std		0.10	5.11	0.50	25.0	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.10	0.260	0.50	1.27	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.10	< 0.10	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.10	< 0.10	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.020	5.43	0.10	26.6	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.020	0.507	0.10	2.48	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	Page 138 of 235	Result µg/sample	Qualifier
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tri-m-cresyl-phosphate	-	368.36	TIC		0.020	< 0.020	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.020	4.40	0.10	21.5	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.020	0.889	0.10	4.35	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.020	0.937	0.10	4.58	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tri-p-cresyl-phosphate	-	368.36	TIC		0.020	0.387	0.10	1.89	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.020	2.89	0.10	14.2	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.020	6.18	0.10	30.3	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.020	2.68	0.10	13.1	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.020	0.233	0.10	1.14	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.020	0.0987	0.10	0.483	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.020	0.0945	0.10	0.462	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.020	0.108	0.10	0.529	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.020	0.0928	0.10	0.454	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 1	-	452.5	TIC		0.020	5.82	0.10	28.5	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 2	-	452.5	TIC		0.020	1.65	0.10	8.06	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 3	-	452.5	TIC		0.020	2.18	0.10	10.7	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 4	-	452.5	TIC		0.020	11.3	0.10	55.1	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 5	-	452.5	TIC		0.020	3.69	0.10	18.1	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TPP-Isomer 6	-	452.5	TIC		0.020	0.879	0.10	4.30	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TBP-Isomer 1	-	494.6	TIC		0.020	5.45	0.10	26.6	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TBP-Isomer 2	-	494.6	TIC		0.020	2.75	0.10	13.5	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TBP-Isomer 3	-	494.6	TIC		0.020	6.19	0.10	30.3	
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	TBP-Isomer 4	-	494.6	TIC		0.020	1.12	0.10	5.48	
		Tentatively Identified Compounds	CAS#	MW							
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.10	1.16	0.50	5.70	90
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.10	7.84	0.50	38.3	90
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	2-Cyclohexen-1-one	930-68-7	96	TIC		0.10	7.07	0.50	34.6	91
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	1-Methyl-3-propylcyclohexane	4291-80-9	140	TIC		0.10	0.995	0.50	4.87	87
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Decane	124-18-5	142	TIC		0.10	2.28	0.50	11.1	95
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.10	3.33	0.50	16.3	76
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	142	TIC		0.10	1.02	0.50	4.99	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Diethyl Phthalate	84-66-2	222	TIC		0.10	1.44	0.50	7.06	97
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Tributyl phosphate	126-73-8	266	TIC		0.10	29.5	0.50	144	64
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	282	TIC		0.10	2.29	0.50	11.2	0

Sample ID		Page 139 of 235									
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	µg/sample	µg/sample	Qualifier
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	296	TIC		0.10	2.03	0.50	9.95	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.10	2.89	0.50	14.1	98
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown Hydrocarbon	0	296	TIC		0.10	1.12	0.50	5.49	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Phosphoric acid, (1-methylethyl)phenyl diphenyl ester	28108-99-8	368	TIC		0.10	6.24	0.50	30.5	99
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	352	TIC		0.10	0.966	0.50	4.72	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	368	TIC		0.10	1.06	0.50	5.16	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	368	TIC		0.10	1.76	0.50	8.60	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	382	TIC		0.10	2.29	0.50	11.2	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	382	TIC		0.10	6.36	0.50	31.1	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	452	TIC		0.10	1.96	0.50	9.58	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	410	TIC		0.10	2.80	0.50	13.7	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	1,4-Benzenedicarboxylic acid, 1,4-bis(2-ethylhexyl) ester	6422-86-2	390	TIC		0.10	1.23	0.50	6.03	94
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	410	TIC		0.10	2.87	0.50	14.0	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	410	TIC		0.10	1.62	0.50	7.91	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	494	TIC		0.10	1.67	0.50	8.17	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	452	TIC		0.10	3.51	0.50	17.2	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	452	TIC		0.10	4.17	0.50	20.4	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	494	TIC		0.10	1.14	0.50	5.57	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	494	TIC		0.10	1.77	0.50	8.67	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	494	TIC		0.10	2.22	0.50	10.9	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	494	TIC		0.10	1.22	0.50	5.98	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	430	TIC		0.10	1.35	0.50	6.59	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	430	TIC		0.10	3.51	0.50	17.2	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	444	TIC		0.10	3.28	0.50	16.0	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	444	TIC		0.10	1.47	0.50	7.18	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	486	TIC		0.10	1.38	0.50	6.74	0
Skydrol - 220C - 5ppmw - Ozone Out (38)	W305169-38	Unknown	0	486	TIC		0.10	1.38	0.50	6.74	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

<i>ng</i> = nanogram <i>ppbv</i> = parts per billion volume <i>ug/m3</i> = micrograms per cubic meter <i>µg/Kg</i> = micrograms per kilogram	<i>BDL</i> = Below Detection Limit <i>N/A</i> = Not Applicable <i>ND</i> = Not detected. <i>Qualitative analysis only</i>	<i>Surr</i> = Surrogate Compound <i>Int. Std</i> = Internal Standard <i>T</i> = Target Analyte <i>TIC</i> = Tentatively Identified Compound
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<i>Qualifiers</i> c = Sample RPD failure r = %REC failure in the MRL p = Positively identified compound, for non-calibrated compounds B = Compound found in associated laboratory blank above the MDL. D = Diluted sample E = Report concentration was above the instrumental calibration range I = Response failure of an internal standard; concentration should be considered an estimate J = Reported concentration was estimated X = Detected but not quantifiable	N = Identification based on mass spectral library search P = Library spectrum match, rsd >90% w RT match Q = Qualitative results for non detects R = Analyte %REC Failure S = Surrogate recovery failure TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.
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Quartz Filters
Air & Emissions

Client: Kansas State University
 Address: 245 Levee Drive
 Manhattan, KS 66502
 Attention: Dr. Byron Jones
 Telephone: 785-532-5620
 Fax:

Sampling Date: 05/18/23
 Sampling Time (min): 20
 Air Volume (L): 4109

RJLG Lab #: W305169
 Samples Received: 05/24/22
 Analysis Date: 07/24/23
 Report Date: 10/04/23
 PO#: 2022004-20-FAA-1
 Client Project: Air Sampling

Rev.1 - 11/15/23

Sample ID		Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	RL µg/sample	Result µg/sample	Qualifier
Client	RJLG										
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	1,4-Dichlorobenzene-d4	3855-82-1	151.02	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Nitrobenzene-d4	4165-60-0	128.14	Surr	103	0.12	6.27	0.50	25.8	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Naphthalene-d8	1146-65-2	136.22	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Acenaphthene-d10	15067-26-2	164.27	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	2-Fluorobiphenyl	321-60-8	172.2	Surr	94.6	0.12	5.76	0.50	23.7	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Triisobutyl phosphate	126-71-6	266.31	T		0.12	16.7	0.50	68.5	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tributyl phosphate	126-73-8	266.31	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Phenanthrene-d10	1517-22-2	188.29	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2-chloroethyl) phosphate	115-96-8	285.49	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Pyrene-d10	1718-52-1	212.31	Surr	105	0.12	6.37	0.50	26.2	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Chrysene-d12	1719-03-5	240.4	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Terphenyl-d14	1718-51-0	244.4	Surr	98.1	0.12	5.97	0.50	24.5	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	430.9	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Triphenyl phosphate	115-86-6	326.3	T		0.12	0.898	0.50	3.69	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2-butoxyethyl) phosphate	78-51-3	398.27	T		0.12	0.475	0.50	1.95	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	2-Ethylhexyldiphenyl phosphate	1241-94-7	362.4	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2-ethylhexyl) phosphate	78-42-2	434.63	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tri-o-cresyl phosphate	78-30-8	368.36	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tri-m-cresyl phosphate	563-04-2	368.36	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Perylene-d12	1520-96-3	264.4	Int. Std		0.12	6.08	0.50	25.0	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,6-dimethylphenyl) phosphate	121-06-2	410.454	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tri-p-cresyl phosphate	78-32-0	368.36	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,5-dimethylphenyl) phosphate	19074-59-0	410.454	T		0.12	< 0.12	0.50	< 0.50	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,4-dimethylphenyl) phosphate	3862-12-2	410.454	T		0.12	< 0.12	0.50	< 0.50	
		Calibrated & Non-Calibrated Phosphates									
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C3-Triphenyl phosphate (I-1)	-	368.36	TIC		0.024	0.846	0.10	3.48	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C3-Triphenyl phosphate (I-2)	-	368.36	TIC		0.024	0.121	0.10	0.496	

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	PageRL 142 of 2R3es5ult	µg/sample	Qualifier
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tri-m-cresyl-phosphate	-	368.36	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C3-Triphenyl phosphate (I-3)	-	368.36	TIC		0.024	0.139	0.10	0.570	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C3-Triphenyl phosphate (I-4)	-	368.36	TIC		0.024	0.405	0.10	1.67	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C3-Triphenyl phosphate (I-5)	-	368.36	TIC		0.024	0.206	0.10	0.846	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tri-p-cresyl-phosphate	-	368.36	TIC		0.024	0.196	0.10	0.805	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C6-Tri-phenyl phosphate (I-1)	-	410.454	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C6-Tri-phenyl phosphate (I-2)	-	410.454	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C6-Tri-phenyl phosphate (I-3)	-	410.454	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,6-dimethylphenyl) phosphate	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,5-dimethylphenyl) phosphate	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C6-Tri-phenyl phosphate (I-4)	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tris(2,4-dimethylphenyl) phosphate	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	C6-Tri-phenyl phosphate (I-5)	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 1	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 2	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 3	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 4	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 5	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TPP-Isomer 6	-	452.5	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TBP-Isomer 1	-	494.6	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TBP-Isomer 2	-	494.6	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TBP-Isomer 3	-	494.6	TIC		0.024	< 0.024	0.10	< 0.10	
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	TBP-Isomer 4	-	494.6	TIC		0.024	< 0.024	0.10	< 0.10	
		Tentatively Identified Compounds	CAS#	MW							
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Bicyclo[3.1.0]hexan-3-one	1755-04-0	96	TIC		0.12	0.930	0.50	3.82	72
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	7-Oxabicyclo[4.1.0]heptane	286-20-4	98	TIC		0.12	1.38	0.50	5.68	90
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	1-cyclopentene-1-carbaldehyde	990000-55-7	96	TIC		0.12	9.08	0.50	37.3	90
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	2-Cyclohexen-1-one	930-68-7	96	TIC		0.12	7.95	0.50	32.7	91
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Decane	124-18-5	142	TIC		0.12	2.34	0.50	9.61	95
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	142	TIC		0.12	1.03	0.50	4.22	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	2-Chlorocyclohexanol	1561-86-0	134	TIC		0.12	3.36	0.50	13.8	93
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	142	TIC		0.12	0.996	0.50	4.09	86
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Triisobutyl phosphate	126-71-6	266	TIC		0.12	1.14	0.50	4.69	86
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Diethyl Phthalate	84-66-2	222	TIC		0.12	1.20	0.50	4.95	96

Sample ID											
Client	RJLG	Analyte	CAS Number	MW	Type	Surr % REC	RL µg/m3	Result µg/m3	PageRL 143 of 2R3esult	µg/sample	Qualifier
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tributyl phosphate	126-73-8	266	TIC		0.12	1.02	0.50	4.19	64
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Tributyl phosphate	126-73-8	266	TIC		0.12	113	0.50	466	50
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	282	TIC		0.12	0.790	0.50	3.25	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	282	TIC		0.12	0.793	0.50	3.26	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Dibutyl phthalate	84-74-2	278	TIC		0.12	1.11	0.50	4.54	92
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	296	TIC		0.12	0.961	0.50	3.95	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	296	TIC		0.12	1.11	0.50	4.55	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	296	TIC		0.12	1.27	0.50	5.24	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	296	TIC		0.12	0.832	0.50	3.42	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	310	TIC		0.12	0.808	0.50	3.32	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	310	TIC		0.12	0.858	0.50	3.53	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Hexadecanamide	629-54-9	255	TIC		0.12	1.32	0.50	5.40	95
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	324	TIC		0.12	0.702	0.50	2.89	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	324	TIC		0.12	0.837	0.50	3.44	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	9-Octadecenamide, (Z)-	301-02-0	281	TIC		0.12	3.71	0.50	15.2	99
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	338	TIC		0.12	0.812	0.50	3.34	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	352	TIC		0.12	0.816	0.50	3.35	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unlnown Hydrocarbon	0	396	TIC		0.12	1.67	0.50	6.85	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Phosphoric acid, 4-(1-methylethyl)phenyl diphenyl ester	990460-46-8	368	TIC		0.12	1.26	0.50	5.19	95
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Bis(2-ethylhexyl) phthalate	117-81-7	390	TIC		0.12	0.777	0.50	3.19	91
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	410	TIC		0.12	0.753	0.50	3.09	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	410	TIC		0.12	1.46	0.50	5.99	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	(+)-trans-6,6,10,11-Tetramethyl-4-propyl-2H,6H,12H-10,11-dihydrobenzo[1,2-b:3,4-b':5,6-	990460-70-2	368	TIC		0.12	1.20	0.50	4.93	90
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	410	TIC		0.12	0.908	0.50	3.73	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	368	TIC		0.12	0.803	0.50	3.30	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	410	TIC		0.12	0.844	0.50	3.47	0
Skydrol - 220C - 5ppmw - Pack Exit (39)	W305169-39	Unknown	0	442	TIC		0.12	0.937	0.50	3.85	0

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard.

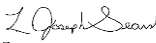
ng = nanogram
ppbv = parts per billion volume
ug/m3 = micrograms per cubic meter
µg/Kg = micrograms per kilogram

BDL = Below Detection Limit
N/A = Not Applicable
ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound
Int. Std = Internal Standard
T = Target Analyte
TIC = Tentatively Identified Compound

Qualifiers											
c = Sample RPD failure						N = Identification based on mass spectral library search					
r = %REC failure in the MRL						P = Library spectrum match, rsd >90% w RT match					
p = Positively identified compound, for non-calibrated compounds						Q = Qualitative results for non detects					
B = Compound found in associated laboratory blank above the MDL						R = Analyte %REC Failure					
D = Diluted sample						S =					
E = Report concentration was above the instrumental calibration range						TIC =					
I = Response failure of an internal standard; concentration should be considered an estimate											
J = Reported concentration was estimated											
X = Detected but not quantifiable											

Sample ID							Surr %	RL	Result	Page		RL		144 of 235	
Client	RJLG	Analyte	CAS Number	MW	Type	REC	µg/m3	µg/m3	µg/sample	µg/sample	Qualifier				

Authorized Signature: 

Laboratory Technical Manager - Joe Sears, Ph.D.

Date:

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.



RJ Lee Group, Inc. | Columbia Basin Analytical Laboratory

2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 792-1955

Tri-o-Cresyl Phosphoric Acid Ester Calibration

Kansas State University
245 Levee Drive
Manhattan, KS 66502
Dr. Byron Jones
785-532-5620

RJ Lee Group Job No.: W305169
Samples Received: 5/24/2022
Analysis/Prep Date: 7/24/23-7/27/23
Report Date: 10/4/2023
Client Project: Air Sampling
COC No.: 2022004-20-FA-1

Data File 2230724_04

Sample ID 0.25 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.016	BV	0.055	141337870	43.88	44.23	240
2	Tri-o-cresyl-phosphate	45.685	M	0.042	86534	45.627	45.782	368

Data File 2230724_05

Sample ID 0.50 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.015	BV	0.055	135260811	43.875	44.239	240
2	Tri-o-cresyl-phosphate	45.685	BB	0.037	212789	45.635	45.753	368

Data File 2230724_06

Sample ID 1.0 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=	
1	Chrysene-d12 Int. STD	44.016	BV		0.055	135208223	43.875	44.271	240
2	Tri-o-cresyl-phosphate	45.681	BB		0.039	468366	45.621	45.754	368

Data File 2230724_07

Sample ID 2.5 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=	
1	Chrysene-d12 Int. STD	44.017	BV		0.056	142252363	43.876	44.274	240
2	Tri-o-cresyl-phosphate	45.678	BV		0.041	1633565	45.611	45.773	368

Data File 2230724_08

Sample ID 5.0 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=	
1	Chrysene-d12 Int. STD	44.012	BV		0.059	132427980	43.876	44.236	240
2	Tri-o-cresyl-phosphate	45.678	BV		0.038	3276580	45.606	45.783	368

Data File 2230724_09

Sample ID 10 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=	
1	Chrysene-d12 Int. STD	44.01	BV		0.056	131198405	43.87	44.22	240
2	Tri-o-cresyl-phosphate	45.686	BV		0.04	7073460	45.606	45.777	368

Data File 2230724_10

Sample ID 25 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.015	BV	0.053	125303774	43.876	44.26	240
2	Tri-o-cresyl-phosphate	45.707	BV	0.044	16835267	45.547	45.789	368

Data File 2230724_11

Sample ID 50 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.021	BV	0.054	124162868	43.875	44.245	240
2	Tri-o-cresyl-phosphate	45.738	VV	0.047	34901952	45.614	45.819	368

Data File 2230724_12

Sample ID ICV

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.01	BV	0.054	115377499	43.871	44.219	240
2	Tri-o-cresyl-phosphate	45.705	BV	0.042	16077889	45.606	45.867	368

Data File 2230724_14

Sample ID CCV1

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.014	BV	0.058	120441922	43.875	44.254	240
2	Tri-o-cresyl-phosphate	45.708	BV	0.045	16245138	45.606	45.926	368

Data File 2230724_15

Sample ID RL1 @ 0.25 ug/mL

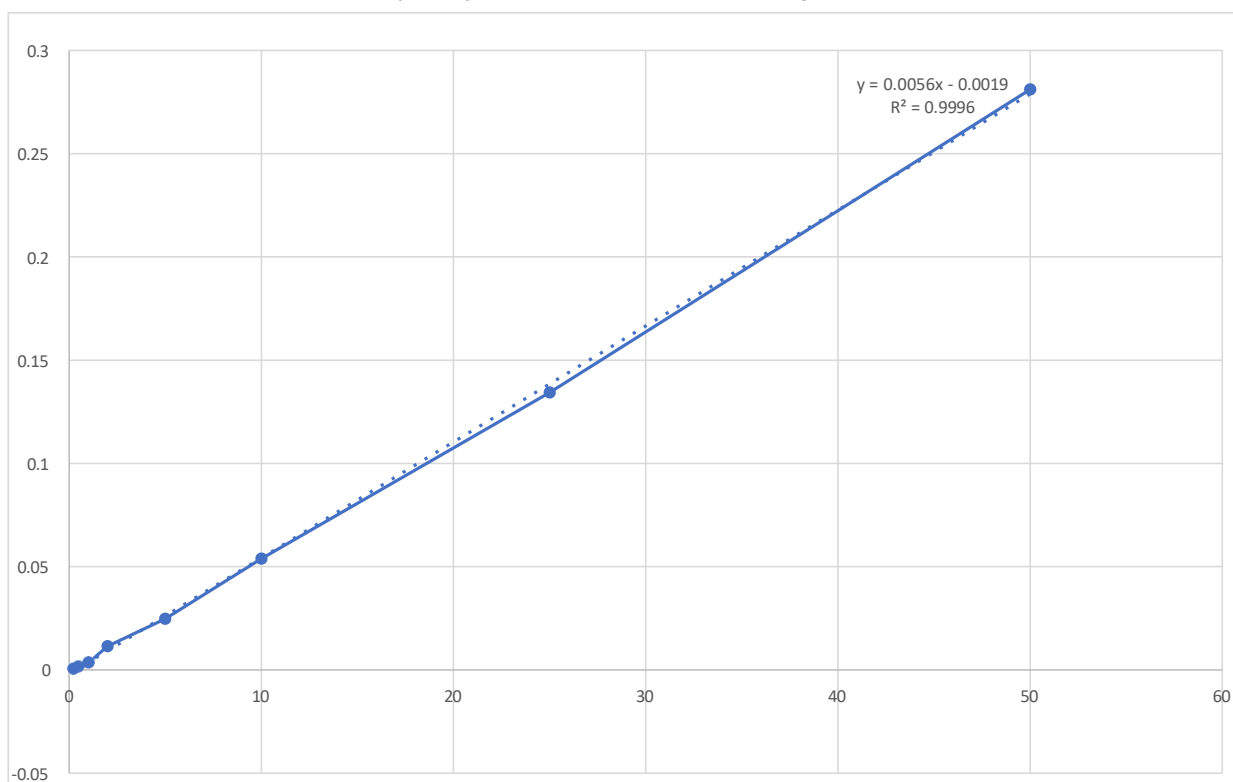
Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.007	BV	0.055	117948816	43.88	44.318	240
2	Tri-o-cresyl-phosphate	45.696	M	0.042	56179	45.608	45.8	368

Data File 2230724_16

Sample ID RL2 @ 0.50 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time	m/z=
1	Chrysene-d12 Int. STD	44.006	BV	0.054	106926946	43.875	44.254	240
2	Tri-o-cresyl-phosphate	45.688	M	0.041	124692	45.612	45.825	368

Tri-o-Cresyl Phosphoric Acid Ester - Calibration Using m/z=368



Conc. ug/m	Rel. Resp.
0.25	0.000612
0.5	0.001573
1	0.003464
2	0.011484
5	0.024742
10	0.053914
25	0.134356
50	0.281098

Compound concentrations are based on the total ion current response with respect to the nearest internal standard. Results based on calibration curve from tri-o-cresyl phosphate.

<i>ng</i> = nanogram	<i>BDL</i> = Below Detection Limit	<i>Surr</i> = Surrogate Compound
<i>ppbv</i> = parts per billion volume	<i>N/A</i> = Not Applicable	<i>Int. Std</i> = Internal Standard
<i>ug/m3</i> = micrograms per cubic meter	<i>ND</i> = Not detected. Qualitative analysis only	<i>T</i> = Target Analyte
<i>ug/Kg</i> = micrograms per kilogram	<i>TIC</i> = Tentatively Identified Compound	

Qualifiers

c = Sample RPD failure
 r = %REC failure in the MRL
 p = Positively identified compound, for non-calibrated compounds
 B = Compound found in associated laboratory blank above the MDL.
 D = Diluted sample
 E = Report concentration was above the instrumental calibration range
 I = Response failure of an internal standard
 J = Reported concentration was estimated
 X = Detected but not quantifiable
 N = Identification based on mass spectral library search
 P = Library spectrum match, rsd >90% w RT match
 Q = Qualitative results for non detects
 R = Analyte %REC Failure
 S = Surrogate recovery failure
 TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.



Authorized Signature: _____
 Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/4/2023

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RJ Lee Group, Inc. | Columbia Basin Analytical Laboratory
2710 North 20th Avenue, Pasco WA 99301
Tel: (509) 792-1955

Tri-Cresyl Phosphoric Acid Ester Isomers Results

Kansas State University
245 Levee Drive
Manhattan, KS 66502
Dr. Byron Jones
785-532-5620

RJ Lee Group Job No.: W305169
Samples Received: 5/24/2022
Analysis/Prep Date: 7/24/23-7/27/23
Report Date: 10/4/2023
Client Project: Air Sampling
COC No.: 2022004-20-FA-1

Sample ID		File	Name	Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
CBAL Name	Customer										
ICV	N/A	2230724_12	Tri-o-cresyl-phosphate		45.701	16077889	115377499	0.13935	25.22	2000	12.612
CCV1	N/A	2230724_14	Tri-o-cresyl-phosphate		45.702	16245138	120441922	0.13488	24.42	2000	12.212
RL-0.25 ug/mL	N/A	2230724_15	Tri-o-cresyl-phosphate		45.696	56179	117948816	0.00048	0.42	2000	0.212
RL-0.50 ug/mL	N/A	2230724_16	Tri-o-cresyl-phosphate		45.684	124666	106926946	0.00117	0.55	2000	0.274
BG30075-BS1	N/A	2230724_18	Tri-o-cresyl-phosphate		45.714	20146375	153833860	0.13096	23.73	2000	11.863
BG30075-BSD1	N/A	2230724_19	Tri-o-cresyl-phosphate		45.713	19943224	155655518	0.12812	23.22	2000	11.609
BG30075-MRL1	N/A	2230724_20	Tri-o-cresyl-phosphate		45.667	325003	142536601	0.00228	0.75	2000	0.373
BG30075-LOD1	N/A	2230724_21	Tri-o-cresyl-phosphate		45.672	196095	156717344	0.00125	0.56	2000	0.281
W305169-01	Shipping Blank 2 (1)	2230724_23	C3-Triphenyl phosphate (I-1)		45.063	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	Tri-o-cresyl-phosphate		45.685	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	C3-Triphenyl phosphate (I-2)		46.033	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	Tri-m-cresyl-phosphate		46.694	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	C3-Triphenyl phosphate (I-3)		47.02	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	C3-Triphenyl phosphate (I-4)		47.139	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	C3-Triphenyl phosphate (I-5)		47.586	0	152329987	0.00000	0.00	2000	0.000
W305169-01	Shipping Blank 2 (1)	2230724_23	Tri-p-cresyl-phosphate		48.056	0	152329987	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	C3-Triphenyl phosphate (I-1)		45.063	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	Tri-o-cresyl-phosphate		45.685	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	C3-Triphenyl phosphate (I-2)		46.033	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	Tri-m-cresyl-phosphate		46.694	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	C3-Triphenyl phosphate (I-3)		47.02	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	C3-Triphenyl phosphate (I-4)		47.139	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	C3-Triphenyl phosphate (I-5)		47.586	0	125544610	0.00000	0.00	2000	0.000
W305169-02	Field Blank Ambient (6)	2230724_24	Tri-p-cresyl-phosphate		48.056	0	125544610	0.00000	0.00	2000	0.000
CCV2	N/A	2230724_25	Tri-o-cresyl-phosphate		45.706	17359967	126573386	0.13715	24.83	2000	12.415
W305169-03	Field Blank Ozone In (7)	2230724_28	C3-Triphenyl phosphate (I-1)		45.063	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	Tri-o-cresyl-phosphate		45.685	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	C3-Triphenyl phosphate (I-2)		46.033	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	Tri-m-cresyl-phosphate		46.694	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	C3-Triphenyl phosphate (I-3)		47.02	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	C3-Triphenyl phosphate (I-4)		47.139	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	C3-Triphenyl phosphate (I-5)		47.586	0	123494328	0.00000	0.00	2000	0.000
W305169-03	Field Blank Ozone In (7)	2230724_28	Tri-p-cresyl-phosphate		48.056	0	123494328	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	C3-Triphenyl phosphate (I-1)		45.063	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	Tri-o-cresyl-phosphate		45.685	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	C3-Triphenyl phosphate (I-2)		46.033	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	Tri-m-cresyl-phosphate		46.694	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	C3-Triphenyl phosphate (I-3)		47.02	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	C3-Triphenyl phosphate (I-4)		47.139	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	C3-Triphenyl phosphate (I-5)		47.586	0	134972347	0.00000	0.00	2000	0.000
W305169-04	Field Blank Ozone Out (8)	2230724_29	Tri-p-cresyl-phosphate		48.056	0	134972347	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	C3-Triphenyl phosphate (I-1)		45.063	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	Tri-o-cresyl-phosphate		45.685	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	C3-Triphenyl phosphate (I-2)		46.033	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	Tri-m-cresyl-phosphate		46.694	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	C3-Triphenyl phosphate (I-3)		47.02	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	C3-Triphenyl phosphate (I-4)		47.139	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	C3-Triphenyl phosphate (I-5)		47.586	0	153085291	0.00000	0.00	2000	0.000
W305169-05	Field Blank Pack Exit (9)	2230724_30	Tri-p-cresyl-phosphate		48.056	0	153085291	0.00000	0.00	2000	0.000

CBAL Name	Sample ID Customer	File	Name Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-06	Baseline - Ambient (2)	2230724_31	C3-Triphenyl phosphate (I-1)	45.063	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	Tri-o-cresyl-phosphate	45.685	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	C3-Triphenyl phosphate (I-2)	46.033	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	Tri-m-cresyl-phosphate	46.694	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	C3-Triphenyl phosphate (I-3)	47.02	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	C3-Triphenyl phosphate (I-4)	47.139	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	C3-Triphenyl phosphate (I-5)	47.586	0	129056822	0.00000	0.00	3344	0.000
W305169-06	Baseline - Ambient (2)	2230724_31	Tri-p-cresyl-phosphate	48.056	0	129056822	0.00000	0.00	3344	0.000
W305169-07	Baseline - Ozone In (3)	2230724_32	C3-Triphenyl phosphate (I-1)	45.063	0	134334558	0.00000	0.00	4755	0.000
W305169-07	Baseline - Ozone In (3)	2230724_32	Tri-o-cresyl-phosphate	45.685	0	134334558	0.00000	0.00	4755	0.000
W305169-07	Baseline - Ozone In (3)	2230724_32	C3-Triphenyl phosphate (I-2)	46.033	0	134334558	0.00000	0.00	4755	0.000
W305169-07	Baseline - Ozone In (3)	2230724_32	Tri-m-cresyl-phosphate	46.694	55354	134334558	0.00041	0.07	4755	0.015
W305169-07	Baseline - Ozone In (3)	2230724_32	C3-Triphenyl phosphate (I-3)	47.02	0	134334558	0.00000	0.00	4755	0.000
W305169-07	Baseline - Ozone In (3)	2230724_32	C3-Triphenyl phosphate (I-4)	47.139	90761	134334558	0.00068	0.12	4755	0.025
W305169-07	Baseline - Ozone In (3)	2230724_32	C3-Triphenyl phosphate (I-5)	47.586	61595	134334558	0.00046	0.08	4755	0.017
W305169-07	Baseline - Ozone In (3)	2230724_32	Tri-p-cresyl-phosphate	48.056	33577	134334558	0.00025	0.04	4755	0.009
W305169-08	Baseline - Ozone Out (4)	2230724_33	C3-Triphenyl phosphate (I-1)	45.063	0	134334558	0.00000	0.00	4755	0.000
W305169-08	Baseline - Ozone Out (4)	2230724_33	Tri-o-cresyl-phosphate	45.685	0	134334558	0.00000	0.00	4755	0.000
W305169-08	Baseline - Ozone Out (4)	2230724_33	C3-Triphenyl phosphate (I-2)	46.033	0	134334558	0.00000	0.00	4755	0.000
W305169-08	Baseline - Ozone Out (4)	2230724_33	Tri-m-cresyl-phosphate	46.694	55354	134334558	0.00041	0.07	4755	0.015
W305169-08	Baseline - Ozone Out (4)	2230724_33	C3-Triphenyl phosphate (I-3)	47.02	0	134334558	0.00000	0.00	4755	0.000
W305169-08	Baseline - Ozone Out (4)	2230724_33	C3-Triphenyl phosphate (I-4)	47.139	90761	134334558	0.00068	0.12	4755	0.025
W305169-08	Baseline - Ozone Out (4)	2230724_33	C3-Triphenyl phosphate (I-5)	47.59	61595	134334558	0.00046	0.08	4755	0.017
W305169-08	Baseline - Ozone Out (4)	2230724_33	Tri-p-cresyl-phosphate	48.045	33577	134334558	0.00025	0.04	4755	0.009
W305169-09	Baseline - Pack Exit (5)	2230724_34	C3-Triphenyl phosphate (I-1)	45.063	0	134185444	0.00000	0.00	4404	0.000
W305169-09	Baseline - Pack Exit (5)	2230724_34	Tri-o-cresyl-phosphate	45.685	0	134185444	0.00000	0.00	4404	0.000
W305169-09	Baseline - Pack Exit (5)	2230724_34	C3-Triphenyl phosphate (I-2)	46.033	0	134185444	0.00000	0.00	4404	0.000
W305169-09	Baseline - Pack Exit (5)	2230724_34	Tri-m-cresyl-phosphate	46.682	13996	134185444	0.00010	0.02	4404	0.004
W305169-09	Baseline - Pack Exit (5)	2230724_34	C3-Triphenyl phosphate (I-3)	47.02	0	134185444	0.00000	0.00	4404	0.000
W305169-09	Baseline - Pack Exit (5)	2230724_34	C3-Triphenyl phosphate (I-4)	47.13	17494	134185444	0.00013	0.02	4404	0.005
W305169-09	Baseline - Pack Exit (5)	2230724_34	C3-Triphenyl phosphate (I-5)	47.589	14187	134185444	0.00011	0.02	4404	0.004
W305169-09	Baseline - Pack Exit (5)	2230724_34	Tri-p-cresyl-phosphate	48.052	13716	134185444	0.00010	0.02	4404	0.004
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	C3-Triphenyl phosphate (I-1)	45.063	0	131052411	0.00000	0.00	2241	0.000
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	Tri-o-cresyl-phosphate	45.685	0	131052411	0.00000	0.00	2241	0.000
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	C3-Triphenyl phosphate (I-2)	46.033	0	131052411	0.00000	0.00	2241	0.000
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	Tri-m-cresyl-phosphate	46.699	22612	131052411	0.00017	0.03	2241	0.014
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	C3-Triphenyl phosphate (I-3)	47.02	0	131052411	0.00000	0.00	2241	0.000
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	C3-Triphenyl phosphate (I-4)	47.135	40701	131052411	0.00031	0.06	2241	0.025
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	C3-Triphenyl phosphate (I-5)	47.59	37965	131052411	0.00029	0.05	2241	0.023
W305169-10	MJ-II - 5ppm - APU - Ambient (10)	2230724_35	Tri-p-cresyl-phosphate	48.053	24811	131052411	0.00019	0.03	2241	0.015
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	C3-Triphenyl phosphate (I-1)	45.063	0	138905799	0.00000	0.00	2376	0.000
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	Tri-o-cresyl-phosphate	45.685	0	138905799	0.00000	0.00	2376	0.000
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	C3-Triphenyl phosphate (I-2)	46.033	0	138905799	0.00000	0.00	2376	0.000
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	Tri-m-cresyl-phosphate	46.697	2176294	138905799	0.01567	3.14	2376	1.320
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	C3-Triphenyl phosphate (I-3)	47.02	0	138905799	0.00000	0.00	2376	0.000
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	C3-Triphenyl phosphate (I-4)	47.152	6539091	138905799	0.04708	8.75	2376	3.681
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	C3-Triphenyl phosphate (I-5)	47.605	6600623	138905799	0.04752	8.82	2376	3.714
W305169-11	MJ-II - 5ppm - APU - Ozone In (11)	2230724_36	Tri-p-cresyl-phosphate	48.06	2259429	138905799	0.01627	3.24	2376	1.365
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	C3-Triphenyl phosphate (I-1)	45.063	0	138333022	0.00000	0.00	2376	0.000
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	Tri-o-cresyl-phosphate	45.685	0	138333022	0.00000	0.00	2376	0.000
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	C3-Triphenyl phosphate (I-2)	46.033	0	138333022	0.00000	0.00	2376	0.000
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	Tri-m-cresyl-phosphate	46.691	2176294	138333022	0.01573	3.15	2376	1.325
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	C3-Triphenyl phosphate (I-3)	47.02	0	138333022	0.00000	0.00	2376	0.000
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	C3-Triphenyl phosphate (I-4)	47.138	6539091	138333022	0.04727	8.78	2376	3.695
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	C3-Triphenyl phosphate (I-5)	47.593	6600623	138333022	0.04772	8.86	2376	3.729
W305169-12	MJ-II - 5ppm - APU - Ozone Out (12)	2230724_37	Tri-p-cresyl-phosphate	48.054	2259429	138333022	0.01633	3.26	2376	1.370
CCV3	N/A	2230724_38	Tri-o-cresyl-phosphate	45.703	17636155	126929279	0.13894	25.15	2000	12.575
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	C3-Triphenyl phosphate (I-1)	45.063	0	126236953	0.00000	0.00	1890	0.000
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	Tri-o-cresyl-phosphate	45.685	0	126236953	0.00000	0.00	1890	0.000
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	C3-Triphenyl phosphate (I-2)	46.033	0	126236953	0.00000	0.00	1890	0.000
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	Tri-m-cresyl-phosphate	46.693	2026551	126236953	0.01605	3.21	1890	1.696
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	C3-Triphenyl phosphate (I-3)	47.02	0	126236953	0.00000	0.00	1890	0.000
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	C3-Triphenyl phosphate (I-4)	47.146	6084246	126236953	0.04820	8.95	1890	4.733
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	C3-Triphenyl phosphate (I-5)	47.598	6252073	126236953	0.04953	9.18	1890	4.859
W305169-13	MJ-II - 5ppm - APU - Pack Exit (13)	2230724_41	Tri-p-cresyl-phosphate	48.057	2140316	126236953	0.01695	3.37	1890	1.781

CBAL Name	Customer	File	Name	Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-14	Field Blank(14)	2230724_42	C3-Triphenyl phosphate	(I-1)	45.063	0	125377175	0.00000	0.00	2000	0.000
W305169-14	Field Blank(14)	2230724_42	Tri-o-cresyl-phosphate		45.685	0	125377175	0.00000	0.00	2000	0.000
W305169-14	Field Blank(14)	2230724_42	C3-Triphenyl phosphate	(I-2)	46.033	0	125377175	0.00000	0.00	2000	0.000
W305169-14	Field Blank(14)	2230724_42	Tri-m-cresyl-phosphate		46.687	20779	125377175	0.00017	0.03	2000	0.015
W305169-14	Field Blank(14)	2230724_42	C3-Triphenyl phosphate	(I-3)	47.02	0	125377175	0.00000	0.00	2000	0.000
W305169-14	Field Blank(14)	2230724_42	C3-Triphenyl phosphate	(I-4)	47.134	46983	125377175	0.00037	0.07	2000	0.033
W305169-14	Field Blank(14)	2230724_42	C3-Triphenyl phosphate	(I-5)	47.594	43803	125377175	0.00035	0.06	2000	0.031
W305169-14	Field Blank(14)	2230724_42	Tri-p-cresyl-phosphate		48.051	24377	125377175	0.00019	0.03	2000	0.017
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	C3-Triphenyl phosphate	(I-1)	45.063	0	134155657	0.00000	0.00	6588	0.000
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	Tri-o-cresyl-phosphate		45.685	0	134155657	0.00000	0.00	6588	0.000
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	C3-Triphenyl phosphate	(I-2)	46.033	0	134155657	0.00000	0.00	6588	0.000
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	Tri-m-cresyl-phosphate		46.69	1042561	134155657	0.00777	1.73	6588	0.262
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	C3-Triphenyl phosphate	(I-3)	47.02	0	134155657	0.00000	0.00	6588	0.000
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	C3-Triphenyl phosphate	(I-4)	47.141	3768612	134155657	0.02809	5.36	6588	0.813
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	C3-Triphenyl phosphate	(I-5)	47.596	4721398	134155657	0.03519	6.62	6588	1.005
W305169-15	Baseline - 300C - Ozone In (15)	2230724_43	Tri-p-cresyl-phosphate		48.055	2070731	134155657	0.01544	3.10	6588	0.470
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	C3-Triphenyl phosphate	(I-1)	45.063	0	137030739	0.00000	0.00	6546	0.000
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	Tri-o-cresyl-phosphate		45.685	0	137030739	0.00000	0.00	6546	0.000
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	C3-Triphenyl phosphate	(I-2)	46.033	0	137030739	0.00000	0.00	6546	0.000
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	Tri-m-cresyl-phosphate		46.687	175640	137030739	0.00128	0.23	6546	0.035
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	C3-Triphenyl phosphate	(I-3)	47.02	0	137030739	0.00000	0.00	6546	0.000
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	C3-Triphenyl phosphate	(I-4)	47.134	549680	137030739	0.00401	0.72	6546	0.109
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	C3-Triphenyl phosphate	(I-5)	47.587	612377	137030739	0.00447	0.80	6546	0.122
W305169-16	Baseline - 300C - Ozone Out (16)	2230724_44	Tri-p-cresyl-phosphate		48.052	244523	137030739	0.00178	0.32	6546	0.049
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	C3-Triphenyl phosphate	(I-1)	45.063	0	128517715	0.00000	0.00	4451	0.000
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	Tri-o-cresyl-phosphate		45.685	0	128517715	0.00000	0.00	4451	0.000
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	C3-Triphenyl phosphate	(I-2)	46.033	0	128517715	0.00000	0.00	4451	0.000
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	Tri-m-cresyl-phosphate		46.691	221883	128517715	0.00173	0.31	4451	0.069
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	C3-Triphenyl phosphate	(I-3)	47.02	0	128517715	0.00000	0.00	4451	0.000
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	C3-Triphenyl phosphate	(I-4)	47.131	534943	128517715	0.00416	0.74	4451	0.167
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	C3-Triphenyl phosphate	(I-5)	47.589	420466	128517715	0.00327	0.58	4451	0.131
W305169-17	Baseline - 300C - Pack Exit (17)	2230724_45	Tri-p-cresyl-phosphate		48.053	129235	128517715	0.00101	0.18	4451	0.040
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	C3-Triphenyl phosphate	(I-1)	45.063	0	137088200	0.00000	0.00	6263	0.000
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	Tri-o-cresyl-phosphate		45.685	0	137088200	0.00000	0.00	6263	0.000
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	C3-Triphenyl phosphate	(I-2)	46.033	0	137088200	0.00000	0.00	6263	0.000
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	Tri-m-cresyl-phosphate		46.697	3548096	137088200	0.02588	4.96	6263	0.792
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	C3-Triphenyl phosphate	(I-3)	47.02	0	137088200	0.00000	0.00	6263	0.000
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	C3-Triphenyl phosphate	(I-4)	47.157	10735310	137088200	0.07831	14.32	6263	2.287
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	C3-Triphenyl phosphate	(I-5)	47.612	11338322	137088200	0.08271	15.11	6263	2.412
W305169-18	MJ-II - 300C - 5ppmW - Ozone In (18)	2230724_46	Tri-p-cresyl-phosphate		48.063	4017743	137088200	0.02931	5.57	6263	0.890
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	C3-Triphenyl phosphate	(I-1)	45.063	0	134101864	0.00000	0.00	4524	0.000
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	Tri-o-cresyl-phosphate		45.685	0	134101864	0.00000	0.00	4524	0.000
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	C3-Triphenyl phosphate	(I-2)	46.033	0	134101864	0.00000	0.00	4524	0.000
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	Tri-m-cresyl-phosphate		46.693	4028043	134101864	0.03004	5.70	4524	1.261
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	C3-Triphenyl phosphate	(I-3)	47.02	0	134101864	0.00000	0.00	4524	0.000
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	C3-Triphenyl phosphate	(I-4)	47.155	11524921	134101864	0.08594	15.69	4524	3.467
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	C3-Triphenyl phosphate	(I-5)	47.606	11629594	134101864	0.08672	15.83	4524	3.498
W305169-19	MJ-II - 300C - 5ppmW - Pack Exit (19)	2230724_47	Tri-p-cresyl-phosphate		48.059	3871981	134101864	0.02887	5.50	4524	1.215
W305169-20	Field Blank (20)	2230724_48	C3-Triphenyl phosphate	(I-1)	45.063	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	Tri-o-cresyl-phosphate		45.685	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	C3-Triphenyl phosphate	(I-2)	46.033	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	Tri-m-cresyl-phosphate		46.687	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	C3-Triphenyl phosphate	(I-3)	47.02	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	C3-Triphenyl phosphate	(I-4)	47.134	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	C3-Triphenyl phosphate	(I-5)	47.587	0	129031535	0.00000	0.00	2000	0.000
W305169-20	Field Blank (20)	2230724_48	Tri-p-cresyl-phosphate		48.052	0	129031535	0.00000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	Tri-o-cresyl-phosphate		45.708	18842629	143959868	0.13089	23.71	2000	11.856
BG30075-BS02	N/A	2230724_50	Tri-o-cresyl-phosphate		45.704	17479499	133877395	0.13056	23.65	2000	11.827
BG30075-MRL2	N/A	2230724_51	Tri-o-cresyl-phosphate		45.671	342460	154097839	0.00222	0.40	2000	0.198
BG30075-LOD2	N/A	2230724_52	Tri-o-cresyl-phosphate		45.672	185307	146244732	0.00127	0.23	2000	0.113
CCV2	N/A	2230724_55	Tri-o-cresyl-phosphate		45.704	16591641	120788391	0.13736	24.87	2000	12.434

CBAL Name	Sample ID Customer	File	Name Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	C3-Triphenyl phosphate (I-1)	45.063	0	133535212	0.00000	0.00	4374	0.000
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	Tri-o-cresyl-phosphate	45.685	0	133535212	0.00000	0.00	4374	0.000
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	C3-Triphenyl phosphate (I-2)	46.033	0	133535212	0.00000	0.00	4374	0.000
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	Tri-m-cresyl-phosphate	46.683	108428	133535212	0.00081	0.14	4374	0.033
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	C3-Triphenyl phosphate (I-3)	47.02	0	133535212	0.00000	0.00	4374	0.000
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	C3-Triphenyl phosphate (I-4)	47.135	286426	133535212	0.00214	0.38	4374	0.088
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	C3-Triphenyl phosphate (I-5)	47.585	254794	133535212	0.00191	0.34	4374	0.078
W305169-21	Baseline - 300C - Ozone In/Ambient (21)	2230724_57	Tri-p-cresyl-phosphate	48.053	106084	133535212	0.00079	0.14	4374	0.032
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	C3-Triphenyl phosphate (I-1)	45.063	0	127876950	0.00000	0.00	4924	0.000
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	Tri-o-cresyl-phosphate	45.685	0	127876950	0.00000	0.00	4924	0.000
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	C3-Triphenyl phosphate (I-2)	46.033	0	127876950	0.00000	0.00	4924	0.000
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	Tri-m-cresyl-phosphate	46.688	13716	127876950	0.00011	0.02	4924	0.004
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	C3-Triphenyl phosphate (I-3)	47.02	0	127876950	0.00000	0.00	4924	0.000
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	C3-Triphenyl phosphate (I-4)	47.137	24884	127876950	0.00019	0.03	4924	0.007
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	C3-Triphenyl phosphate (I-5)	47.592	32021	127876950	0.00025	0.04	4924	0.009
W305169-22	Baseline - 300C - Ozone Out (22)	2230724_58	Tri-p-cresyl-phosphate	48.059	25779	127876950	0.00020	0.04	4924	0.007
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	C3-Triphenyl phosphate (I-1)	45.063	0	116001325	0.00000	0.00	3592	0.000
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	Tri-o-cresyl-phosphate	45.685	0	116001325	0.00000	0.00	3592	0.000
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	C3-Triphenyl phosphate (I-2)	46.033	0	116001325	0.00000	0.00	3592	0.000
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	Tri-m-cresyl-phosphate	46.687	269965	116001325	0.00233	0.42	3592	0.116
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	C3-Triphenyl phosphate (I-3)	47.02	0	116001325	0.00000	0.00	3592	0.000
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	C3-Triphenyl phosphate (I-4)	47.135	650077	116001325	0.00560	1.00	3592	0.279
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	C3-Triphenyl phosphate (I-5)	47.587	565407	116001325	0.00487	0.87	3592	0.242
W305169-23	Baseline - 300C - Pack Exit (23)	2230724_59	Tri-p-cresyl-phosphate	48.045	166640	116001325	0.00144	0.26	3592	0.071
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	C3-Triphenyl phosphate (I-1)	45.063	0	133347239	0.00000	0.00	4551	0.000
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	Tri-o-cresyl-phosphate	45.685	0	133347239	0.00000	0.00	4551	0.000
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	C3-Triphenyl phosphate (I-2)	46.033	0	133347239	0.00000	0.00	4551	0.000
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	Tri-m-cresyl-phosphate	46.729	30301109	133347239	0.22723	40.92	4551	8.991
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	C3-Triphenyl phosphate (I-3)	47.02	0	133347239	0.00000	0.00	4551	0.000
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	C3-Triphenyl phosphate (I-4)	47.233	85982344	133347239	0.64480	115.48	4551	25.375
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	C3-Triphenyl phosphate (I-5)	47.69	82600395	133347239	0.61944	110.95	4551	24.380
W305169-24	2197 - 300C - 5ppmw - Ozone In (24)	2230724_60	Tri-p-cresyl-phosphate	48.129	25701218	133347239	0.19274	34.76	4551	7.637
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	C3-Triphenyl phosphate (I-1)	45.063	0	137070226	0.00000	0.00	4719	0.000
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	Tri-o-cresyl-phosphate	45.685	0	137070226	0.00000	0.00	4719	0.000
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	C3-Triphenyl phosphate (I-2)	46.033	0	137070226	0.00000	0.00	4719	0.000
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	Tri-m-cresyl-phosphate	46.686	413119	137070226	0.00301	0.54	4719	0.114
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	C3-Triphenyl phosphate (I-3)	47.02	0	137070226	0.00000	0.00	4719	0.000
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	C3-Triphenyl phosphate (I-4)	47.137	1192439	137070226	0.00870	1.55	4719	0.329
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	C3-Triphenyl phosphate (I-5)	47.592	1175717	137070226	0.00858	1.53	4719	0.325
W305169-25	2197 - 300C - 5ppmw - Ozone Out (25)	2230724_61	Tri-p-cresyl-phosphate	48.055	405000	137070226	0.00295	0.53	4719	0.112
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	C3-Triphenyl phosphate (I-1)	45.063	0	128707498	0.00000	0.00	3800	0.000
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	Tri-o-cresyl-phosphate	45.685	0	128707498	0.00000	0.00	3800	0.000
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	C3-Triphenyl phosphate (I-2)	46.033	0	128707498	0.00000	0.00	3800	0.000
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	Tri-m-cresyl-phosphate	46.69	2984390	128707498	0.02319	4.48	3800	1.179
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	C3-Triphenyl phosphate (I-3)	47.02	0	128707498	0.00000	0.00	3800	0.000
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	C3-Triphenyl phosphate (I-4)	47.147	8543588	128707498	0.06638	12.19	3800	3.209
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	C3-Triphenyl phosphate (I-5)	47.601	8369946	128707498	0.06503	11.95	3800	3.145
W305169-26	2197 - 300C - 5ppmw - Pack Exit (26)	2230724_62	Tri-p-cresyl-phosphate	48.059	2680889	128707498	0.02083	4.06	3800	1.068
W305169-27	Burnout - Ozone In (27)	2230724_63	C3-Triphenyl phosphate (I-1)	45.063	0	128975301	0.00000	0.00	2000	0.000
W305169-27	Burnout - Ozone In (27)	2230724_63	Tri-o-cresyl-phosphate	45.685	0	128975301	0.00000	0.00	2000	0.000
W305169-27	Burnout - Ozone In (27)	2230724_63	C3-Triphenyl phosphate (I-2)	46.033	0	128975301	0.00000	0.00	2000	0.000
W305169-27	Burnout - Ozone In (27)	2230724_63	Tri-m-cresyl-phosphate	46.688	712577	128975301	0.00552	1.33	2000	0.663
W305169-27	Burnout - Ozone In (27)	2230724_63	C3-Triphenyl phosphate (I-3)	47.02	0	128975301	0.00000	0.00	2000	0.000
W305169-27	Burnout - Ozone In (27)	2230724_63	C3-Triphenyl phosphate (I-4)	47.135	2109839	128975301	0.01636	3.26	2000	1.630
W305169-27	Burnout - Ozone In (27)	2230724_63	C3-Triphenyl phosphate (I-5)	47.587	2146876	128975301	0.01665	3.31	2000	1.656
W305169-27	Burnout - Ozone In (27)	2230724_63	Tri-p-cresyl-phosphate	48.049	724035	128975301	0.00561	1.34	2000	0.671
W305169-28	Burnout - Ozone Out (28)	2230724_64	C3-Triphenyl phosphate (I-1)	45.063	0	136069812	0.00000	0.00	2000	0.000
W305169-28	Burnout - Ozone Out (28)	2230724_64	Tri-o-cresyl-phosphate	45.685	0	136069812	0.00000	0.00	2000	0.000
W305169-28	Burnout - Ozone Out (28)	2230724_64	C3-Triphenyl phosphate (I-2)	46.033	0	136069812	0.00000	0.00	2000	0.000
W305169-28	Burnout - Ozone Out (28)	2230724_64	Tri-m-cresyl-phosphate	46.683	118558	136069812	0.00087	0.16	2000	0.078
W305169-28	Burnout - Ozone Out (28)	2230724_64	C3-Triphenyl phosphate (I-3)	47.02	0	136069812	0.00000	0.00	2000	0.000
W305169-28	Burnout - Ozone Out (28)	2230724_64	C3-Triphenyl phosphate (I-4)	47.136	316842	136069812	0.00233	0.42	2000	0.208
W305169-28	Burnout - Ozone Out (28)	2230724_64	C3-Triphenyl phosphate (I-5)	47.59	347858	136069812	0.00256	0.46	2000	0.228
W305169-28	Burnout - Ozone Out (28)	2230724_64	Tri-p-cresyl-phosphate	48.056	131948	136069812	0.00097	0.17	2000	0.087

CBAL Name	Sample ID Customer	File	Name Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-29	Burnout - Pack Exit (29)	2230724_65	C3-Triphenyl phosphate (I-1)	45.063	0	146891389	0.00000	0.00	2000	0.000
W305169-29	Burnout - Pack Exit (29)	2230724_65	Tri-o-cresyl-phosphate	45.685	0	146891389	0.00000	0.00	2000	0.000
W305169-29	Burnout - Pack Exit (29)	2230724_65	C3-Triphenyl phosphate (I-2)	46.033	0	146891389	0.00000	0.00	2000	0.000
W305169-29	Burnout - Pack Exit (29)	2230724_65	Tri-m-cresyl-phosphate	46.689	2273035	146891389	0.01547	3.10	2000	1.551
W305169-29	Burnout - Pack Exit (29)	2230724_65	C3-Triphenyl phosphate (I-3)	47.02	0	146891389	0.00000	0.00	2000	0.000
W305169-29	Burnout - Pack Exit (29)	2230724_65	C3-Triphenyl phosphate (I-4)	47.142	5964869	146891389	0.04061	7.59	2000	3.795
W305169-29	Burnout - Pack Exit (29)	2230724_65	C3-Triphenyl phosphate (I-5)	47.593	5295931	146891389	0.03605	6.78	2000	3.389
W305169-29	Burnout - Pack Exit (29)	2230724_65	Tri-p-cresyl-phosphate	48.049	1609542	146891389	0.01096	2.30	2000	1.148
W305169-30	Field Blank (30)	2230724_66	C3-Triphenyl phosphate (I-1)	45.063	0	128999872	0.00000	0.00	2000	0.000
W305169-30	Field Blank (30)	2230724_66	Tri-o-cresyl-phosphate	45.685	0	128999872	0.00000	0.00	2000	0.000
W305169-30	Field Blank (30)	2230724_66	C3-Triphenyl phosphate (I-2)	46.033	0	128999872	0.00000	0.00	2000	0.000
W305169-30	Field Blank (30)	2230724_66	Tri-m-cresyl-phosphate	46.687	51739	128999872	0.00040	0.07	2000	0.036
W305169-30	Field Blank (30)	2230724_66	C3-Triphenyl phosphate (I-3)	47.02	0	128999872	0.00000	0.00	2000	0.000
W305169-30	Field Blank (30)	2230724_66	C3-Triphenyl phosphate (I-4)	47.126	136474	128999872	0.00106	0.19	2000	0.094
W305169-30	Field Blank (30)	2230724_66	C3-Triphenyl phosphate (I-5)	47.58	139993	128999872	0.00109	0.19	2000	0.097
W305169-30	Field Blank (30)	2230724_66	Tri-p-cresyl-phosphate	48.045	56657	128999872	0.00044	0.08	2000	0.039
CCV5	N/A	2230724_68	Tri-o-cresyl-phosphate	45.701	16625806	120176723	0.13834	25.04	2000	12.522
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	C3-Triphenyl phosphate (I-1)	45.063	0	134284270	0.00000	0.00	6080	0.000
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	Tri-o-cresyl-phosphate	45.685	0	134284270	0.00000	0.00	6080	0.000
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	C3-Triphenyl phosphate (I-2)	46.033	0	134284270	0.00000	0.00	6080	0.000
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	Tri-m-cresyl-phosphate	46.804	93694542	134284270	0.69773	124.26	6080	20.437
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	C3-Triphenyl phosphate (I-3)	47.02	0	134284270	0.00000	0.00	6080	0.000
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	C3-Triphenyl phosphate (I-4)	47.341	249778120	134284270	1.86007	331.82	6080	54.575
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	C3-Triphenyl phosphate (I-5)	47.818	223891636	134284270	1.66730	297.39	6080	48.913
W305169-31	MJ-II - 220C - Ozone In (31)	2230724_70	Tri-p-cresyl-phosphate	48.205	73570202	134284270	0.54787	97.49	6080	16.035
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	C3-Triphenyl phosphate (I-1)	45.063	0	138751287	0.00000	0.00	6219	0.000
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	Tri-o-cresyl-phosphate	45.685	0	138751287	0.00000	0.00	6219	0.000
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	C3-Triphenyl phosphate (I-2)	46.033	0	138751287	0.00000	0.00	6219	0.000
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	Tri-m-cresyl-phosphate	46.716	12810537	138751287	0.09233	16.83	6219	2.706
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	C3-Triphenyl phosphate (I-3)	47.02	0	138751287	0.00000	0.00	6219	0.000
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	C3-Triphenyl phosphate (I-4)	47.207	41368235	138751287	0.29815	53.58	6219	8.615
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	C3-Triphenyl phosphate (I-5)	47.661	42407825	138751287	0.30564	54.92	6219	8.831
W305169-32	MJ-II - 220C - Ozone Out (32)	2230724_71	Tri-p-cresyl-phosphate	48.096	14900609	138751287	0.10739	19.52	6219	3.138
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	C3-Triphenyl phosphate (I-1)	45.063	0	145051542	0.00000	0.00	5006	0.000
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	Tri-o-cresyl-phosphate	45.685	0	145051542	0.00000	0.00	5006	0.000
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	C3-Triphenyl phosphate (I-2)	46.033	0	145051542	0.00000	0.00	5006	0.000
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	Tri-m-cresyl-phosphate	46.742	33407027	145051542	0.23031	41.47	5006	8.283
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	C3-Triphenyl phosphate (I-3)	47.02	0	145051542	0.00000	0.00	5006	0.000
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	C3-Triphenyl phosphate (I-4)	47.254	92325947	145051542	0.63650	114.00	5006	22.773
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	C3-Triphenyl phosphate (I-5)	47.713	86785892	145051542	0.59831	107.18	5006	21.410
W305169-33	MJ-II - 220C - Pack Exit (33)	2230724_72	Tri-p-cresyl-phosphate	48.126	28514057	145051542	0.19658	35.44	5006	7.080
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	C3-Triphenyl phosphate (I-1)	45.063	0	126257246	0.00000	0.00	3582	0.000
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	Tri-o-cresyl-phosphate	45.685	0	126257246	0.00000	0.00	3582	0.000
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	C3-Triphenyl phosphate (I-2)	46.033	0	126257246	0.00000	0.00	3582	0.000
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	Tri-m-cresyl-phosphate	46.688	3423831	126257246	0.02712	5.18	3582	1.447
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	C3-Triphenyl phosphate (I-3)	47.02	0	126257246	0.00000	0.00	3582	0.000
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	C3-Triphenyl phosphate (I-4)	47.146	9780089	126257246	0.07746	14.17	3582	3.956
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	C3-Triphenyl phosphate (I-5)	47.6	9484306	126257246	0.07512	13.75	3582	3.840
W305169-34	Baseline - 220C - Ozone In (34)	2230724_73	Tri-p-cresyl-phosphate	48.051	3022529	126257246	0.02394	4.61	3582	1.288
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	C3-Triphenyl phosphate (I-1)	45.063	0	133026637	0.00000	0.00	3720	0.000
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	Tri-o-cresyl-phosphate	45.685	0	133026637	0.00000	0.00	3720	0.000
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	C3-Triphenyl phosphate (I-2)	46.033	0	133026637	0.00000	0.00	3720	0.000
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	Tri-m-cresyl-phosphate	46.684	10666164	133026637	0.08018	14.66	3720	3.940
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	C3-Triphenyl phosphate (I-3)	47.02	0	133026637	0.00000	0.00	3720	0.000
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	C3-Triphenyl phosphate (I-4)	47.184	29836426	133026637	0.22429	40.39	3720	10.858
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	C3-Triphenyl phosphate (I-5)	47.636	28811010	133026637	0.21658	39.01	3720	10.488
W305169-35	Baseline - 220C - Ozone Out (35)	2230724_74	Tri-p-cresyl-phosphate	48.074	9434863	133026637	0.07092	13.00	3720	3.496
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	C3-Triphenyl phosphate (I-1)	45.063	0	123308705	0.00000	0.00	3002	0.000
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	Tri-o-cresyl-phosphate	45.685	0	123308705	0.00000	0.00	3002	0.000
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	C3-Triphenyl phosphate (I-2)	46.033	0	123308705	0.00000	0.00	3002	0.000
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	Tri-m-cresyl-phosphate	46.684	197398	123308705	0.00160	0.29	3002	0.095
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	C3-Triphenyl phosphate (I-3)	47.02	0	123308705	0.00000	0.00	3002	0.000
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	C3-Triphenyl phosphate (I-4)	47.13	526143	123308705	0.00427	0.76	3002	0.254
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	C3-Triphenyl phosphate (I-5)	47.583	522436	123308705	0.00424	0.76	3002	0.252
W305169-36	Baseline - 220C - Pack Exit (36)	2230724_75	Tri-p-cresyl-phosphate	48.043	181635	123308705	0.00147	0.26	3002	0.088

CBAL Name	Customer	File	Name	Analyte	Ret. Time	Peak Area	IS Area	Rel Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	C3-Triphenyl phosphate (I-1)		45.063	111093105	131550230	0.84449	151.14	5068	29.823
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	Tri-o-cresyl-phosphate		45.685	0	131550230	0.84449	151.14	5068	29.823
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	C3-Triphenyl phosphate (I-2)		46.033	6429898	131550230	0.04888	9.07	5068	1.789
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	Tri-m-cresyl-phosphate		46.684	0	131550230	0.00000	0.00	5068	0.000
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	C3-Triphenyl phosphate (I-3)		46.958	47554758	131550230	0.36150	64.89	5068	12.804
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	C3-Triphenyl phosphate (I-4)		47.17	6010533	131550230	0.04569	8.50	5068	1.677
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	C3-Triphenyl phosphate (I-5)		47.62	5350538	131550230	0.04067	7.60	5068	1.500
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_76	Tri-p-cresyl-phosphate		48.072	1794464	131550230	0.01364	2.78	5068	0.548
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	C3-Triphenyl phosphate (I-1)		44.945	18482298	125809844	0.14691	26.57	4892	5.432
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	Tri-o-cresyl-phosphate		45.685	0	125809844	0.14691	26.57	4892	5.432
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	C3-Triphenyl phosphate (I-2)		46.011	1508878	125809844	0.01199	2.48	4892	0.507
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	Tri-m-cresyl-phosphate		46.684	0	125809844	0.00000	0.00	4892	0.000
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	C3-Triphenyl phosphate (I-3)		46.958	14915302	125809844	0.11855	21.51	4892	4.397
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	C3-Triphenyl phosphate (I-4)		47.15	2826059	125809844	0.02246	4.35	4892	0.889
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	C3-Triphenyl phosphate (I-5)		47.609	2989029	125809844	0.02376	4.58	4892	0.937
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_77	Tri-p-cresyl-phosphate		48.065	1095457	125809844	0.00871	1.89	4892	0.387
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	C3-Triphenyl phosphate (I-1)		44.897	2209568	125809844	0.01756	3.48	4109	0.846
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	Tri-o-cresyl-phosphate		45.685	0	125809844	0.01756	3.48	4109	0.846
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	C3-Triphenyl phosphate (I-2)		45.998	110328	125809844	0.00088	0.50	4109	0.121
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	Tri-m-cresyl-phosphate		46.684	0	125809844	0.00000	0.00	4109	0.000
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	C3-Triphenyl phosphate (I-3)		46.916	162681	125809844	0.00129	0.57	4109	0.139
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	C3-Triphenyl phosphate (I-4)		47.129	934027	125809844	0.00742	1.67	4109	0.405
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	C3-Triphenyl phosphate (I-5)		47.585	356749	125809844	0.00284	0.85	4109	0.206
W305169-39	Skydrol - 220C - 5ppmw - Pack Exit (39)	2230724_78	Tri-p-cresyl-phosphate		48.04	328112	125809844	0.00261	0.80	4109	0.196
CCV6	N/A	2230724_79	Tri-o-cresyl-phosphate		45.701	17070057	123869154	0.13781	24.95	2000	8.316

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard. Results based on calibration curve from tri-o-cresyl phosphate.

ng = nanogram

ppbv = parts per billion volume

ug/m3 = micrograms per cubic meter

µg/Kg = micrograms per kilogram

BDL = Below Detection Limit

N/A = Not Applicable

ND = Not detected. Qualitative analysis only

Surr = Surrogate Compound

Int. Std = Internal Standard

T = Target Analyte

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

N = Identification based on mass spectral library search

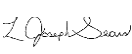
P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature: 
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/4/2023

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RJ LeeGroup, Inc. | Columbia Basin Analytical Laboratory

2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 792-1955

Tri-Xylyl Phosphoric Acid Ester Calibration

Kansas State University
245 Levee Drive
Manhattan, KS 66502
Dr. Byron Jones
785-532-5620

RJ Lee Group Job W305169
Samples Receiv 5/24/2022
Analysis/Prep D 7/24/23-7/27/23
Report Date: 10/4/2023
Client Project Air Sampling
COC No.: 2022004-20-FA-1

TIC: 2230724_04.D\data.ms

0.25 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.77	T	0.043	2708812	47.706	47.826
2	Tris(2,5-dimethylphenyl) phosphate	48.402	T	0.045	1747435	48.336	48.467
3	Tris(2,4-dimethylphenyl) phosphate	49.975	T	0.042	866937	49.939	50.028
4	Perylene-d12	50.176	Int. STD	0.071	453331120	50.039	50.526

TIC: 2230724_05.D\data.ms

0.50 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.767	T	0.042	6308313	47.708	47.839
2	Tris(2,5-dimethylphenyl) phosphate	48.399	T	0.043	4926606	48.32	48.478
3	Tris(2,4-dimethylphenyl) phosphate	49.973	T	0.045	2861029	49.917	50.03
4	Perylene-d12	50.174	Int. STD	0.071	435113910	50.043	50.559

TIC: 2230724_06.D\data.ms

1.0 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.765	T	0.042	13751193	47.69	47.83
2	Tris(2,5-dimethylphenyl) phosphate	48.397	T	0.041	11375107	48.34	48.471
3	Tris(2,4-dimethylphenyl) phosphate	49.973	T	0.042	7557173	49.902	50.03
4	Perylene-d12	50.172	Int. STD	0.071	432636962	50.034	50.492

TIC: 2230724_07.D\data.ms

2.5 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.762	T	0.041	42610079	47.701	47.848
2	Tris(2,5-dimethylphenyl) phosphate	48.395	T	0.042	39486549	48.334	48.484
3	Tris(2,4-dimethylphenyl) phosphate	49.969	T	0.041	30643478	49.908	50.038
4	Perylene-d12	50.175	Int. STD	0.07	458961616	50.04	50.369

TIC: 2230724_08.D\data.ms

5.0 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.763	M	0.041	85584373	47.692	47.838
2	Tris(2,5-dimethylphenyl) phosphate	48.396	T	0.043	82578519	48.316	48.482
3	Tris(2,4-dimethylphenyl) phosphate	49.971	T	0.042	67336199	49.905	50.031
4	Perylene-d12	50.17	Int. STD	0.07	433502647	50.038	50.448

TIC: 2230724_09.D\data.ms

10 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.771	T	0.044	178582736	47.695	47.858
2	Tris(2,5-dimethylphenyl) phosphate	48.405	M	0.043	171843496	48.33	48.516
3	Tris(2,4-dimethylphenyl) phosphate	49.979	T	0.043	150887185	49.907	50.037
4	Perylene-d12	50.171	Int. STD	0.07	430180956	50.042	50.4

TIC: 2230724_10.D\data.ms

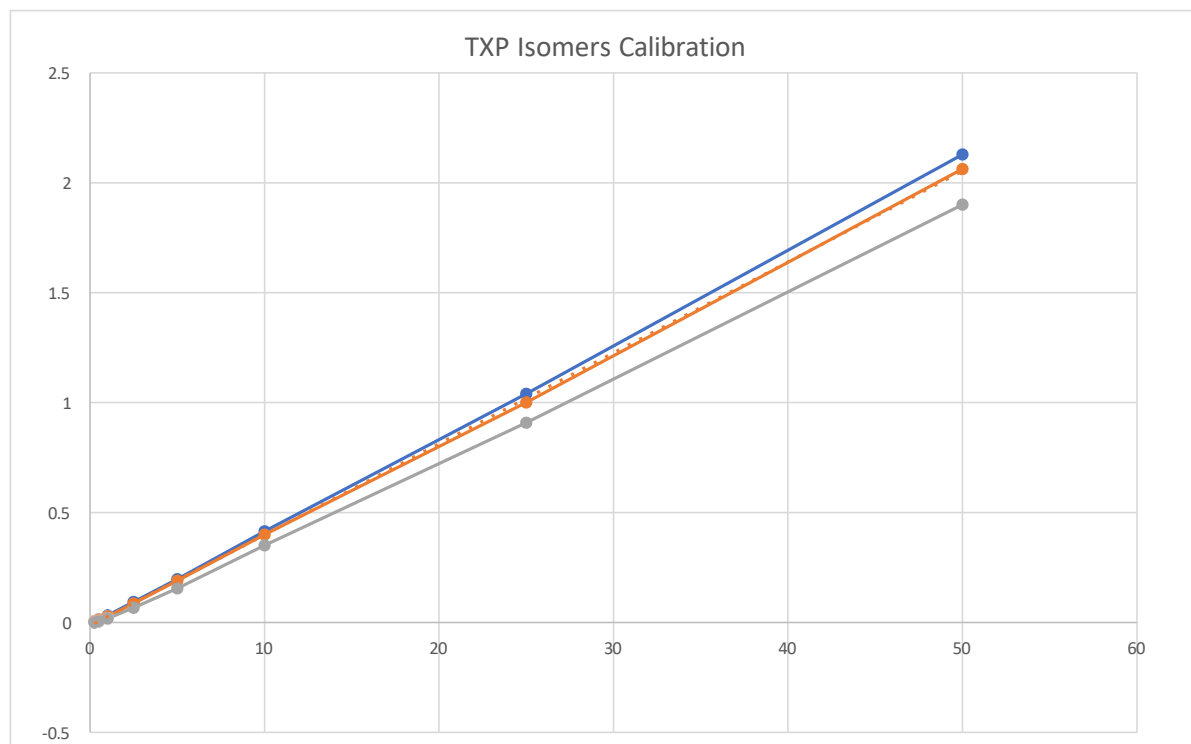
25 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.792	T	0.048	421326477	47.695	47.89
2	Tris(2,5-dimethylphenyl) phosphate	48.428	T	0.048	405359671	48.334	48.553
3	Tris(2,4-dimethylphenyl) phosphate	50.000	M	0.048	368202996	49.897	50.061
4	Perylene-d12	50.176	Int. STD	0.068	405207059	50.063	50.341

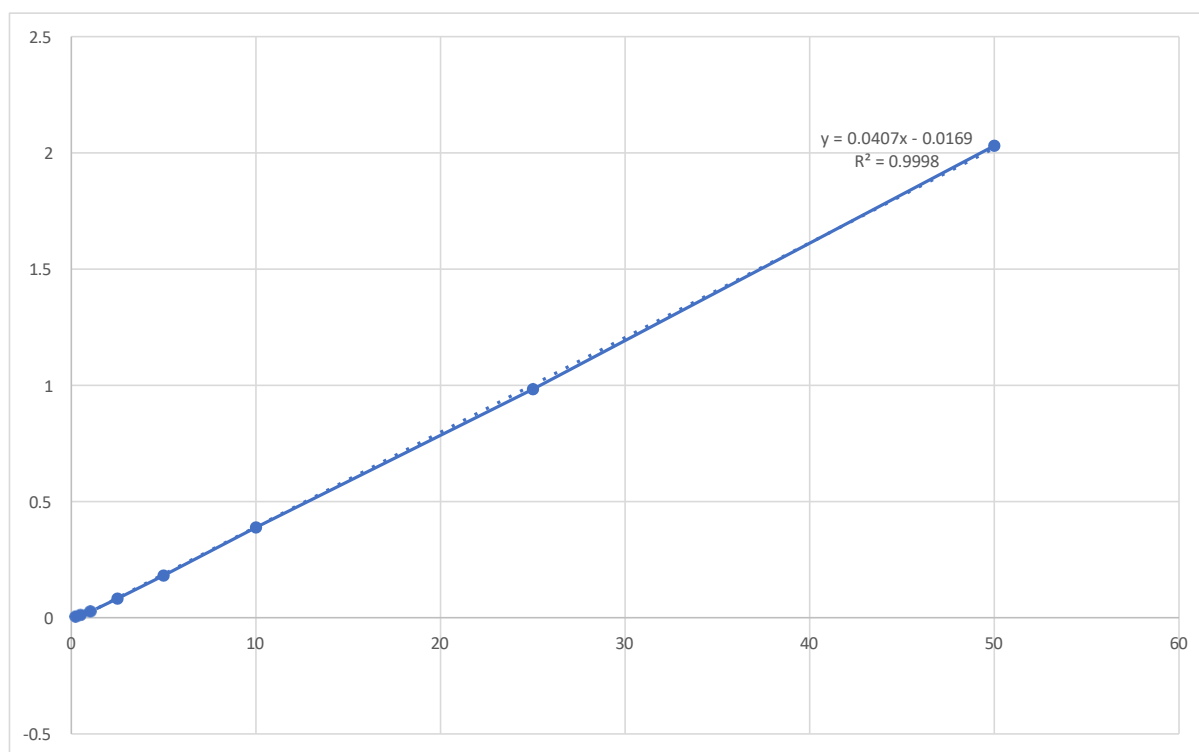
TIC: 2230724_11.D\data.ms

50 ug/mL

Peak #	Compound Name	Ret Time	Type	Width	Area	Start Time	End Time
1	Tris(2,6-dimethylphenyl) phosphate	47.824	T	0.059	848748872	47.698	47.908
2	Tris(2,5-dimethylphenyl) phosphate	48.459	T	0.057	822636080	48.324	48.6
3	Tris(2,4-dimethylphenyl) phosphate	50.032	T	0.06	757808678	49.907	50.074
4	Perylene-d12	50.187	Int. STD	0.068	398773524	50.082	50.311



Conc. µg/mL	Rel. Resp. 2,6-TXP	Rel. Resp. 2,5-TXP	Rel. Resp. 2,4-TXP
0.25	0.00597535	0.00385465	0.00191237
0.5	0.01449807	0.01132257	0.00657536
1	0.0317846	0.0262925	0.0174677
2.5	0.09284018	0.08603453	0.06676697
5	0.19742526	0.19049138	0.15533054
10	0.41513399	0.39946793	0.35075282
25	1.03978069	1.00037663	0.90867863
50	2.12839825	2.06291549	1.90034852



Conc. µg/mL	TXP Average Rel. Resp.
0.25	0.00391412
0.5	0.01079866
1	0.0251816
2.5	0.08188056
5	0.18108239
10	0.38845158
25	0.98294532
50	2.03055409

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard. Results based on calibration curve from tri-o-cresyl phosphate.

<i>ng</i> = nanogram	<i>BDL</i> = Below Detection Limit	<i>Surr</i> = Surrogate Compound
<i>ppbv</i> = parts per billion volume	<i>N/A</i> = Not Applicable	<i>Int. Std</i> = Internal Standard
<i>ug/m3</i> = micrograms per cubic meter	<i>ND</i> = Not detected. Qualitative analysis only	<i>T</i> = Target Analyte
<i>ug/Kg</i> = micrograms per kilogram	<i>TIC</i> = Tentatively Identified Compound	

Qualifiers

c = Sample RPD failure

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R = Analyte %REC Failure

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TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist



Authorized Signature: _____
Laboratory Technical Manager - Joe Sears, Ph.D.

Date: 10/4/2023

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2710 North 20th Avenue, Pasco WA 99301

Tel: (509) 792-1955

Tri-Xylyl Phosphoric Acid Ester Isomers Results

Kansas State University
245 Levee Drive
Manhattan, KS 66502
Dr. Byron Jones
785-532-5620

**Report Includes Only Those Samples That Had Measurable Levels of the Tri-Xylyl
Phosphate and C6-Tri-phenyl Phosphate Isomers**

RJ Lee Group Job No.: W305169
Samples Received: 5/24/2022
Analysis/Prep Date: 7/24/23-7/27/23
Report Date: 10/4/2023
Client Project: Air Sampling
COC No.: 2022004-20-FA-1

Sample ID		File Name	Analyte	Ret. Time	Peak Area	IS Area	Inst.		Sample Vol	Final Result µg/m3
CBAL Name	Customer						Result µg/mL	Rel Resp.		
ICV	N/A	2230724_12	C6-Tri-phenyl phosphate (I-1)	45.803	0	373037733	0.000000	0.00	2000	0.000
ICV	N/A	2230724_12	C6-Tri-phenyl phosphate (I-2)	46.762	0	373037733	0.000000	0.00	2000	0.000
ICV	N/A	2230724_12	C6-Tri-phenyl phosphate (I-3)	47.23	0	373037733	0.000000	0.00	2000	0.000
ICV	N/A	2230724_12	Tris(2,6-dimethylphenyl) phosphate	47.792	401680688	373037733	1.076783	26.87	2000	13.436
ICV	N/A	2230724_12	Tris(2,5-dimethylphenyl) phosphate	48.426	385724670	373037733	1.034010	25.82	2000	12.910
ICV	N/A	2230724_12	C6-Tri-phenyl phosphate (I-4)	48.717	0	373037733	0.000000	0.00	2000	0.000
ICV	N/A	2230724_12	Tris(2,4-dimethylphenyl) phosphate	49.998	349450111	373037733	0.936769	23.43	2000	11.716
ICV	N/A	2230724_12	C6-Tri-phenyl phosphate (I-5)	50.59	0	373037733	0.000000	0.00	2000	0.000
CCV1	N/A	2230724_14	C6-Tri-phenyl phosphate (I-1)	45.803	0	390119938	0.000000	0.00	2000	0.000
CCV1	N/A	2230724_14	C6-Tri-phenyl phosphate (I-2)	46.762	0	390119938	0.000000	0.00	2000	0.000
CCV1	N/A	2230724_14	C6-Tri-phenyl phosphate (I-3)	47.23	0	390119938	0.000000	0.00	2000	0.000
CCV1	N/A	2230724_14	Tris(2,6-dimethylphenyl) phosphate	47.789	405679831	390119938	1.039885	25.97	2000	12.983
CCV1	N/A	2230724_14	Tris(2,5-dimethylphenyl) phosphate	48.426	388386349	390119938	0.995556	24.88	2000	12.438
CCV1	N/A	2230724_14	C6-Tri-phenyl phosphate (I-4)	48.717	0	390119938	0.000000	0.00	2000	0.000
CCV1	N/A	2230724_14	Tris(2,4-dimethylphenyl) phosphate	49.996	349170584	390119938	0.895034	22.41	2000	11.203
CCV1	N/A	2230724_14	C6-Tri-phenyl phosphate (I-5)	50.59	0	390119938	0.000000	0.00	2000	0.000
RL-0.25 ug/mL	N/A	2230724_15	C6-Tri-phenyl phosphate (I-1)	45.803	0	375234925	0.000000	0.00	2000	0.000
RL-0.25 ug/mL	N/A	2230724_15	C6-Tri-phenyl phosphate (I-2)	46.762	0	375234925	0.000000	0.00	2000	0.000
RL-0.25 ug/mL	N/A	2230724_15	C6-Tri-phenyl phosphate (I-3)	47.23	0	375234925	0.000000	0.00	2000	0.000
RL-0.25 ug/mL	N/A	2230724_15	Tris(2,6-dimethylphenyl) phosphate	47.768	2115784	375234925	0.005193	0.54	2000	0.271
RL-0.25 ug/mL	N/A	2230724_15	Tris(2,5-dimethylphenyl) phosphate	48.401	1198348	375234925	0.003061	0.49	2000	0.245
RL-0.25 ug/mL	N/A	2230724_15	C6-Tri-phenyl phosphate (I-4)	48.717	0	375234925	0.000000	0.00	2000	0.000
RL-0.25 ug/mL	N/A	2230724_15	Tris(2,4-dimethylphenyl) phosphate	49.978	586737	375234925	0.001600	0.45	2000	0.227
RL-0.25 ug/mL	N/A	2230724_15	C6-Tri-phenyl phosphate (I-5)	50.59	0	375234925	0.000000	0.00	2000	0.000
RL-0.50 ug/mL	N/A	2230724_16	C6-Tri-phenyl phosphate (I-1)	45.803	0	344439715	0.000000	0.00	2000	0.000
RL-0.50 ug/mL	N/A	2230724_16	C6-Tri-phenyl phosphate (I-2)	46.762	0	344439715	0.000000	0.00	2000	0.000
RL-0.50 ug/mL	N/A	2230724_16	C6-Tri-phenyl phosphate (I-3)	47.23	0	344439715	0.000000	0.00	2000	0.000
RL-0.50 ug/mL	N/A	2230724_16	Tris(2,6-dimethylphenyl) phosphate	47.792	4299905	344439715	0.012484	0.72	2000	0.361
RL-0.50 ug/mL	N/A	2230724_16	Tris(2,5-dimethylphenyl) phosphate	48.426	2843182	344439715	0.008255	0.62	2000	0.309
RL-0.50 ug/mL	N/A	2230724_16	C6-Tri-phenyl phosphate (I-4)	48.717	0	344439715	0.000000	0.00	2000	0.000
RL-0.50 ug/mL	N/A	2230724_16	Tris(2,4-dimethylphenyl) phosphate	49.998	1398020	344439715	0.004059	0.51	2000	0.257
RL-0.50 ug/mL	N/A	2230724_16	C6-Tri-phenyl phosphate (I-5)	50.59	0	344439715	0.000000	0.00	2000	0.000
BG30075-BS1	N/A	2230724_18	C6-Tri-phenyl phosphate (I-1)	45.803	0	479586711	0.000000	0.00	2000	0.000
BG30075-BS1	N/A	2230724_18	C6-Tri-phenyl phosphate (I-2)	46.762	0	479586711	0.000000	0.00	2000	0.000
BG30075-BS1	N/A	2230724_18	C6-Tri-phenyl phosphate (I-3)	47.23	0	479586711	0.000000	0.00	2000	0.000
BG30075-BS1	N/A	2230724_18	Tris(2,6-dimethylphenyl) phosphate	47.799	529666946	479586711	1.104424	27.55	2000	13.775
BG30075-BS1	N/A	2230724_18	Tris(2,5-dimethylphenyl) phosphate	48.434	520010313	479586711	1.084288	27.06	2000	13.528
BG30075-BS1	N/A	2230724_18	C6-Tri-phenyl phosphate (I-4)	48.717	0	479586711	0.000000	0.00	2000	0.000
BG30075-BS1	N/A	2230724_18	Tris(2,4-dimethylphenyl) phosphate	50.01	478817286	479586711	0.998396	24.95	2000	12.473
BG30075-BS1	N/A	2230724_18	C6-Tri-phenyl phosphate (I-5)	50.59	0	479586711	0.000000	0.00	2000	0.000

Sample ID		File		Ret. Time	Peak Area	IS Area	Inst. Result		Sample Vol	Final Result
CBAL Name	Customer	Name	Analyte				Rel	Resp.		
BG30075-BS01	N/A	2230724_19	C6-Tri-phenyl phosphate (I-1)	45.803	0	486777441	0.000000	0.00	2000	0.000
BG30075-BS01	N/A	2230724_19	C6-Tri-phenyl phosphate (I-2)	46.762	0	486777441	0.000000	0.00	2000	0.000
BG30075-BS01	N/A	2230724_19	C6-Tri-phenyl phosphate (I-3)	47.23	0	486777441	0.000000	0.00	2000	0.000
BG30075-BS01	N/A	2230724_19	Tris(2,6-dimethylphenyl) phosphate	47.8	526034573	486777441	1.080647	26.97	2000	13.483
BG30075-BS01	N/A	2230724_19	Tris(2,5-dimethylphenyl) phosphate	48.436	517367780	486777441	1.062843	26.53	2000	13.265
BG30075-BS01	N/A	2230724_19	C6-Tri-phenyl phosphate (I-4)	48.717	0	486777441	0.000000	0.00	2000	0.000
BG30075-BS01	N/A	2230724_19	Tris(2,4-dimethylphenyl) phosphate	50.009	478374792	486777441	0.982738	24.56	2000	12.281
BG30075-BS01	N/A	2230724_19	C6-Tri-phenyl phosphate (I-5)	50.59	0	486777441	0.000000	0.00	2000	0.000
BG30075-MRL1	N/A	2230724_20	C6-Tri-phenyl phosphate (I-1)	45.803	0	440448773	0.000000	0.00	2000	0.000
BG30075-MRL1	N/A	2230724_20	C6-Tri-phenyl phosphate (I-2)	46.762	0	440448773	0.000000	0.00	2000	0.000
BG30075-MRL1	N/A	2230724_20	C6-Tri-phenyl phosphate (I-3)	47.23	0	440448773	0.000000	0.00	2000	0.000
BG30075-MRL1	N/A	2230724_20	Tris(2,6-dimethylphenyl) phosphate	47.754	9307609	440448773	0.021132	0.93	2000	0.467
BG30075-MRL1	N/A	2230724_20	Tris(2,5-dimethylphenyl) phosphate	48.39	8431515	440448773	0.019143	0.89	2000	0.443
BG30075-MRL1	N/A	2230724_20	C6-Tri-phenyl phosphate (I-4)	48.717	0	440448773	0.000000	0.00	2000	0.000
BG30075-MRL1	N/A	2230724_20	Tris(2,4-dimethylphenyl) phosphate	49.962	7208013	440448773	0.016365	0.82	2000	0.409
BG30075-MRL1	N/A	2230724_20	C6-Tri-phenyl phosphate (I-5)	50.59	0	440448773	0.000000	0.00	2000	0.000
BG30075-MRL2	N/A	2230724_21	C6-Tri-phenyl phosphate (I-1)	45.803	0	483016526	0.000000	0.00	2000	0.000
BG30075-MRL2	N/A	2230724_21	C6-Tri-phenyl phosphate (I-2)	46.762	0	483016526	0.000000	0.00	2000	0.000
BG30075-MRL2	N/A	2230724_21	C6-Tri-phenyl phosphate (I-3)	47.23	0	483016526	0.000000	0.00	2000	0.000
BG30075-MRL2	N/A	2230724_21	Tris(2,6-dimethylphenyl) phosphate	47.755	5568847	483016526	0.011529	0.70	2000	0.349
BG30075-MRL2	N/A	2230724_21	Tris(2,5-dimethylphenyl) phosphate	48.39	5121926	483016526	0.010604	0.68	2000	0.338
BG30075-MRL2	N/A	2230724_21	C6-Tri-phenyl phosphate (I-4)	48.717	0	483016526	0.000000	0.00	2000	0.000
BG30075-MRL2	N/A	2230724_21	Tris(2,4-dimethylphenyl) phosphate	49.962	4459850	483016526	0.009233	0.64	2000	0.321
BG30075-MRL2	N/A	2230724_21	C6-Tri-phenyl phosphate (I-5)	50.59	0	483016526	0.000000	0.00	2000	0.000
CCV2	N/A	2230724_25	C6-Tri-phenyl phosphate (I-1)	45.803	0	413354604	0.000000	0.00	2000	0.000
CCV2	N/A	2230724_25	C6-Tri-phenyl phosphate (I-2)	46.762	0	413354604	0.000000	0.00	2000	0.000
CCV2	N/A	2230724_25	C6-Tri-phenyl phosphate (I-3)	47.23	0	413354604	0.000000	0.00	2000	0.000
CCV2	N/A	2230724_25	Tris(2,6-dimethylphenyl) phosphate	47.791	429276091	413354604	1.038518	25.93	2000	12.966
CCV2	N/A	2230724_25	Tris(2,5-dimethylphenyl) phosphate	48.427	417879808	413354604	1.010948	25.25	2000	12.627
CCV2	N/A	2230724_25	C6-Tri-phenyl phosphate (I-4)	48.717	0	413354604	0.000000	0.00	2000	0.000
CCV2	N/A	2230724_25	Tris(2,4-dimethylphenyl) phosphate	49.999	380113805	413354604	0.919583	23.01	2000	11.505
CCV2	N/A	2230724_25	C6-Tri-phenyl phosphate (I-5)	50.59	0	413354604	0.000000	0.00	2000	0.000
CCV3	N/A	2230724_38	C6-Tri-phenyl phosphate (I-1)	45.803	0	416322580	0.000000	0.00	2000	0.000
CCV3	N/A	2230724_38	C6-Tri-phenyl phosphate (I-2)	46.762	0	416322580	0.000000	0.00	2000	0.000
CCV3	N/A	2230724_38	C6-Tri-phenyl phosphate (I-3)	47.23	0	416322580	0.000000	0.00	2000	0.000
CCV3	N/A	2230724_38	Tris(2,6-dimethylphenyl) phosphate	47.788	431802070	416322580	1.037181	25.90	2000	12.949
CCV3	N/A	2230724_38	Tris(2,5-dimethylphenyl) phosphate	48.423	422700414	416322580	1.015319	25.36	2000	12.681
CCV3	N/A	2230724_38	C6-Tri-phenyl phosphate (I-4)	48.717	0	416322580	0.000000	0.00	2000	0.000
CCV3	N/A	2230724_38	Tris(2,4-dimethylphenyl) phosphate	49.996	389516546	416322580	0.935612	23.40	2000	11.702
CCV3	N/A	2230724_38	C6-Tri-phenyl phosphate (I-5)	50.59	0	416322580	0.000000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	C6-Tri-phenyl phosphate (I-1)	45.803	0	440271440	0.000000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	C6-Tri-phenyl phosphate (I-2)	46.762	0	440271440	0.000000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	C6-Tri-phenyl phosphate (I-3)	47.23	0	440271440	0.000000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	Tris(2,6-dimethylphenyl) phosphate	47.795	495116549	440271440	1.124571	28.05	2000	14.023
BG30075-BS2	N/A	2230724_49	Tris(2,5-dimethylphenyl) phosphate	48.429	486822813	440271440	1.105733	27.58	2000	13.792
BG30075-BS2	N/A	2230724_49	C6-Tri-phenyl phosphate (I-4)	48.717	0	440271440	0.000000	0.00	2000	0.000
BG30075-BS2	N/A	2230724_49	Tris(2,4-dimethylphenyl) phosphate	50.001	452565313	440271440	1.027923	25.67	2000	12.836
BG30075-BS2	N/A	2230724_49	C6-Tri-phenyl phosphate (I-5)	50.59	0	440271440	0.000000	0.00	2000	0.000

CBAL Name	Sample ID		File Name	Analyte	Ret. Time	Peak Area	IS Area			Inst. Result µg/mL	Sample Vol	Final Result µg/m3
	Customer							Rel	Resp.			
BG30075-BS02	N/A		2230724_50	C6-Tri-phenyl phosphate (I-1)	45.803	0	405982154	0.000000		0.00	2000	0.000
BG30075-BS02	N/A		2230724_50	C6-Tri-phenyl phosphate (I-2)	46.762	0	405982154	0.000000		0.00	2000	0.000
BG30075-BS02	N/A		2230724_50	C6-Tri-phenyl phosphate (I-3)	47.23	0	405982154	0.000000		0.00	2000	0.000
BG30075-BS02	N/A		2230724_50	Tris(2,6-dimethylphenyl) phosphate	47.79	459877657	405982154	1.132753		28.25	2000	14.124
BG30075-BS02	N/A		2230724_50	Tris(2,5-dimethylphenyl) phosphate	48.426	453307695	405982154	1.116570		27.85	2000	13.925
BG30075-BS02	N/A		2230724_50	C6-Tri-phenyl phosphate (I-4)	48.717	0	405982154	0.000000		0.00	2000	0.000
BG30075-BS02	N/A		2230724_50	Tris(2,4-dimethylphenyl) phosphate	49.999	415788648	405982154	1.024155		25.58	2000	12.789
BG30075-BS02	N/A		2230724_50	C6-Tri-phenyl phosphate (I-5)	50.59	0	405982154	0.000000		0.00	2000	0.000
BG30075-MRL2	N/A		2230724_51	C6-Tri-phenyl phosphate (I-1)	45.803	0	474448659	0.000000		0.00	2000	0.000
BG30075-MRL2	N/A		2230724_51	C6-Tri-phenyl phosphate (I-2)	46.762	0	474448659	0.000000		0.00	2000	0.000
BG30075-MRL2	N/A		2230724_51	C6-Tri-phenyl phosphate (I-3)	47.23	0	474448659	0.000000		0.00	2000	0.000
BG30075-MRL2	N/A		2230724_51	Tris(2,6-dimethylphenyl) phosphate	47.752	9733548	474448659	0.020515		0.92	2000	0.460
BG30075-MRL2	N/A		2230724_51	Tris(2,5-dimethylphenyl) phosphate	48.388	8954906	474448659	0.018874		0.88	2000	0.439
BG30075-MRL2	N/A		2230724_51	C6-Tri-phenyl phosphate (I-4)	48.717	0	474448659	0.000000		0.00	2000	0.000
BG30075-MRL2	N/A		2230724_51	Tris(2,4-dimethylphenyl) phosphate	49.96	8053573	474448659	0.016975		0.83	2000	0.416
BG30075-MRL2	N/A		2230724_51	C6-Tri-phenyl phosphate (I-5)	50.59	0	474448659	0.000000		0.00	2000	0.000
BG30075-LOD2	N/A		2230724_52	C6-Tri-phenyl phosphate (I-1)	45.803	0	454388757	0.000000		0.00	2000	0.000
BG30075-LOD2	N/A		2230724_52	C6-Tri-phenyl phosphate (I-2)	46.762	0	454388757	0.000000		0.00	2000	0.000
BG30075-LOD2	N/A		2230724_52	C6-Tri-phenyl phosphate (I-3)	47.23	0	454388757	0.000000		0.00	2000	0.000
BG30075-LOD2	N/A		2230724_52	Tris(2,6-dimethylphenyl) phosphate	47.753	5513433	454388757	0.012134		0.71	2000	0.357
BG30075-LOD2	N/A		2230724_52	Tris(2,5-dimethylphenyl) phosphate	48.389	4616621	454388757	0.010160		0.66	2000	0.332
BG30075-LOD2	N/A		2230724_52	C6-Tri-phenyl phosphate (I-4)	48.717	0	454388757	0.000000		0.00	2000	0.000
BG30075-LOD2	N/A		2230724_52	Tris(2,4-dimethylphenyl) phosphate	49.962	4107469	454388757	0.009040		0.64	2000	0.319
BG30075-LOD2	N/A		2230724_52	C6-Tri-phenyl phosphate (I-5)	50.59	0	454388757	0.000000		0.00	2000	0.000
CCV4	N/A		2230724_55	C6-Tri-phenyl phosphate (I-1)	45.803	0	410897009	0.000000		0.00	2000	0.000
CCV4	N/A		2230724_55	C6-Tri-phenyl phosphate (I-2)	46.762	0	410897009	0.000000		0.00	2000	0.000
CCV4	N/A		2230724_55	C6-Tri-phenyl phosphate (I-3)	47.23	0	410897009	0.000000		0.00	2000	0.000
CCV4	N/A		2230724_55	Tris(2,6-dimethylphenyl) phosphate	47.788	422822381	410897009	1.029023		25.70	2000	12.849
CCV4	N/A		2230724_55	Tris(2,5-dimethylphenyl) phosphate	48.423	411072355	410897009	1.000427		25.00	2000	12.498
CCV4	N/A		2230724_55	C6-Tri-phenyl phosphate (I-4)	48.717	0	410897009	0.000000		0.00	2000	0.000
CCV4	N/A		2230724_55	Tris(2,4-dimethylphenyl) phosphate	49.996	374813093	410897009	0.912183		22.83	2000	11.414
CCV4	N/A		2230724_55	C6-Tri-phenyl phosphate (I-5)	50.59	0	410897009	0.000000		0.00	2000	0.000
CCV5	N/A		2230724_68	C6-Tri-phenyl phosphate (I-1)	45.803	0	395650300	0.000000		0.00	2000	0.000
CCV5	N/A		2230724_68	C6-Tri-phenyl phosphate (I-2)	46.762	0	395650300	0.000000		0.00	2000	0.000
CCV5	N/A		2230724_68	C6-Tri-phenyl phosphate (I-3)	47.23	0	395650300	0.000000		0.00	2000	0.000
CCV5	N/A		2230724_68	Tris(2,6-dimethylphenyl) phosphate	47.785	421946251	395650300	1.066463		26.62	2000	13.309
CCV5	N/A		2230724_68	Tris(2,5-dimethylphenyl) phosphate	48.421	409658843	395650300	1.035406		25.86	2000	12.928
CCV5	N/A		2230724_68	C6-Tri-phenyl phosphate (I-4)	48.717	0	395650300	0.000000		0.00	2000	0.000
CCV5	N/A		2230724_68	Tris(2,4-dimethylphenyl) phosphate	49.993	371880979	395650300	0.939923		23.51	2000	11.755
CCV5	N/A		2230724_68	C6-Tri-phenyl phosphate (I-5)	50.59	0	395650300	0.000000		0.00	2000	0.000
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	C6-Tri-phenyl phosphate (I-1)	45.803	824484753	368620336	2.236677		55.37	5068	10.926
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	C6-Tri-phenyl phosphate (I-2)	46.762	1249927811	368620336	3.390827		83.73	5068	16.521
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	C6-Tri-phenyl phosphate (I-3)	47.23	117840926	368620336	0.319681		8.27	5068	1.632
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	Tris(2,6-dimethylphenyl) phosphate	47.754	748902537	368620336	2.031637		50.33	5068	9.931
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	Tris(2,5-dimethylphenyl) phosphate	48.422	0	368620336	0.000000		0.42	5068	0.082
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	C6-Tri-phenyl phosphate (I-4)	48.72	673211196	368620336	1.826300		45.29	5068	8.936
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	Tris(2,4-dimethylphenyl) phosphate	49.997	0	368620336	0.000000		0.42	5068	0.082
W305169-37	Skydrol - 220C - 5ppmw - Ozone I		2230724_77	C6-Tri-phenyl phosphate (I-5)	50.648	185730779	368620336	0.503854		12.79	5068	2.525

CBAL Name	Sample ID Customer	File Name	Analyte	Ret. Time	Peak Area	IS Area	Rel	Resp.	Inst. Result µg/mL	Sample Vol	Final Result µg/m3
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	C6-Tri-phenyl phosphate (I-1)	45.754	184558010	330067869	0.559152		14.15	4892	2.893
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	C6-Tri-phenyl phosphate (I-2)	46.714	400854999	330067869	1.214462		30.25	4892	6.185
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	C6-Tri-phenyl phosphate (I-3)	47.207	170526637	330067869	0.516641		13.11	4892	2.680
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	Tris(2,6-dimethylphenyl) phosphate	47.727	1426132177	330067869	0.029429		1.14	4892	0.233
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	Tris(2,5-dimethylphenyl) phosphate	48.422	0	330067869	0.002745		0.48	4892	0.099
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	C6-Tri-phenyl phosphate (I-4)	48.719	428610324	330067869	0.001910		0.46	4892	0.094
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	Tris(2,4-dimethylphenyl) phosphate	49.997	0	330067869	0.004619		0.53	4892	0.108
W305169-38	Skydrol - 220C - 5ppmw - Ozone	2230724_78	C6-Tri-phenyl phosphate (I-5)	50.59	292934196	330067869	0.001578		0.45	4892	0.093
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	C6-Tri-phenyl phosphate (I-1)	45.754	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	C6-Tri-phenyl phosphate (I-2)	46.714	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	C6-Tri-phenyl phosphate (I-3)	47.313	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	Tris(2,6-dimethylphenyl) phosphate	47.727	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	Tris(2,5-dimethylphenyl) phosphate	48.422	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	C6-Tri-phenyl phosphate (I-4)	48.719	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	Tris(2,4-dimethylphenyl) phosphate	49.997	0	336313879	0.000000		0.00	3000	0.000
W305169-39	Skydrol - 220C - 5ppmw - Coalesec	2230724_79	C6-Tri-phenyl phosphate (I-5)	50.67	0	336313879	0.000000		0.00	3000	0.000
CCV6	N/A	2230724_80	C6-Tri-phenyl phosphate (I-1)	45.754	0	412712983	0.000000		0.00	2000	0.000
CCV6	N/A	2230724_80	C6-Tri-phenyl phosphate (I-2)	46.714	0	412712983	0.000000		0.00	2000	0.000
CCV6	N/A	2230724_80	C6-Tri-phenyl phosphate (I-3)	47.313	0	412712983	0.000000		0.00	2000	0.000
CCV6	N/A	2230724_80	Tris(2,6-dimethylphenyl) phosphate	47.786	436573584	412712983	1.057814		26.41	2000	13.203
CCV6	N/A	2230724_80	Tris(2,5-dimethylphenyl) phosphate	48.422	425200576	412712983	1.030257		25.73	2000	12.864
CCV6	N/A	2230724_80	C6-Tri-phenyl phosphate (I-4)	48.719	0	412712983	0.000000		0.00	2000	0.000
CCV6	N/A	2230724_80	Tris(2,4-dimethylphenyl) phosphate	49.997	390561405	412712983	0.946327		23.67	2000	11.833
CCV6	N/A	2230724_80	C6-Tri-phenyl phosphate (I-5)	50.67	0	412712983	0.000000		0.00	2000	0.000

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard. Results based on calibration curve from tri-o-cresyl phosphate.

ng = nanogram

BDL = Below Detection Limit

Surr = Surrogate Compound

ppbv = parts per billion volume

N/A = Not Applicable

Int. Std = Internal Standard

ug/m3 = micrograms per cubic meter

ND = Not detected. Qualitative analysis only

T = Target Analyte

µg/Kg = micrograms per kilogram

TIC = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

N = Identification based on mass spectral library search

r = %REC failure in the MRL

P = Library spectrum match, rsd >90% w RT match

p = Positively identified compound, for non-calibrated compounds

Q = Qualitative results for non detects

B = Compound found in associated laboratory blank above the MDL

R = Analyte %REC Failure

D = Diluted sample

S = Surrogate recovery failure

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

J = Reported concentration was estimated

X = Detected but not quantifiable

Authorized Signature:



Date:

10/4/2023

Laboratory Technical Manager - Joe Sears, Ph.D.

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C9 & C12 Tri-Phenyl Phosphoric Acid Ester Isomers Results

Kansas State University
245 Levee Drive
Manhattan, KS 66502
Dr. Byron Jones
785-532-5620

Report Includes Only Those Samples That Had Measurable Levels of the C9-Tri-Phenyl Phosphate and C12-Tri-phenyl Phosphate Isomers

RJ Lee Group Job No.: W305169
Samples Received: 5/24/2022
Analysis/Prep Date: 7/24/23-7/27/23
Report Date: 10/4/2023
Client Project: Air Sampling
COC No.: 2022004-20-FA-1

Sample ID					Ret.	Peak	IS			Inst.		Final
CBAL Name	Customer	File	Name	Analyte	Time	Area	Area	Rel	Resp.	Result µg/mL	Sample Vol	Result µg/m3
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 1		47.348	728453149	368855236	1.974903		48.93	5068	9.654
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 2		48.312	144793462	368855236	0.392548		10.05	5068	1.983
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 3		48.796	221920611	368855236	0.601647		15.19	5068	2.997
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 4		49.295	488139856	368855236	1.323391		32.92	5068	6.496
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 5		51.139	77109123	368855236	0.209050		5.54	5068	1.093
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TPP-Isomer 6		52.055	16436338	368855236	0.044560		1.50	5068	0.296
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 1		47.324	406347772	356002247	1.141419		28.45	4892	5.816
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 2		48.296	110966211	356002247	0.311701		8.06	4892	1.648
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 3		48.896	148511496	356002247	0.417164		10.66	4892	2.178
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 4		49.318	793141066	356002247	2.227910		55.15	4892	11.273
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 5		51.168	255801924	356002247	0.718540		18.06	4892	3.692
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_78	TPP-Isomer 6		52.071	56425591	356002247	0.158498		4.30	4892	0.879
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TBP-Isomer 1		48.805	93945275	368855236	0.254694		6.66	5068	1.315
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TBP-Isomer 2		49.666	68509024	368855236	0.185734		4.97	5068	0.980
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TBP-Isomer 3		50.648	140351343	368855236	0.380505		9.75	5068	1.925
W305169-37	Skydrol - 220C - 5ppmw - Ozone In (37)	2230724_77	TBP-Isomer 4		51.573	20861085	368855236	0.056556		1.79	5068	0.354
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_15	TBP-Isomer 1		48.805	380091944	356002247	1.067667		26.64	4892	5.445
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_15	TBP-Isomer 2		49.681	189316015	356002247	0.531783		13.47	4892	2.754
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_15	TBP-Isomer 3		50.67	432580508	356002247	1.215106		30.26	4892	6.186
W305169-38	Skydrol - 220C - 5ppmw - Ozone Out (38)	2230724_15	TBP-Isomer 4		51.583	73567269	356002247	0.206648		5.48	4892	1.121

*Comments: Samples and RLs have been adjusted for analysis volumes and dilution factors, where appropriate. Tentatively Identified Compound concentrations are based on the total ion current response with respect to the nearest internal standard. Results based on calibration curve from tri-o-cresyl phosphate.

ng = nanogram*ppbv* = parts per billion volume*ug/m3* = micrograms per cubic meter*µg/Kg* = micrograms per kilogram*BDL* = Below Detection Limit*N/A* = Not Applicable*ND* = Not detected. Qualitative analysis only*Surr* = Surrogate Compound*Int. Std* = Internal Standard*T* = Target Analyte*TIC* = Tentatively Identified Compound

Qualifiers

c = Sample RPD failure

r = %REC failure in the MRL

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL

D = Diluted sample

E = Report concentration was above the instrumental calibration range

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

X = Detected but not quantifiable

N = Identification based on mass spectral library search

P = Library spectrum match, rsd >90% w RT match

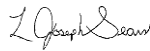
Q = Qualitative results for non detects

R = Analyte %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns.

Authorized Signature:



Date:

10/4/2023

Laboratory Technical Manager - Joe Sears, Ph.D.

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QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

 2710 North 20th Avenue, Pasco WA 99301
 Tel: (509) 792-1955

 Kansas State University
 245 Levee Drive
 Manhattan, KS 66502
 Dr. Byron Jones
 785-532-5620

QC Report for Samples W305169-01 - W305169-20

 RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV1	11.746	86395838	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV1	13.899	77430314	25.0	24.0	96.0	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV1	16.835	204590222	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV1	24.785	100157955	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV1	21.905	136237858	25.0	25.1	100	70-130		
Triisobutyl phosphate	126-71-6	T	CCV1	25.520	174135514	25.0	26.2	105	70-130		
Tributyl phosphate	126-73-8	T	CCV1	28.637	217541723	25.0	26.7	107	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV1	31.643	159006849	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV1	31.160	37349056	25.0	24.6	98.5	70-130		
Pyrene-d10	1718-52-1	Surr	CCV1	38.191	147237175	25.0	25.1	100	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV1	44.014	119319093	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV1	39.439	135563681	25.0	25.2	101	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV1	41.639	39802218	25.0	24.7	98.8	70-130		
Triphenyl phosphate	115-86-6	T	CCV1	42.882	28916354	25.0	25.0	100.0	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV1	42.999	25925707	25.0	24.5	98.0	70-130		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV1	43.303	84325925	25.0	25.3	101	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV1	43.847	216685865	25.0	27.8	111	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV1	45.704	45237468	25.0	24.9	99.5	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV1	46.729	28139591	25.0	25.0	100.0	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV1	50.175	123446302	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV1	47.792	38007251	25.0	24.8	99.0	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV1	48.096	29528268	25.0	24.9	99.7	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV1	48.428	47259246	25.0	24.5	97.8	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV1	49.998	35774589	25.0	25.0	100	70-130		

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-SI	11.742	94529292	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-SI	13.900	85003271	25.0	24.1	96.4	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-SI	16.836	223535237	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-SI	24.788	111320174	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-SI	21.906	152957289	25.0	25.4	101	70-130		
Triisobutyl phosphate	126-71-6	T	CB-SI					-	-		
Tributyl phosphate	126-73-8	T	CB-SI					-	-		
Phenanthrene-d10	1517-22-2	Int. Std	CB-SI	31.647	178613160	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-SI					-	-		
Pyrene-d10	1718-52-1	Surr	CB-SI	38.198	166930195	25.0	25.3	101	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-SI	44.017	137335059	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-SI	39.446	155032539	25.0	25.0	100	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-SI					-	-		
Triphenyl phosphate	115-86-6	T	CB-SI					-	-		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-SI					-	-		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-SI					-	-		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-SI					-	-		
Tri-o-cresyl phosphate	78-30-8	T	CB-SI					-	-		
Tri-m-cresyl phosphate	563-04-2	T	CB-SI					-	-		
Perylene-d12	1520-96-3	Int. Std	CB-SI	50.176	140921932	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-SI					-	-		
Tri-p-cresyl phosphate	78-32-0	T	CB-SI					-	-		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-SI					-	-		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-SI					-	-		

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RJ Lee Group Project:	W305169
Samples Received:	5/24/2022
Analysis Date:	7/24/2023
Report Date:	10/4/2023
Sampling Date:	
Purchase Order No.:	2022004-20-FAA-1
Client Project:	Air Sampling

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	RL1	11.741	81052064	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	RL1	13.918	589010	0.250	0.300	120	60-140		
Naphthalene-d8	1146-65-2	Int. Std	RL1	16.831	194491086	25.0	25.0	100	60-140		
Acenaphthene-d10	15067-26-2	Int. Std	RL1	24.786	96309775	25.0	25.0	100	60-140		
2-Fluorobiphenyl	321-60-8	Surr	RL1	21.923	1234292	0.250	0.270	108	60-140		
Triisobutyl phosphate	126-71-6	T	RL1	25.760	701010	0.250	0.230	92.0	60-140		
Tributyl phosphate	126-73-8	T	RL1	28.877	531544	0.250	0.260	104	60-140		
Phenanthrene-d10	1517-22-2	Int. Std	RL1	31.640	152615199	25.0	25.0	100	60-140		
Tris(2-chloroethyl) phosphate	115-96-8	T	RL1	31.404	77038	0.250	0.340	136	60-140		
Pyrene-d10	1718-52-1	Surr	RL1	38.240	1090603	0.250	0.250	100	60-140		
Chrysene-d12	1719-03-5	Int. Std	RL1	44.007	115857659	25.0	25.0	100	60-140		
Terphenyl-d14	1718-51-0	Surr	RL1	39.450	994588	0.250	0.250	100	60-140		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	RL1	41.599	70092	0.250	0.380	152	70-130		R
Triphenyl phosphate	115-86-6	T	RL1	42.868	51036	0.250	0.300	120	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	RL1					#VALUE!	60-140		R
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	RL1	43.299	29931	0.250	0.400	160	60-140		R
Tris(2-ethylhexyl) phosphoate	78-42-2	T	RL1	43.848	68196	0.250	0.450	180	60-140		R
Tri-o-cresyl phosphate	78-30-8	T	RL1	45.684	163335	0.250	0.280	112	60-140		
Tri-m-cresyl phosphate	563-04-2	T	RL1	46.717	24607	0.250	0.290	116	60-140		
Perylene-d12	1520-96-3	Int. Std	RL1	50.168	118435367	25.0	25.0	100	60-140		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	RL1	47.769	190640	0.250	0.290	116	60-140		
Tri-p-cresyl phosphate	78-32-0	T	RL1	48.069	22634	0.250	0.340	136	60-140		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	RL1	48.400	140343	0.250	0.300	120	60-140		
Tris(2,4-dimethylphenyl) phosphoate	3862-12-2	T	RL1	49.982	54646	0.250	0.320	128	60-140		
Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BS1	11.746	86395838	25.0	25.0	100	70-130	0.0	
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BS1	13.899	77430314	50.0	50.3	101	70-130	1.5	
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BS1	16.835	204590222	25.0	25.0	100	70-130	0.0	
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BS1	24.785	100157955	25.0	25.0	100	70-130	0.0	
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BS1	21.905	136237858	50.0	46.1	92.1	70-130	1.3	
Triisobutyl phosphate	126-71-6	T	BG30075-BS1	25.520	174135514	25.0	30.4	121	70-130	5.6	
Tributyl phosphate	126-73-8	T	BG30075-BS1	28.637	217541723	25.0	30.8	123	70-130	10.0	
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BS1	31.643	159006849	25.0	25.0	100	70-130	0.0	
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BS1	31.160	37349056	25.0					


QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

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Kansas State University
 245 Levee Drive
 Manhattan, KS 66502
 Dr. Byron Jones
 785-532-5620

RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

QC Report for Samples W305169-01 - W305169-20

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BSD1	11.743	70992605	25.0	25.0	100	70-130	0.0	
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BSD1	13.916	132166712	50.0	49.8	99.5	70-130	1.5	
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BSD1	16.832	180772745	25.0	25.0	100	70-130	0.0	
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BSD1	24.783	95306402	25.0	25.0	100	70-130	0.0	
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BSD1	21.916	241030088	50.0	46.7	93.3	70-130	1.3	
Triisobutyl phosphate	126-71-6	T	BG30075-BSD1	25.515	198582753	25.0	32.1	128	70-130	5.6	
Tributyl phosphate	126-73-8	T	BG30075-BSD1	28.640	252240591	25.0	33.9	136	70-130	10.0	R
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BSD1	31.645	171241272	25.0	25.0	100	70-130	0.0	
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BSD1	31.167	47347568	25.0	28.9	116	70-130	7.1	
Pyrene-d10	1718-52-1	Surr	BG30075-BSD1	38.232	334803135	50.0	52.9	106	70-130	6.1	
Chrysene-d12	1719-03-5	Int. Std	BG30075-BSD1	44.027	153910895	25.0	25.0	100	70-130	0.0	
Terphenyl-d14	1718-51-0	Surr	BG30075-BSD1	39.475	314043300	50.0	45.2	90.4	70-130	1.0	
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-BSD1	41.651	52918448	25.0	25.4	102	70-130	1.0	
Triphenyl phosphate	115-86-6	T	BG30075-BSD1	42.889	37975039	25.0	25.4	102	70-130	1.0	
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-BSD1	43.006	42745257	25.0	28.5	114	70-130	4.5	
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-BSD1	43.313	117948963	25.0	27.2	109	70-130	0.0	
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-BSD1	43.857	274361190	25.0	27.2	109	70-130	0.9	
Tri-o-cresyl phosphate	78-30-8	T	BG30075-BSD1	45.711	57435458	25.0	24.5	98.0	70-130	2.0	
Tri-m-cresyl phosphate	563-04-2	T	BG30075-BSD1	46.742	40234261	25.0	27.4	110	70-130	0.9	
Perylene-d12	1520-96-3	Int. Std	BG30075-BSD1	50.190	151253059	25.0	25.0	100	70-130	0.0	
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-BSD1	47.802	49100798	25.0	26.1	104	70-130	2.8	
Tri-p-cresyl phosphate	78-32-0	T	BG30075-BSD1	48.110	43105442	25.0	29.2	117	70-130	0.9	
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-BSD1	48.438	63388237	25.0	26.8	107	70-130	1.9	
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-BSD1	50.011	49247236	25.0	27.9	111	70-130	1.8	

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-MRL1	11.743	63778438	25.0	25.0	100			
Nitrobenzene-d4	4165-60-0	Surr	BG30075-MRL1	13.913	120023473	50.0	50.3	101			
Naphthalene-d8	1146-65-2	Int. Std	BG30075-MRL1	16.830	161623563	25.0	25.0	100			
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-MRL1	24.781	84065474	25.0	25.0	100			
2-Fluorobiphenyl	321-60-8	Surr	BG30075-MRL1	21.913	217097722	50.0	47.7	95.3			
Triisobutyl phosphate	126-71-6	T	BG30075-MRL1	25.601	2824045	0.500	0.580	116			
Tributyl phosphate	126-73-8	T	BG30075-MRL1	28.658	3902153	0.500	0.700	140			
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-MRL1	31.638	147648657	25.0	25.0	100			
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-MRL1	31.133	687099	0.500	0.770	154			R
Pyrene-d10	1718-52-1	Surr	BG30075-MRL1	38.227	304395068	50.0	55.8	112			
Chrysene-d12	1719-03-5	Int. Std	BG30075-MRL1	44.009	140692984	25.0	25.0	100			
Terphenyl-d14	1718-51-0	Surr	BG30075-MRL1	39.472	290947889	50.0	45.8	91.6			
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-MRL1	41.591	727555	0.500	0.720	144			R
Triphenyl phosphate	115-86-6	T	BG30075-MRL1	42.846	593514	0.500	0.710	142			R
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-MRL1	43.004	62224	0.500	0.620	124			
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-MRL1	43.273	1628341	0.500	0.850	170			R
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-MRL1	43.838	2827484	0.500	0.710	142			R
Tri-o-cresyl phosphate	78-30-8	T	BG30075-MRL1	45.667	904633	0.500	0.620	124			
Tri-m-cresyl phosphate	563-04-2	T	BG30075-MRL1	46.692	531444	0.500	0.700	140			
Perylene-d12	1520-96-3	Int. Std	BG30075-MRL1	50.169	138203017	25.0	25.0	100			
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-MRL1	47.755	827034	0.500	0.640	128			
Tri-p-cresyl phosphate	78-32-0	T	BG30075-MRL1	48.052	597862	0.500	0.810	162			R
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-MRL1	48.392	976401	0.500	0.680	136			
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-MRL1	49.965	701048	0.500	0.740	148			R

2710 North 20th Avenue, Pasco WA 99301
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RJ Lee Group Project:	W305169
Samples Received:	5/24/2022
Analysis Date:	7/24/2023
Report Date:	10/4/2023
Sampling Date:	
Purchase Order No.:	2022004-20-FAA-1
Client Project:	Air Sampling

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BLK1	11.752	88361142	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BLK1	13.928	161282633	50.0	48.8	97.6	70-130		
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BLK1	16.836	219439573	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BLK1	24.787	113993484	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BLK1	21.919	280385339	50.0	45.4	90.8	70-130		
Triisobutyl phosphate	126-71-6	T	BG30075-BLK1								
Tributyl phosphate	126-73-8	T	BG30075-BLK1								
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BLK1	31.644	185514791	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BLK1								
Pyrene-d10	1718-52-1	Surr	BG30075-BLK1	38.233	335872882	50.0	49.0	97.9	70-130		
Chrysene-d12	1719-03-5	Int. Std	BG30075-BLK1	44.010	151160281	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	BG30075-BLK1	39.473	307121223	50.0	45.0	90.0	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-BLK1								
Triphenyl phosphate	115-86-6	T	BG30075-BLK1								
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-BLK1								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-BLK1								
Tris(2-ethylhexyl) phosphat	78-42-2	T	BG30075-BLK1								
Tri-o-cresyl phosphate	78-30-8	T	BG30075-BLK1								
Tri-m-cresyl phosphate	563-04-2	T	BG30075-BLK1								
Perylene-di2	1520-96-3	Int. Std	BG30075-BLK1	50.172	150947506	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-BLK1								
Tri-p-cresyl phosphate	78-32-0	T	BG30075-BLK1								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-BLK1								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-BLK1								

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV2	11.737	86491520	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV2	13.889	80083734	25.0	24.8	99.2	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV2	16.830	206325216	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV2	24.783	102055979	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV2	21.902	140756673	25.0	25.5	102	70-130		
Triisobutyl phosphate	126-71-6	T	CCV2	25.514	182966056	25.0	27.1	108	70-130		
Tributyl phosphate	126-73-8	T	CCV2	28.635	227044860	25.0	27.5	110	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV2	31.640	164355855	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV2	31.156	39404564	25.0	25.1	101	70-130		
Pyrene-d10	1718-52-1	Surr	CCV2	38.188	154463352	25.0	25.4	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV2	44.013	125039115	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV2	39.438	143538193	25.0	25.5	102	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV2	41.639	43427666	25.0	25.7	103	70-130		
Triphenyl phosphate	115-86-6	T	CCV2	42.882	32523340	25.0	26.7	107	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV2	43.000	35423455	25.0	28.9	116	70-130		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV2	43.302	94732856	25.0	26.9	108	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV2	43.846	232301056	25.0	28.5	114	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV2	45.704	49073476	25.0	25.7	103	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV2	46.732	32573728	25.0	27.3	109	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV2	50.175	130989193	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV2	47.794	40249942	25.0	24.7	98.8	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV2	48.099	34439861	25.0	27.2	109	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV2	48.430	50957322	25.0	24.9	99.4	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV2	50.002	39150703	25.0	25.8	103	70-130		

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RJ Lee Group Project:	W305169
Samples Received:	5/24/2022
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Report Date:	10/4/2023
Sampling Date:	
Purchase Order No.:	2022004-20-FAA-1
Client Project:	Air Sampling

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S2	11.741	97257124	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S2	13.894	91531003	25.0	25.2	101	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S2	16.835	231230261	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S2	24.787	116098533	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S2	21.904	159584275	25.0	25.4	102	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S2								
Tributyl phosphate	126-73-8	T	CB-S2								
Phenanthrene-d10	1517-22-2	Int. Std	CB-S2	31.644	184950250	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S2								
Pyrene-d10	1718-52-1	Surr	CB-S2	38.198	173541014	25.0	25.4	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-S2	44.016	143768385	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S2	39.447	161138904	25.0	24.9	99.4	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S2								
Triphenyl phosphate	115-86-6	T	CB-S2								
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S2								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S2								
Tris(2-ethylhexyl) phosphat	78-42-2	T	CB-S2								
Tri-o-cresyl phosphate	78-30-8	T	CB-S2								
Tri-m-cresyl phosphate	563-04-2	T	CB-S2								
Perylene-d12	1520-96-3	Int. Std	CB-S2	50.179	150215707	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S2								
Tri-p-cresyl phosphate	78-32-0	T	CB-S2								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S2								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S2								

[illegible]


QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

 2710 North 20th Avenue, Pasco WA 99301
 Tel: (509) 792-1955

 Kansas State University
 245 Levee Drive
 Manhattan, KS 66502
 Dr. Byron Jones
 785-532-5620

QC Report for Samples W305169-01 - W305169-20

 RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S3	11.739	98728395	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S3	13.895	92745313	25.0	25.2	101	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S3	16.832	234250471	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S3	24.784	118424622	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S3	21.903	163935225	25.0	25.6	102	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S3								
Tributyl phosphate	126-73-8	T	CB-S3								
Phenanthrene-d10	1517-22-2	Int. Std	CB-S3	31.643	190098063	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S3								
Pyrene-d10	1718-52-1	Surr	CB-S3	38.198	179645098	25.0	25.6	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-S3	44.013	148497606	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S3	39.444	166562690	25.0	24.9	99.5	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S3								
Triphenyl phosphate	115-86-6	T	CB-S3								
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S3								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S3								
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-S3								
Tri-o-cresyl phosphate	78-30-8	T	CB-S3								
Tri-m-cresyl phosphate	563-04-2	T	CB-S3								
Perylene-d12	1520-96-3	Int. Std	CB-S3	50.176	157050270	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S3								
Tri-p-cresyl phosphate	78-32-0	T	CB-S3								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S3								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S3								

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV4	11.734	82205957	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV4	13.889	75105457	25.0	24.5	97.9	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV4	16.827	194738732	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV4	24.779	95570790	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV4	21.899	130022279	25.0	25.1	100	70-130		
Triisobutyl phosphate	126-71-6	T	CCV4	25.510	169834966	25.0	26.8	107	70-130		
Tributyl phosphate	126-73-8	T	CCV4	28.631	213860263	25.0	27.7	111	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV4	31.638	153869292	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV4	31.153	38069240	25.0	25.9	104	70-130		
Pyrene-d10	1718-52-1	Surr	CCV4	38.186	145152347	25.0	25.5	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV4	44.009	119515858	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV4	39.437	134538056	25.0	25.0	99.9	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV4	41.637	41902934	25.0	25.9	104	70-130		
Triphenyl phosphate	115-86-6	T	CCV4	42.880	31039224	25.0	26.7	107	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV4	42.998	34914096	25.0	29.4	118	70-130		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV4	43.300	90442309	25.0	26.9	108	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV4	43.842	217774794	25.0	27.9	111	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV4	45.703	47194340	25.0	25.9	103	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV4	46.731	32032011	25.0	28.0	112	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV4	50.175	129611561	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV4	47.791	39460034	25.0	24.5	98.0	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV4	48.098	34018841	25.0	27.1	108	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV4	48.427	50006416	25.0	24.7	98.6	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV4	49.999	38585678	25.0	25.7	103	70-130		



QUALITY CONTROL REPORT
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 785-532-5620

QC Report for Samples W305169-01 - W305169-20

RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S4	11.748	102671454	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S4	13.903	93364282	25.0	24.4	97.4	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S4	16.835	243210243	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S4	24.786	121918171	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S4	21.903	168984042	25.0	25.6	102	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S4					-	-		
Tributyl phosphate	126-73-8	T	CB-S4					-	-		
Phenanthrene-d10	1517-22-2	Int. Std	CB-S4	31.641	190383772	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S4					-	-		
Pyrene-d10	1718-52-1	Surr	CB-S4	38.195	173151443	25.0	24.6	98.5	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-S4	44.012	138868705	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S4	39.442	158640632	25.0	25.3	101	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S4					-	-		
Triphenyl phosphate	115-86-6	T	CB-S4					-	-		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S4					-	-		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S4					-	-		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-S4					-	-		
Tri-o-cresyl phosphate	78-30-8	T	CB-S4					-	-		
Tri-m-cresyl phosphate	563-04-2	T	CB-S4					-	-		
Perylene-d12	1520-96-3	Int. Std	CB-S4	50.174	143150648	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S4					-	-		
Tri-p-cresyl phosphate	78-32-0	T	CB-S4					-	-		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S4					-	-		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S4					-	-		

Comments: MDLs and RLs have been adjusted for analysis volumes and dilution factors.

ng = nanogram
 ppbv = parts per billion volume
 ug/m3 = micrograms per cubic meter

BDL = Below Detection Limit
 N/A = Not Applicable

* no TIC above the reporting threshold

Qualifiers

B = Compound found in associated laboratory blank above the reporting limit.

c = Sample RPD failure

d = %RPD failure

p = Positively identified compound, for non-calibrated compounds

B = Compound found in associated laboratory blank above the MDL.

D = Diluted sample

E = Report concentration was above the

I = Response failure of an internal standard; concentration should be considered an estimate

J = Reported concentration was estimated

Z = Compound Highly Variable Due to Thermal Instability

N = Identification based on mass spectral library search

P = Library spectrum match, rsd >90% w RT match

Q = Qualitative results for non detects

R = Analyte Spike %REC Failure

S = Surrogate recovery failure

TIC = Compound is tentatively identified compound. Includes both chemical library matches, chemist identified compounds, and unknowns. (Library spectrum match w/o RT match)

X = Detected but not quantifiable

Authorized Signature:

Laboratory Technical Manager - Dr. Joe Sears

10/04/23

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any samples. Unless otherwise noted, samples were received in an acceptable condition. This laboratory operates in accordance with ISO 17025 guidelines, and holds limited scopes of accreditation under EPA ID WA01195, WA DOE Lab ID C859, AIHA Lab ID 178656, and ORELAP4061. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or the sample(s) as received by the laboratory. Quality control data is available upon request.

QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

 Kansas State University
 245 Levee Drive
 Manhattan, KS 66502
 Dr. Byron Jones
 785-532-5620

QC Report for Samples W305169-21 - W305169-39

 RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV3	11.739	86682020	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV3	13.889	79126152	25.0	24.5	97.8	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV3	16.829	206403267	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV3	24.781	102590782	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV3	21.901	141429837	25.0	25.5	102	70-130		
Triisobutyl phosphate	126-71-6	T	CCV3	25.513	185365105	25.0	27.3	109	70-130		
Tributyl phosphate	126-73-8	T	CCV3	28.633	231172464	25.0	27.9	112	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV3	31.637	165315634	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV3	31.154	39941715	25.0	25.3	101	70-130		
Pyrene-d10	1718-52-1	Surr	CCV3	38.185	155408962	25.0	25.5	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV3	44.010	125537563	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV3	39.434	145419606	25.0	25.7	103	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV3	41.636	43824123	25.0	25.8	103	70-130		
Triphenyl phosphate	115-86-6	T	CCV3	42.879	33725976	25.0	27.5	110	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV3	42.999	39514841	25.0	30.8	123	70-130		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV3	43.301	97553493	25.0	27.5	110	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV3	43.843	234631564	25.0	28.7	115	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV3	45.701	49812933	25.0	26.0	104	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV3	46.730	33774848	25.0	28.1	113	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV3	50.175	132899012	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV3	47.790	40469784	25.0	24.5	98.0	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV3	48.098	35645553	25.0	27.6	111	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV3	48.426	51925410	25.0	25.0	99.8	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV3	49.998	40010865	25.0	25.9	104	70-130		

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S3	11.739	98728395	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S3	13.895	92745313	25.0	25.2	101	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S3	16.832	234250471	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S3	24.784	118424622	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S3	21.903	163935225	25.0	25.6	102	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S3						-		
Tributyl phosphate	126-73-8	T	CB-S3						-		
Phenanthrene-d10	1517-22-2	Int. Std	CB-S3	31.643	190098063	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S3						-		
Pyrene-d10	1718-52-1	Surr	CB-S3	38.198	179645098	25.0	25.6	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-S3	44.013	148497606	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S3	39.444	166562690	25.0	24.9	99.5	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S3						-		
Triphenyl phosphate	115-86-6	T	CB-S3						-		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S3						-		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S3						-		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-S3						-		
Tri-o-cresyl phosphate	78-30-8	T	CB-S3						-		
Tri-m-cresyl phosphate	563-04-2	T	CB-S3						-		
Perylene-d12	1520-96-3	Int. Std	CB-S3	50.176	157050270	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S3						-		
Tri-p-cresyl phosphate	78-32-0	T	CB-S3						-		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S3						-		

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EPA Compendium Method TO-13
Quartz Filters

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QC Report for Samples W305169-21 - W305169-39

 RJ Lee Group Project: W305169
 Samples Received: 5/24/2022
 Analysis Date: 7/24/2023
 Report Date: 10/4/2023
 Sampling Date:
 Purchase Order No.: 2022004-20-FAA-1
 Client Project: Air Sampling

Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S3							-	
Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	RL1	11.741	81052064	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	RL1	13.918	589010	0.250	0.300	120	60-140		
Naphthalene-d8	1146-65-2	Int. Std	RL1	16.831	194491086	25.0	25.0	100	60-140		
Acenaphthene-d10	15067-26-2	Int. Std	RL1	24.786	96309775	25.0	25.0	100	60-140		
2-Fluorobiphenyl	321-60-8	Surr	RL1	21.923	1234292	0.250	0.270	108	60-140		
Triisobutyl phosphate	126-71-6	T	RL1	25.760	701010	0.250	0.230	92.0	60-140		
Tributyl phosphate	126-73-8	T	RL1	28.877	531544	0.250	0.260	104	60-140		
Phenanthrene-d10	1517-22-2	Int. Std	RL1	31.640	152615199	25.0	25.0	100	60-140		
Tris(2-chloroethyl) phosphate	115-96-8	T	RL1	31.404	77038	0.250	0.340	136	60-140		
Pyrene-d10	1718-52-1	Surr	RL1	38.240	1090603	0.250	0.250	100	60-140		
Chrysene-d12	1719-03-5	Int. Std	RL1	44.007	115857659	25.0	25.0	100	60-140		
Terphenyl-d14	1718-51-0	Surr	RL1	39.450	994588	0.250	0.250	100	60-140		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	RL1	41.599	70092	0.250	0.380	152	70-130		R
Triphenyl phosphate	115-86-6	T	RL1	42.868	51036	0.250	0.300	120	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	RL1					#VALUE!	60-140		R
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	RL1	43.299	29931	0.250	0.400	160	60-140		R
Tris(2-ethylhexyl) phosphate	78-42-2	T	RL1	43.848	68196	0.250	0.450	180	60-140		R
Tri-o-cresyl phosphate	78-30-8	T	RL1	45.684	163335	0.250	0.280	112	60-140		
Tri-m-cresyl phosphate	563-04-2	T	RL1	46.717	24607	0.250	0.290	116	60-140		
Perylene-d12	1520-96-3	Int. Std	RL1	50.168	118435367	25.0	25.0	100	60-140		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	RL1	47.769	190640	0.250	0.290	116	60-140		
Tri-p-cresyl phosphate	78-32-0	T	RL1	48.069	22634	0.250	0.340	136	60-140		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	RL1	48.400	140343	0.250	0.300	120	60-140		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	RL1	49.982	54646	0.250	0.320	128	60-140		
Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BS2	11.739	86682020	25.0	25.0	100	70-130	0.0	
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BS2	13.889	79126152	25.0	24.5	97.9	70-130	1.3	
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BS2	16.829	206403267	25.0	25.0	100	70-130	0.0	
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BS2	24.781	102590782	25.0	25.0	100	70-130	0.0	
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BS2	21.901	141429837	25.0	24.2	96.8	70-130	2.0	
Triisobutyl phosphate	126-71-6	T	BG30075-BS2	25.513	185365105	25.0	29.1	116	70-130	7.5	
Tributyl phosphate	126-73-8	T	BG30075-BS2	28.633	231172464	25.0	29.8	119	70-130	19.7	
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BS2	31.637	165315634	25.0	25.0	100	70-130	0.0	
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BS2	31.154	39941715	25.0	26.8	107	70-130	11.5	
Pyrene-d10	1718-52-1	Surr	BG30075-BS2	38.185	155408962	25.0	25.0	100	70-130	11.3	
Chrysene-d12	1719-03-5	Int. Std	BG30075-BS2	44.010	125537563	25.0	25.0	100	70-130	0.0	
Terphenyl-d14	1718-51-0	Surr	BG30075-BS2	39.434	145419606	25.0	23.6	94.5	70-130	0.6	
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-BS2	41.636	43824123	25.0	25.9	104	70-130	0.0	
Triphenyl phosphate	115-86-6	T	BG30075-BS2	42.879	33725976	25.0	26.1	104	70-130	0.0	
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-BS2	42.999	39514841	25.0	29.4	117	70-130	3.4	
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-BS2	43.301	97553493	25.0	27.8	111	70-130	0.9	
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-BS2	43.843	234631564	25.0	27.9	112	70-130	2.6	
Tri-o-cresyl phosphate	78-30-8	T	BG30075-BS2	45.701	49812933	25.0	24.9	99.6	70-130	0.4	
Tri-m-cresyl phosphate	563-04-2	T	BG30075-BS2	46.730	33774848	25.0	28.4	113	70-130	0.9	
Perylene-d12	1520-96-3	Int. Std	BG30075-BS2	50.175	132899012	25.0	25.0	100	70-130	0.0	
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-BS2	47.790	40469784	25.0	26.9	108	70-130	0.0	

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 RJ Lee Group Project: W305169
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Tri-p-cresyl phosphate	78-32-0	T	BG30075-BSD2	48.098	35645553	25.0	30.4	122	70-130	0.0	
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-BSD2	48.426	51925410	25.0	27.5	110	70-130	0.0	
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-BSD2	49.998	40010865	25.0	28.5	114	70-130	0.0	

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BSD2	11.739	57607214	25.0	25.0	100	70-130	0.0	
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BSD2	13.888	51899537	25.0	24.1	96.6	70-130	1.3	
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BSD2	16.824	146252013	25.0	25.0	100	70-130	0.0	
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BSD2	24.776	76439308	25.0	25.0	100	70-130	0.0	
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BSD2	21.897	98176792	25.0	23.7	94.9	70-130	2.0	
Triisobutyl phosphate	126-71-6	T	BG30075-BSD2	25.507	155308646	25.0	31.2	125	70-130	7.5	
Tributyl phosphate	126-73-8	T	BG30075-BSD2	28.628	213808803	25.0	36.3	145	70-130	19.7	R
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BSD2	31.635	143565596	25.0	25.0	100	70-130	0.0	
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BSD2	31.156	41088570	25.0	29.9	120	70-130	11.5	
Pyrene-d10	1718-52-1	Surr	BG30075-BSD2	38.186	148805421	25.0	28.1	112	70-130	11.3	
Chrysene-d12	1719-03-5	Int. Std	BG30075-BSD2	44.014	132449889	25.0	25.0	100	70-130	0.0	
Terphenyl-d14	1718-51-0	Surr	BG30075-BSD2	39.434	140202861	25.0	23.5	93.9	70-130	0.6	
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-BSD2	41.637	46617020	25.0	26.0	104	70-130	0.0	
Triphenyl phosphate	115-86-6	T	BG30075-BSD2	42.881	33494561	25.0	26.0	104	70-130	0.0	
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-BSD2	42.999	40572477	25.0	30.3	121	70-130	3.4	
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-BSD2	43.303	104816013	25.0	28.0	112	70-130	0.9	
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-BSD2	43.845	247691867	25.0	28.7	115	70-130	2.6	
Tri-o-cresyl phosphate	78-30-8	T	BG30075-BSD2	45.702	50060333	25.0	24.8	99.2	70-130	0.4	
Tri-m-cresyl phosphate	563-04-2	T	BG30075-BSD2	46.733	36038121	25.0	28.4	114	70-130	0.9	
Perylene-d12	1520-96-3	Int. Std	BG30075-BSD2	50.174	128276244	25.0	25.0	100	70-130	0.0	
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-BSD2	47.793	43118869	25.0	27.0	108	70-130	0.0	
Tri-p-cresyl phosphate	78-32-0	T	BG30075-BSD2	48.097	38337890	25.0	30.5	122	70-130	0.0	
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-BSD2	48.429	55369975	25.0	27.6	110	70-130	0.0	
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-BSD2	50.002	42938844	25.0	28.6	114	70-130	0.0	

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-MRL2	11.739	62220915	25.0	25.0	100			
Nitrobenzene-d4	4165-60-0	Surr	BG30075-MRL2	13.889	56557173	25.0	24.4	97.4			
Naphthalene-d8	1146-65-2	Int. Std	BG30075-MRL2	16.825	155996221	25.0	25.0	100			
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-MRL2	24.776	78789713	25.0	25.0	100			
2-Fluorobiphenyl	321-60-8	Surr	BG30075-MRL2	21.895	101541352	25.0	23.8	95.2			
Triisobutyl phosphate	126-71-6	T	BG30075-MRL2	25.571	2723150	0.500	0.600	120			
Tributyl phosphate	126-73-8	T	BG30075-MRL2	28.652	3982391	0.500	0.740	148			R
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-MRL2	31.634	142465606	25.0	25.0	100			
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-MRL2	31.126	747229	0.500	0.830	166			R
Pyrene-d10	1718-52-1	Surr	BG30075-MRL2	38.191	158221809	25.0	30.1	120			
Chrysene-d12	1719-03-5	Int. Std	BG30075-MRL2	44.015	152130182	25.0	25.0	100			
Terphenyl-d14	1718-51-0	Surr	BG30075-MRL2	39.441	158384690	25.0	23.1	92.4			
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-MRL2	41.592	858868	0.500	0.750	150			R
Triphenyl phosphate	115-86-6	T	BG30075-MRL2	42.843	707043	0.500	0.760	152			R
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-MRL2	42.995	310536	0.500	1.02	204			R
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-MRL2	43.269	2087320	0.500	0.940	188			R
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-MRL2	43.836	3971327	0.500	0.790	158			R
Tri-o-cresyl phosphate	78-30-8	T	BG30075-MRL2	45.667	1004689	0.500	0.630	126			
Tri-m-cresyl phosphate	563-04-2	T	BG30075-MRL2	46.692	671194	0.500	0.770	154			R

QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

 Kansas State University
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QC Report for Samples W305169-21 - W305169-39

 RJ Lee Group Project: W305169
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Perylene-d12	1520-96-3	Int. Std	BG30075-MRL2	50.170	149491258	25.0	25.0	100			
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-MRL2	47.755	886801	0.500	0.640	128			
Tri-p-cresyl phosphate	78-32-0	T	BG30075-MRL2	48.050	704753	0.500	0.850	170			R
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-MRL2	48.391	1093434	0.500	0.690	138			
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-MRL2	49.965	768433	0.500	0.750	150			R

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	BG30075-BLK2	11.733	26704371	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	BG30075-BLK2	13.877	23776768	25.0	23.9	95.4	70-130		
Naphthalene-d8	1146-65-2	Int. Std	BG30075-BLK2	16.816	67941716	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	BG30075-BLK2	24.776	34030315	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	BG30075-BLK2	21.900	42049151	25.0	22.8	91.3	70-130		
Triisobutyl phosphate	126-71-6	T	BG30075-BLK2								
Tributyl phosphate	126-73-8	T	BG30075-BLK2								
Phenanthrene-d10	1517-22-2	Int. Std	BG30075-BLK2	31.623	67303586	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	BG30075-BLK2								
Pyrene-d10	1718-52-1	Surr	BG30075-BLK2	38.172	98696364	25.0	39.7	159	70-130		S
Chrysene-d12	1719-03-5	Int. Std	BG30075-BLK2	44.009	136161053	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	BG30075-BLK2	39.436	142104073	25.0	23.2	92.6	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	BG30075-BLK2								
Triphenyl phosphate	115-86-6	T	BG30075-BLK2								
Tris(2-butoxyethyl) phosphate	78-51-3	T	BG30075-BLK2								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	BG30075-BLK2								
Tris(2-ethylhexyl) phosphate	78-42-2	T	BG30075-BLK2								
Tri-o-cresyl phosphate	78-30-8	T	BG30075-BLK2								
Tri-m-cresyl phosphate	563-04-2	T	BG30075-BLK2								
Perylene-d12	1520-96-3	Int. Std	BG30075-BLK2	50.170	137872538	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	BG30075-BLK2								
Tri-p-cresyl phosphate	78-32-0	T	BG30075-BLK2								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	BG30075-BLK2								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	BG30075-BLK2								

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV4	11.734	82205957	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV4	13.889	75105457	25.0	24.5	97.9	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV4	16.827	194738732	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV4	24.779	95570790	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV4	21.899	130022279	25.0	25.1	100	70-130		
Triisobutyl phosphate	126-71-6	T	CCV4	25.510	169834966	25.0	26.8	107	70-130		
Tributyl phosphate	126-73-8	T	CCV4	28.631	213860263	25.0	27.7	111	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV4	31.638	153869292	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV4	31.153	38069240	25.0	25.9	104	70-130		
Pyrene-d10	1718-52-1	Surr	CCV4	38.186	145152347	25.0	25.5	102	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV4	44.009	119515858	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV4	39.437	134538056	25.0	25.0	99.9	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV4	41.637	41902934	25.0	25.9	104	70-130		
Triphenyl phosphate	115-86-6	T	CCV4	42.880	31039224	25.0	26.7	107	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV4	42.998	34914096	25.0	29.4	118	70-130		
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV4	43.300	90442309	25.0	26.9	108	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV4	43.842	217774794	25.0	27.9	111	70-130		

QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

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QC Report for Samples W305169-21 - W305169-39

 RJ Lee Group Project: W305169
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Tri-o-cresyl phosphate	78-30-8	T	CCV4	45.703	47194340	25.0	25.9	103	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV4	46.731	32032011	25.0	28.0	112	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV4	50.175	129611561	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV4	47.791	39460034	25.0	24.5	98.0	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV4	48.098	34018841	25.0	27.1	108	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV4	48.427	50006416	25.0	24.7	98.6	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV4	49.999	38585678	25.0	25.7	103	70-130		

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S4	11.748	102671454	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S4	13.903	93364282	25.0	24.4	97.4	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S4	16.835	243210243	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S4	24.786	121918171	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S4	21.903	168984042	25.0	25.6	102	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S4								
Tributyl phosphate	126-73-8	T	CB-S4								
Phenanthrene-d10	1517-22-2	Int. Std	CB-S4	31.641	190383772	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S4								
Pyrene-d10	1718-52-1	Surr	CB-S4	38.195	173151443	25.0	24.6	98.5	-		
Chrysene-d12	1719-03-5	Int. Std	CB-S4	44.012	138868705	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S4	39.442	158640632	25.0	25.3	101	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S4								
Triphenyl phosphate	115-86-6	T	CB-S4								
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S4								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S4								
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-S4								
Tri-o-cresyl phosphate	78-30-8	T	CB-S4								
Tri-m-cresyl phosphate	563-04-2	T	CB-S4								
Perylene-d12	1520-96-3	Int. Std	CB-S4	50.174	143150648	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S4								
Tri-p-cresyl phosphate	78-32-0	T	CB-S4								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S4								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S4								

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV5	11.741	88038869	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV5	13.894	77539762	25.0	23.6	94.4	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV5	16.828	207740705	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV5	24.780	102226982	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV5	21.898	139779254	25.0	25.3	101	70-130		
Triisobutyl phosphate	126-71-6	T	CCV5	25.509	179699325	25.0	26.5	106	70-130		
Tributyl phosphate	126-73-8	T	CCV5	28.629	222640910	25.0	26.8	107	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV5	31.636	160719307	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV5	31.152	38809683	25.0	25.3	101	70-130		
Pyrene-d10	1718-52-1	Surr	CCV5	38.185	148310512	25.0	25.0	99.9	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV5	44.007	119035911	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV5	39.434	136731338	25.0	25.5	102	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV5	41.634	42075725	25.0	26.1	105	70-130		
Triphenyl phosphate	115-86-6	T	CCV5	42.878	31302519	25.0	27.0	108	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV5	42.996	34728182	25.0	29.4	118	70-130		

QUALITY CONTROL REPORT
EPA Compendium Method TO-13
Quartz Filters

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QC Report for Samples W305169-21 - W305169-39

 RJ Lee Group Project: W305169
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2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV5	43.298	90795443	25.0	27.1	108	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV5	43.839	217714784	25.0	28.0	112	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV5	45.698	47411495	25.0	26.1	104	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV5	46.728	32142881	25.0	28.2	113	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV5	50.172	125470411	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV5	47.788	39524681	25.0	25.3	101	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV5	48.097	33837937	25.0	27.8	111	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV5	48.424	49960693	25.0	25.4	102	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV5	49.996	38239059	25.0	26.2	105	70-130		

Analyte	CAS No.	QC Sample ID		Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CB-S5	11.746	102741118	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CB-S5	13.900	95784961	25.0	25.0	99.9	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CB-S5	16.833	242178023	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CB-S5	24.784	121209891	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CB-S5	21.901	168563454	25.0	25.7	103	70-130		
Triisobutyl phosphate	126-71-6	T	CB-S5								
Tributyl phosphate	126-73-8	T	CB-S5								
Phenanthrene-d10	1517-22-2	Int. Std	CB-S5	31.641	190232469	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CB-S5								
Pyrene-d10	1718-52-1	Surr	CB-S5	38.194	175947839	25.0	25.0	100	70-130		
Chrysene-d12	1719-03-5	Int. Std	CB-S5	44.010	142624378	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CB-S5	39.440	162645289	25.0	25.3	101	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CB-S5								
Triphenyl phosphate	115-86-6	T	CB-S5								
Tris(2-butoxyethyl) phosphate	78-51-3	T	CB-S5								
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CB-S5								
Tris(2-ethylhexyl) phosphate	78-42-2	T	CB-S5								
Tri-o-cresyl phosphate	78-30-8	T	CB-S5								
Tri-m-cresyl phosphate	563-04-2	T	CB-S5								
Perylene-d12	1520-96-3	Int. Std	CB-S5	50.172	147569938	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CB-S5								
Tri-p-cresyl phosphate	78-32-0	T	CB-S5								
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CB-S5								
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CB-S5								

Analyte	CAS No.	QC Analyte Type	QC Sample Type	Ret. Time	Peak Area	Expected ug/mL	Result ug/mL	%REC	Range %REC	%RPD	Qualifier
1,4-Dichlorobenzene-d4	3855-82-1	Int. Std	CCV6	11.742	89125549	25.0	25.0	100	70-130		
Nitrobenzene-d4	4165-60-0	Surr	CCV6	13.895	81338588	25.0	24.5	97.8	70-130		
Naphthalene-d8	1146-65-2	Int. Std	CCV6	16.828	208792846	25.0	25.0	100	70-130		
Acenaphthene-d10	15067-26-2	Int. Std	CCV6	24.777	101824821	25.0	25.0	100	70-130		
2-Fluorobiphenyl	321-60-8	Surr	CCV6	21.897	139955230	25.0	25.4	102	70-130		
Triisobutyl phosphate	126-71-6	T	CCV6	25.507	179874626	25.0	26.6	107	70-130		
Tributyl phosphate	126-73-8	T	CCV6	28.628	226770082	25.0	27.5	110	70-130		
Phenanthrene-d10	1517-22-2	Int. Std	CCV6	31.635	161695039	25.0	25.0	100	70-130		
Tris(2-chloroethyl) phosphate	115-96-8	T	CCV6	31.153	39575212	25.0	25.7	103	70-130		
Pyrene-d10	1718-52-1	Surr	CCV6	38.185	150767251	25.0	25.2	101	70-130		
Chrysene-d12	1719-03-5	Int. Std	CCV6	44.010	122516343	25.0	25.0	100	70-130		
Terphenyl-d14	1718-51-0	Surr	CCV6	39.432	139668196	25.0	25.3	101	70-130		
Tris(1,3-dichloroisopropyl) phosphate	13674-87-8	T	CCV6	41.635	43596331	25.0	26.3	105	70-130		



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QC Report for Samples W305169-21 - W305169-39

RJ Lee Group Project: W305169
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Triphenyl phosphate	115-86-6	T	CCV6	42.878	32109456	25.0	26.9	108	70-130		
Tris(2-butoxyethyl) phosphate	78-51-3	T	CCV6	42.999	43344888	25.0	33.1	132	70-130		R
2-Ethylhexyldiphenyl phosphate	1241-94-7	T	CCV6	43.299	95688342	25.0	27.7	111	70-130		
Tris(2-ethylhexyl) phosphate	78-42-2	T	CCV6	43.841	232904159	25.0	29.2	117	70-130		
Tri-o-cresyl phosphate	78-30-8	T	CCV6	45.698	49222074	25.0	26.3	105	70-130		
Tri-m-cresyl phosphate	563-04-2	T	CCV6	46.729	33212798	25.0	28.3	113	70-130		
Perylene-d12	1520-96-3	Int. Std	CCV6	50.175	131053625	25.0	25.0	100	70-130		
Tris(2,6-dimethylphenyl) phosphate	121-06-2	T	CCV6	47.789	40901855	25.0	25.1	100	70-130		
Tri-p-cresyl phosphate	78-32-0	T	CCV6	48.097	35172162	25.0	27.7	111	70-130		
Tris(2,5-dimethylphenyl) phosphate	19074-59-0	T	CCV6	48.425	51862203	25.0	25.3	101	70-130		
Tris(2,4-dimethylphenyl) phosphate	3862-12-2	T	CCV6	49.999	40039185	25.0	26.3	105	70-130		

W305169

RJ Lee Group Inc

Client: Kansas State University

Project: Air Sampling

COC #: Phosphate

PO #: 2022004-20-FAA-1

Project Manager: L. Joe Sears

Project Number: KSU Institute for Env Research

SDG Number:

Report To:

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Phone: (785) 410-0625
Fax:

Invoice To:

Kansas State University
Accounts Payable
245 Levee Drive
Manhattan, KS 66502
Phone: (602) 359-7868
Fax:

Date Due: 7/7/2023 (30 day TAT)

Received By: JJ Furlong

Date Received: 05/23/23 10:45

Logged In By: JJ Furlong

Date Logged In: 05/23/23 13:52

Samples Received at: 15.1°C
Custody Seals No
Containers Intact Yes
COC/Labels Agree Yes
Preservation Confirmed No
Received On Ice Yes

RJLG ID	Sample Name	Analysis	Matrix	Date Sampled	TAT	Date Due
W305169-01	Shipping Blank 2 1	T0-13	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-02	Field Blank - Ambient 6	T0-13	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-03	Field Blank - Ozone In 7	T0-13	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-04	Field Blank - Ozone Out 8	T0-13	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-05	Field Blank - Pack Exit 9	T0-13	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-06	Baseline - Ambient 2	T0-13 Comments: 225.622 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-07	Baseline - Ozone In 3	T0-13 Comments: 194.876 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-08	Baseline - Ozone out 4	T0-13 Comments: 194.876 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-09	Baseline - Pack Exit 5	T0-13 Comments: 283.779 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023

WORK ORDER

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W305169

RJ Lee Group Inc

Client: Kansas State University

Project: Air Sampling

COC #: Phosphate

PO #: 2022004-20-FAA-1

Project Manager: L. Joe Sears

Project Number: KSU Institute for Env Research

SDG Number:

RJLG ID	Sample Name	Analysis	Matrix	Date Sampled	TAT	Date Due
W305169-10	MJ-II - 5 ppm - APU - Ambient 10	T0-13 Comments: 149.358 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-11	MJ-II - 5 ppm - APU - Ozone In 11	T0-13 Comments: 194.876 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-12	MJ-II - 5 ppm - APU - Ozone Out 12	T0-13 Comments: 194.876 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-13	MJ-II - 5 ppm - APU - Pack Exit 13	T0-13 Comments: 126.068 L	Air/Emissions w/ V	5/15/2023	30	7/7/2023
W305169-14	Field Blank 14	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-15	Baseline - 300 C - Ozone In 15	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-16	Baseline - 300 C - Ozone Out 16	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-17	Baseline - 300 C - Pack Exit 17	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-18	MJ-II - 300 C - 5ppmW - Ozone In 18	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-19	MJ-II - 300 C - 5ppmW - Pack Exit 19	T0-13	Air/Emissions w/ V	5/16/2023	30	7/7/2023
W305169-20	Field Blank 20	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-21	Baseline - 300 C - Ozone In/Ambien 21	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-22	Baseline - 300 C - Ozone Out 22	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-23	Baseline - 300 C - Pack Exit 23	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-24	2197 - 300 C - 5ppmw - Ozone In 24	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023

WORK ORDER

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W305169

RJ Lee Group Inc

Client: Kansas State University

Project: Air Sampling

COC #: Phosphate

PO #: 2022004-20-FAA-1

Project Manager: L. Joe Sears

Project Number: KSU Institute for Env Research

SDG Number:

RJLG ID	Sample Name	Analysis	Matrix	Date Sampled	TAT	Date Due
W305169-25	2197 - 300 C - 5ppmw - 0zone Out 25	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-26	2197 - 300 C - 5ppmw - Pack Exit 26	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-27	Burnout - 0zone In 27	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-28	Burnout - 0zone Out 28	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-29	Burnout - Pack Exit 29	T0-13	Air/Emissions w/ V	5/17/2023	30	7/7/2023
W305169-30	Field Blank 30	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-31	MJ-II - 220 C - 0zone In 31	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-32	MJ-II - 220 C - 0zone Out 32	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-33	MJ-II - 220 C - Pack Exit 33	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-34	Baseline - 220C - 0zone In 34	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-35	Baseline - 220C - 0zone Out 35	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-36	Baseline - 220C - Pack Exit 36	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-37	Skydrol - 220C - 5ppmW - 0zone In 37	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
W305169-38	Skydrol - 220C - 5ppmW - 0zone 0 38	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023

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W305169

RJ Lee Group Inc

Client: Kansas State University

Project: Air Sampling

COC #: Phosphate

Project Manager: L. Joe Sears

Project Number: KSU Institute for Env Research

SDG Number:

PO #: 2022004-20-FAA-1

RJLG ID	Sample Name	Analysis	Matrix	Date Sampled	TAT	Date Due
W305169-39	Skydrol - 220C - 5ppmW – Pack Exit	T0-13	Air/Emissions w/ V	5/18/2023	30	7/7/2023
	39					

Request for Environmental and IH Laboratory Analytical Services

W305169

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ATTENTION TO: <u>Joe Sears</u>						Purchase Order No.: <u>2272794</u>		Client Job No.:													
Page 184 of 235 Lab Use Only	Project No.: _____ Client No.: _____					Date Results Needed: <u>Per Quote</u>		Rush Charges Authorized? (check one) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
	Date Logged In: _____ Logged In By: _____																				
	Temperature Upon Receipt (Chem Only) _____ °C Therm ID No. _____																				
	Name: <u>BYRON JONES</u>																				
	Company: <u>KSU</u>																				
Report Results To	Address: _____					Drinking Water Sample Only		Sample Purpose: Information <input type="checkbox"/> Regulatory <input type="checkbox"/> Accreditation (please list below):													
	City, State, Zip: _____					System ID #: _____		DOH Source #: <u>15.1</u>													
	Phone: _____ Fax: _____					Multiple Sources #s: _____															
	Email Results To: <u>jones@ksu.edu</u> <u>richardfox@queeninc.com</u>					Sample Purpose: A <input type="checkbox"/> B <input type="checkbox"/> Other <input type="checkbox"/>															
						Preservation: Unpres H ₂ SO ₄ 4°C HCl HNO ₃ NaOH Other Na ₂ SO ₄		Matrix: WW=Wastewater GW=Groundwater Water S=Soil/Sludge E=Extract													
Invoice To	Name: _____ If a hard copy of invoice is needed, check here <input type="checkbox"/>					Chemistry Analysis Key		Container: P=Plastic G=Glass W=Wipe A=Air (filter or tube)													
	Company: _____ Email: _____																				
	Address: _____																				
	City, State, Zip: _____																				
Special Instructions	Phone: _____ Fax: _____																				
Client Sample ID						Sample #	Sample Collection Date	Sample Collection Time	Total Collection Time - min	Air Volume (specify units)	Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Pres. Upon Receipt (V/N)	Preservation	Matrix	Container Type	pH	No. Containers				
Shipping Blank 2						1	May 15th 2023	N/A	N/A	N/A	✓										
Field Blank - Ambient						6	May 15th 2023	N/A	N/A	N/A	✓										
Field Blank - Ozone In						7	May 15th 2023	N/A	N/A	N/A	✓										
Field Blank - Ozone Out						8	May 15th 2023	N/A	N/A	N/A	✓										
Field Blank - Coalescer						9	May 15th 2023	N/A	N/A	N/A	✓										
Baseline - Ambient						2	May 15th 2023	15:51	21 min	225.622 L	✓										
Baseline - Ozone In						3	May 15th 2023	16:02	10 min	194.876 L	✓										
Baseline - Ozone Out						4	May 15th 2023	16:02	10 min	194.876 L	✓										
Baseline - Coalescer						5	May 15th 2023	15:53	19 min	283.779 L	✓										
MJ-II - 5 ppm - APU - Ambient						10	May 15th 2023	17:58	10 min	149.358 L	✓										
MJ-II - 5 ppm - APU - Ozone In						11	May 15th 2023	17:56	10 min	194.876 L	✓										
MJ-II - 5 ppm - APU - Ozone Out						12	May 15th 2023	17:56	10 min	194.876 L	✓										
MJ-II - 5 ppm - APU - Coalescer						13	May 15th 2023	17:54	10 min	126.068 L	✓										
Chain of Custody	Relinquished By (Signature): <u>J. Licht</u>					Date: <u>May 20 2023</u> Time: _____					Chain of Custody	Received By (Signature): <u>M. J. J. J.</u>					Date: <u>05/23/23</u> Time: <u>10:45</u>				
	Relinquished By (Print Name): <u>Stephanie Licht</u>					Relinquished To: _____						Received By (Print Name): <u>R. J. J.</u>					Relinquished To: _____				
	Company Name: _____					Method of Shipment: _____						Company Name: _____					Method of Shipment: _____				
Chain of Custody	Relinquished By (Signature): _____					Date: _____ Time: _____					Chain of Custody	Received By (Signature): _____					Date: _____ Time: _____				
	Relinquished By (Print Name): _____					Relinquished To: _____						Received By (Print Name): _____					Relinquished To: _____				
	Company Name: _____					Method of Shipment: _____						Company Name: _____					Method of Shipment: _____				

Pennsylvania - HQ
350 Hochberg Road
Monroeville, PA 15146

724.325.1776 Phone
724.733.1799 Fax

Washington
Columbia Basin Analytical Laboratories
2710 North 20th Avenue
Pasco, WA 99301

509.545.4989 Phone
509.544.6010 Fax

 **RJ LEE GROUP**
DELIVERING SCIENTIFIC RESOLUTION

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Request for Environmental and IH Laboratory Analytical Services

6/30/16

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ATTENTION TO: JOE SEARS							Purchase Order No: 2292784		Client Job No:	
Lab Use Only	Project No: _____ Client No: _____						Date Received: _____	Permit/Quotation: Permit	Test Method: _____	CMAA: _____
	Date Loaded In: _____ Loaded In By: _____									
Report Results To	Temperature Upon Receipt (Room Temp): _____ °C (Room ID No): _____						Drinking Water Sampling Only	Sample Purpose: Information <input type="checkbox"/> Regulatory <input type="checkbox"/> Investigation (Leave Blank)		
	Name: BYRON JAMES							Location: MD 10		
	Company: RSL							Address: 2001 Route 8		
	Address: _____							Multiple Locations: _____		
	City/State/Zip: _____ Phone: _____ Fax: _____							Sample Frequency: A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H <input type="checkbox"/> I <input type="checkbox"/> J <input type="checkbox"/> K <input type="checkbox"/> L <input type="checkbox"/> M <input type="checkbox"/> N <input type="checkbox"/> O <input type="checkbox"/> P <input type="checkbox"/> Q <input type="checkbox"/> R <input type="checkbox"/> S <input type="checkbox"/> T <input type="checkbox"/> U <input type="checkbox"/> V <input type="checkbox"/> W <input type="checkbox"/> X <input type="checkbox"/> Y <input type="checkbox"/> Z <input type="checkbox"/> AA <input type="checkbox"/> AB <input type="checkbox"/> AC <input type="checkbox"/> AD <input type="checkbox"/> AE <input type="checkbox"/> AF <input type="checkbox"/> AG <input type="checkbox"/> AH <input type="checkbox"/> AI <input type="checkbox"/> AJ <input type="checkbox"/> AK <input type="checkbox"/> AL <input type="checkbox"/> AM <input type="checkbox"/> AN <input type="checkbox"/> AO <input type="checkbox"/> AP <input type="checkbox"/> AQ <input type="checkbox"/> AR <input type="checkbox"/> AS <input type="checkbox"/> AT <input type="checkbox"/> AU <input type="checkbox"/> AV <input type="checkbox"/> AW <input type="checkbox"/> AX <input type="checkbox"/> AY <input type="checkbox"/> AZ <input type="checkbox"/> BA <input type="checkbox"/> BB <input type="checkbox"/> BC <input type="checkbox"/> BD <input type="checkbox"/> BE <input type="checkbox"/> BF <input type="checkbox"/> BG <input type="checkbox"/> BH <input type="checkbox"/> BI <input type="checkbox"/> BJ <input type="checkbox"/> BK <input type="checkbox"/> BL <input type="checkbox"/> BM <input type="checkbox"/> BN <input type="checkbox"/> BO <input type="checkbox"/> BP <input type="checkbox"/> BQ <input type="checkbox"/> BR <input type="checkbox"/> BS <input type="checkbox"/> BT <input type="checkbox"/> BU <input type="checkbox"/> BV <input type="checkbox"/> BW <input type="checkbox"/> BX <input type="checkbox"/> BY <input type="checkbox"/> BZ <input type="checkbox"/> CA <input type="checkbox"/> CB <input type="checkbox"/> CC <input type="checkbox"/> CD <input type="checkbox"/> CE <input type="checkbox"/> CF <input type="checkbox"/> CG <input type="checkbox"/> CH <input type="checkbox"/> CI <input type="checkbox"/> CJ <input type="checkbox"/> CK <input type="checkbox"/> CL <input type="checkbox"/> CM <input type="checkbox"/> CN <input type="checkbox"/> CO <input type="checkbox"/> CP <input type="checkbox"/> CQ <input type="checkbox"/> CR <input type="checkbox"/> CS <input type="checkbox"/> CT <input type="checkbox"/> CU <input type="checkbox"/> CV <input type="checkbox"/> CW <input type="checkbox"/> CX <input type="checkbox"/> CY <input type="checkbox"/> CZ <input type="checkbox"/> DA <input type="checkbox"/> DB <input type="checkbox"/> DC <input type="checkbox"/> DD <input type="checkbox"/> DE <input type="checkbox"/> DF <input type="checkbox"/> DG <input type="checkbox"/> DH <input type="checkbox"/> DI <input type="checkbox"/> DJ <input type="checkbox"/> DK <input type="checkbox"/> DL <input type="checkbox"/> DM <input type="checkbox"/> DN <input type="checkbox"/> DO <input type="checkbox"/> DP <input type="checkbox"/> DQ <input type="checkbox"/> DR <input type="checkbox"/> DS <input type="checkbox"/> DT <input type="checkbox"/> DU <input type="checkbox"/> DV <input type="checkbox"/> DW <input type="checkbox"/> DX <input type="checkbox"/> DY <input type="checkbox"/> DZ <input type="checkbox"/> EA <input type="checkbox"/> EB <input type="checkbox"/> EC <input type="checkbox"/> ED <input type="checkbox"/> EE <input type="checkbox"/> EF <input type="checkbox"/> EG <input type="checkbox"/> EH <input type="checkbox"/> EI <input type="checkbox"/> EJ <input type="checkbox"/> EK <input type="checkbox"/> EL <input type="checkbox"/> EM <input type="checkbox"/> EN <input type="checkbox"/> EO <input type="checkbox"/> EP <input type="checkbox"/> EQ <input type="checkbox"/> ER <input type="checkbox"/> ES <input type="checkbox"/> ET <input type="checkbox"/> EU <input type="checkbox"/> EV <input type="checkbox"/> EW <input type="checkbox"/> EX <input type="checkbox"/> EY <input type="checkbox"/> EZ <input type="checkbox"/> FA <input type="checkbox"/> FB <input type="checkbox"/> FC <input type="checkbox"/> FD <input type="checkbox"/> FE <input type="checkbox"/> FF <input type="checkbox"/> FG <input type="checkbox"/> FH <input type="checkbox"/> FI <input type="checkbox"/> FJ <input type="checkbox"/> FK <input type="checkbox"/> FL <input type="checkbox"/> FM <input type="checkbox"/> FN <input type="checkbox"/> FO <input type="checkbox"/> FP <input type="checkbox"/> FQ <input type="checkbox"/> FR <input type="checkbox"/> FS <input type="checkbox"/> FT <input type="checkbox"/> FU <input type="checkbox"/> FV <input type="checkbox"/> FW <input type="checkbox"/> FX <input type="checkbox"/> FY <input type="checkbox"/> FZ <input type="checkbox"/> GA <input type="checkbox"/> GB <input type="checkbox"/> GC <input type="checkbox"/> GD <input type="checkbox"/> GE <input type="checkbox"/> GF <input type="checkbox"/> GG <input type="checkbox"/> GH <input type="checkbox"/> GI <input type="checkbox"/> GJ <input type="checkbox"/> GK <input type="checkbox"/> GL <input type="checkbox"/> GM <input type="checkbox"/> GN <input type="checkbox"/> GO <input type="checkbox"/> GP <input type="checkbox"/> GQ <input type="checkbox"/> GR <input type="checkbox"/> GS <input type="checkbox"/> GT <input type="checkbox"/> GU <input type="checkbox"/> GV <input type="checkbox"/> GW <input type="checkbox"/> GX <input type="checkbox"/> GY <input type="checkbox"/> GZ <input type="checkbox"/> HA <input type="checkbox"/> HB <input type="checkbox"/> HC <input type="checkbox"/> HD <input type="checkbox"/> HE <input type="checkbox"/> HF <input type="checkbox"/> HG <input type="checkbox"/> HH <input type="checkbox"/> HI <input type="checkbox"/> HJ <input type="checkbox"/> HK <input type="checkbox"/> HL <input type="checkbox"/> HM <input type="checkbox"/> HN <input type="checkbox"/> HO <input type="checkbox"/> HP <input type="checkbox"/> HQ <input type="checkbox"/> HR <input type="checkbox"/> HS <input type="checkbox"/> HT <input type="checkbox"/> HU <input type="checkbox"/> HV <input type="checkbox"/> HW <input type="checkbox"/> HX <input type="checkbox"/> HY <input type="checkbox"/> HZ <input type="checkbox"/> IA <input type="checkbox"/> IB <input type="checkbox"/> IC <input type="checkbox"/> ID <input type="checkbox"/> IE <input type="checkbox"/> IF <input type="checkbox"/> IG <input type="checkbox"/> IH <input type="checkbox"/> II <input type="checkbox"/> IJ <input type="checkbox"/> IK <input type="checkbox"/> IL <input type="checkbox"/> IM <input type="checkbox"/> IN <input type="checkbox"/> IO <input type="checkbox"/> IP <input type="checkbox"/> IQ <input type="checkbox"/> IR <input type="checkbox"/> IS <input type="checkbox"/> IT <input type="checkbox"/> IU <input type="checkbox"/> IV <input type="checkbox"/> IW <input type="checkbox"/> IX <input type="checkbox"/> IY <input type="checkbox"/> IZ <input type="checkbox"/> JA <input type="checkbox"/> JB <input type="checkbox"/> JC <input type="checkbox"/> JD <input type="checkbox"/> JE <input type="checkbox"/> JF <input type="checkbox"/> JG <input type="checkbox"/> JH <input type="checkbox"/> JI <input type="checkbox"/> JJ <input type="checkbox"/> JK <input type="checkbox"/> JL <input type="checkbox"/> JM <input type="checkbox"/> JN <input type="checkbox"/> JO <input type="checkbox"/> JP <input type="checkbox"/> JQ <input type="checkbox"/> JR <input type="checkbox"/> JS <input type="checkbox"/> JT <input type="checkbox"/> JU <input type="checkbox"/> JV <input type="checkbox"/> JW <input 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<input type="checkbox"/> LH <input type="checkbox"/> LI <input type="checkbox"/> LJ <input type="checkbox"/> LK <input type="checkbox"/> LL <input type="checkbox"/> LM <input type="checkbox"/> LN <input type="checkbox"/> LO <input type="checkbox"/> LP <input type="checkbox"/> LQ <input type="checkbox"/> LR <input type="checkbox"/> LS <input type="checkbox"/> LT <input type="checkbox"/> LU <input type="checkbox"/> LV <input type="checkbox"/> LW <input type="checkbox"/> LX <input type="checkbox"/> LY <input type="checkbox"/> LZ <input type="checkbox"/> MA <input type="checkbox"/> MB <input type="checkbox"/> MC <input type="checkbox"/> MD <input type="checkbox"/> ME <input type="checkbox"/> MF <input type="checkbox"/> MG <input type="checkbox"/> MH <input type="checkbox"/> MI <input type="checkbox"/> MJ <input type="checkbox"/> MK <input type="checkbox"/> ML <input type="checkbox"/> MN <input type="checkbox"/> MO <input type="checkbox"/> MP <input type="checkbox"/> MQ <input type="checkbox"/> MR <input type="checkbox"/> MS <input type="checkbox"/> MT <input type="checkbox"/> MU <input type="checkbox"/> MV <input type="checkbox"/> MW <input type="checkbox"/> MX <input type="checkbox"/> MY <input type="checkbox"/> MZ <input type="checkbox"/> NA <input type="checkbox"/> NB <input type="checkbox"/> NC <input type="checkbox"/> ND <input type="checkbox"/> NE <input type="checkbox"/> NF <input type="checkbox"/> NG <input type="checkbox"/> NH <input type="checkbox"/> NI <input type="checkbox"/> NJ <input type="checkbox"/> NK <input type="checkbox"/> NL <input type="checkbox"/> NM <input type="checkbox"/> NO <input type="checkbox"/> NP <input type="checkbox"/> NQ <input type="checkbox"/> NR <input type="checkbox"/> NS <input type="checkbox"/> NT <input type="checkbox"/> NU <input type="checkbox"/> NV <input type="checkbox"/> NW <input type="checkbox"/> NX <input type="checkbox"/> NY <input type="checkbox"/> NZ <input type="checkbox"/> OA <input type="checkbox"/> OB <input type="checkbox"/> OC <input type="checkbox"/> OD <input type="checkbox"/> OE <input type="checkbox"/> OF <input type="checkbox"/> OG <input type="checkbox"/> OH <input type="checkbox"/> OI <input type="checkbox"/> OJ <input type="checkbox"/> OK <input type="checkbox"/> OL <input type="checkbox"/> OM <input type="checkbox"/> ON <input type="checkbox"/> OO <input type="checkbox"/> OP <input type="checkbox"/> OQ <input type="checkbox"/> OR <input type="checkbox"/> OS <input type="checkbox"/> OT <input type="checkbox"/> OU <input type="checkbox"/> OV <input type="checkbox"/> OW <input type="checkbox"/> OX <input type="checkbox"/> OY <input type="checkbox"/> OZ <input type="checkbox"/> PA <input type="checkbox"/> PB <input type="checkbox"/> PC <input type="checkbox"/> PD <input type="checkbox"/> PE <input type="checkbox"/> PF <input type="checkbox"/> PG <input type="checkbox"/> PH <input type="checkbox"/> PI <input type="checkbox"/> PJ <input type="checkbox"/> PK <input type="checkbox"/> PL <input type="checkbox"/> PM <input type="checkbox"/> PN <input type="checkbox"/> PO <input type="checkbox"/> PP <input type="checkbox"/> PQ <input type="checkbox"/> PR <input type="checkbox"/> PS <input type="checkbox"/> PT <input type="checkbox"/> PU <input type="checkbox"/> PV <input type="checkbox"/> PW <input type="checkbox"/> PX <input type="checkbox"/> PY <input type="checkbox"/> PZ <input type="checkbox"/> QA <input type="checkbox"/> QB <input type="checkbox"/> QC <input type="checkbox"/> QD <input type="checkbox"/> QE <input type="checkbox"/> QF <input type="checkbox"/> QG <input type="checkbox"/> QH <input type="checkbox"/> QI <input type="checkbox"/> QJ <input type="checkbox"/> QK <input type="checkbox"/> QL <input type="checkbox"/> QM <input type="checkbox"/> QN <input type="checkbox"/> QO <input type="checkbox"/> QP <input type="checkbox"/> QQ <input type="checkbox"/> QR <input type="checkbox"/> QS <input type="checkbox"/> QT <input type="checkbox"/> QU <input type="checkbox"/> QV <input type="checkbox"/> QW <input type="checkbox"/> QX <input type="checkbox"/> QY <input type="checkbox"/> QZ <input type="checkbox"/> RA <input type="checkbox"/> RB <input type="checkbox"/> RC <input type="checkbox"/> RD <input type="checkbox"/> RE <input type="checkbox"/> RF <input type="checkbox"/> RG <input type="checkbox"/> RH <input type="checkbox"/> RI <input type="checkbox"/> RJ <input type="checkbox"/> RK <input type="checkbox"/> RL <input type="checkbox"/> RM <input type="checkbox"/> RN <input type="checkbox"/> RO <input type="checkbox"/> RP <input type="checkbox"/> RQ <input type="checkbox"/> RR <input type="checkbox"/> RS <input type="checkbox"/> RT <input type="checkbox"/> RU <input type="checkbox"/> RV <input type="checkbox"/> RW <input type="checkbox"/> RX <input type="checkbox"/> RY <input type="checkbox"/> RZ <input type="checkbox"/> SA <input type="checkbox"/> SB <input type="checkbox"/> SC <input type="checkbox"/> SD <input 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<input type="checkbox"/> TO <input type="checkbox"/> TP <input type="checkbox"/> TQ <input type="checkbox"/> TR <input type="checkbox"/> TS <input type="checkbox"/> TT <input type="checkbox"/> TU <input type="checkbox"/> TV <input type="checkbox"/> TW <input type="checkbox"/> TX <input type="checkbox"/> TY <input type="checkbox"/> TZ <input type="checkbox"/> UA <input type="checkbox"/> UB <input type="checkbox"/> UC <input type="checkbox"/> UD <input type="checkbox"/> UE <input type="checkbox"/> UF <input type="checkbox"/> UG <input type="checkbox"/> UH <input type="checkbox"/> UI <input type="checkbox"/> UJ <input type="checkbox"/> UK <input type="checkbox"/> UL <input type="checkbox"/> UM <input type="checkbox"/> UN <input type="checkbox"/> UO <input type="checkbox"/> UP <input type="checkbox"/> UQ <input type="checkbox"/> UR <input type="checkbox"/> US <input type="checkbox"/> UT <input type="checkbox"/> UU <input type="checkbox"/> UV <input type="checkbox"/> UW <input 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May 15 12,023	5:56 pm	Ozone In
MJ-11	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 11	Total Sample Volume- 194.876 L
Sample Temp- 359.93 F	Sample Duration -10 min	Sample Flow Rate 0.2376239 (m3/min.)

May 15•h 2023	5:56 pm	Ozone Out
MJ-11	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers. Dual 102 mm Quartz Fliter	Sample# 12	Total Sample Volume- 194.876 L
Sample Temp - 360 F	Sample Duration -10 min	Sample Flow Rate 0.237615 (m3/min.)

May 15th 2023	5:54 pm	Pack Exit
MJ-11	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 13	Total Sample Volume- 126.068 L
Sample Temp- 98.82 F	Sample Duration -10 min	Sample Flow Rate 0.1889607 (m3/min.)

May 15" 2023	N/A	NIA
Shipping Blank	NIA	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 1	NIA
NIA	NIA	NIA

May 15'h 2023	NIA	Ambient
Field Blank	NIA	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#6	NIA
NIA	NIA	NIA

May 15" 2023	NIA	Ozone In
Field Blank	N/A	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#7	NIA
NIA	NIA	NIA

May 15"" 2023	N/A	Ozone Out
Field Blank	N/A	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#8	NIA
N/A	NIA	N/A

May 15" 2023	N/A	Pack Exit
Field Blank	NIA	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#9	NIA
N/A	NIA	NIA

May 15" 2023	3:51 pm	Ambient
Baseline	Fluid Injection Rate - O	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#2	Total Sample Volume- 225,622 L
Sample Temp - 76.09 F	Sample Duration -21 min	Sample Flow Rate 0.1671913 (m3/min.)

May 15'h 2023	4:02 pm	Ozone In
Baseline	Fluid Injection Rate -0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#3	Total Sample Volume- 194.876 L
Sample Temp- 359.93 F	Sample Duration -10 min	Sample Flow Rate 0.2377622 (m3/min.)

May 15 ^h 2023	4:02pm	Ozone Out
Baseline	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#4	Total Sample Volume- 194.876 L
Sample Temp- 360 F	Sample Duration -10 min	Sample Flow Rate 0.2377533 (m3/min.)

May 15"" 2023	3:53 pm	Pack Exit
Baseline	Fluid Injection Rate - O	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 5	Total Sample Volume- 283.779 L
Sample Temp - 98.82 F	19 min	Sample Flow Rate 0.220216019 (m3/min.)

May 15""2023	5:58 pm	Ambient
MJ-11	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 10	Total Sample Volume- 149.358 L
Sample Temp- 76.09 F	Sample Duration -10 min	Sample Flow Rate 0.2240901 (m3/min.)

May 16 th 2023	NIA	Field Blank
NIA	N/A	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 14	NIA
NIA	NIA	NIA

May 16 th 2023	3:52pm	Ozone In
Baseline 300C	Fluid Injection Rate -0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 15	Total Sample Volume
Sample Temp 132.8C	Sample Duration 25 min	Sample Flow Rate

May 16 th 2023	3:52pm	Ozone Out
Baseline -300 C	Fluid Injection Rate-0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 16	Total Sample Volume
Sample Temp 138.7 C	Sample Duration 25 min	Sample Flow Rate

May 16 th 2023	3:52 pm	Pack Exit
Baseline 300 C	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 17	Total Sample Volume
Sample Temp 29.1 C	Sample Duration 25min	Sample Flow Rate

May 16 th 2023	6:02pm	Ozone In
MJ-11- 300 C	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 18	Total Sample Volume
Sample Temp 124.3 C	Sample Duration 25 min	Sample Flow Rate

May 16 th 2023	6:02 pm	Pack Exit
Baseline 300 C	Fluid Injection Rate-5ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 19	Total Sample Volume
Sample Temp 29.2 C	Sample Duration 25 min	Sample Flow Rate

May 17 th 2023	NIA	Field Blank
NIA	NIA	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#20	NIA
NIA	NIA	NIA

May 17 th 2023	1:00	Ozone In
2197300C	Fluid Injection Rate - 5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#24	Total Sample Volume
Sample Temp 82.4 C	Sample Duration 20min	Sample Flow Rate

May 17 th 2023	11:05	Ozone In - Ambient
Baseline 300 C	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#21	Total Sample Volume
Sample Temp 27.SC	Sample Duration 19 min	Sample Flow Rate

May 17 th 2023	1:00	Ozone Out
2197 300 C	Fluid Injection Rate-5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 25	Total Sample Volume
Sample Temp 139C	Sample Duration 20 min	Sample Flow Rate

May 17 th 2023	11:05	Ozone Out
Baseline 300 C	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#22	Total Sample Volume
Sample Temp 149.3 C	Sample Duration 19 min	Sample Flow Rate

May 17 ^u , 2023	1:00	Pack Exit
2197 300 C	Fluid Injection Rate - 5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#26	Total Sample Volume
Sample Temp 29.9C	Sample Duration 20min	Sample Flow Rate

May 17 th 2023	11:05	Pack Exit
Baseline 300 C	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#23	Total Sample Volume
Sample Temp 33.1 C	Sample Duration 19 min	Sample Flow Rate

May 17 th 2023		Ozone Out
Burnout	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#28	Total Sample Volume
Sample Temp	Sample Duration	Sample Flow Rate

May 17 th 2023		Ozone In
Burnout	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#27	Total Sample Volume
Sample Temp	Sample Duration	Sample Flow Rate

May 17 th 2023		Pack Exit
Burnout	Fluid Injection Rate - 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Filter	Sample#29	Total Sample Volume
Sample Temp	Sample Duration	Sample Flow Rate

May 18u, 2023	NIA	Field Blank
NIA	NIA	NIA
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 30	NIA
NIA	N/A	NIA

May 18 th 2023	5:07 pm	Ozone In
Baseline 220 C	Fluid Injection Rate-0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 34	Total Sample Volume
Sample Temp 70.5 C	Sample Duration 15min	Sample Flow Rate

May 18 th 2023	12:10	Ozone In
MJ-11220 C	Fluid Injection Rate - 10 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample #31	Total Sample Volume
Sample Temp 62.6C	Sample Duration 25 min	Sample Flow Rate

May 18 th 2023	5:07 pm	Ozone Out
Baseline 220 C	Fluid Injection Rate-0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 35	Total Sample Volume
Sample Temp 121.9C	Sample Duration 15 min	Sample Flow Rate

May 18 th 2023	12:10	Ozone Out
MJ-11220 C	Fluid Injection Rate - 10 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#32	Total Sample Volume
Sample Temp 116.6C	Sample Duration 25 min	Sample Flow Rate

May 18 th 2023	5:07 pm	Coalescer
Baseline 220 C	Fluid Injection Rate- 0	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#36	Total Sample Volume
Sample Temp 20.3 C	Sample Duration 15 min	Sample Flow Rate

May 18 th 2023	12:10	Pack Exit
MJ-11220 C	Fluid Injection Rate - 10 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#33	Total Sample Volume
Sample Temp 19 C	Sample Duration 25min	Sample Flow Rate

May 18 th 2023	5:33 pm	Ozone In
Skydrol 220 C	Fluid Injection Rate-5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#37	Total Sample Volume
Sample Temp 66.6 C	Sample Duration 20min	Sample Flow Rate

May 18u, 2023	5:33 pm	Pack Exit
Skydrol 220 C	Fluid Injection Rate-5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample# 39	Total Sample Volume
Sample Temp 20.4 C	Sample Duration 20 min	Sample Flow Rate

May 18 th 2023	5:33pm	Ozone Out
Skydrol 220 C	Fluid Injection Rate-5 ppmW	Bleed Air Exit Temp
Speciated Phosphate Isomers, Dual 102 mm Quartz Filter	Sample#38	Total Sample Volume
Sample Temp 119.5 C	Sample Duration 20 min	Sample Flow Rate

Air Volumes for PAH Samples

Speciated Phosphate Isomers

Client Sample ID

CoC Update Received on 08/22/23 From Dr. Fox via e-mail

Sample #	Sample Collection Date	Sample Collection Time	Total Collection Time (min)	Air Volume (Liters)	Magnaheli	Sample Temp (°C)	Baro
Shipping Blank	1 May 15th 2023	N/A	N/A	N/A	N/A	N/A	
Field Blank - Ambient	2 May 15th 2023	N/A	N/A	N/A	N/A	N/A	
Field Blank - Ozone In	3 May 15th 2023	N/A	N/A	N/A	N/A	N/A	
Field Blank - Ozone Out	4 May 15th 2023	N/A	N/A	N/A	N/A	N/A	
Field Blank - Pack Exit	5 May 15th 2023	N/A	N/A	N/A	N/A	N/A	
Baseline - Ambient	6 May 15th 2023	3:24:00 PM	20 min	3344	20	76.09	30.14
Baseline - Ozone In	7 May 15th 2023	3:37:00 PM	20 min	4755	70	359.93	30.14
Baseline - Ozone Out	8 May 15th 2023	3:37:00 PM	20 min	4755	70	360	30.14
Baseline - Pack Exit	9 May 15th 2023	3:26:00 PM	20 min	4404	40	98.82	30.14
MJ-II - 5 ppm - APU - Ambient	10 May 15th 2023	5:37:00 PM	10 min	2241	40	76.09	30.1
MJ-II - 5 ppm - APU - Ozone In	11 May 15th 2023	5:37:00 PM	10 min	2376	70	359.93	30.1
MJ-II - 5 ppm - APU - Ozone Out	12 May 15th 2023	5:37:00 PM	10 min	2376	70	360	30.1
MJ-II - 5 ppm - APU - Pack Exit	13 May 15th 2023	5:37:00 PM	10 min	1890	28	98.82	30.1
Field Blank	14 May 16th 2023	N/A	N/A	N/A	N/A	N/A	
Baseline - 300 C - Ozone In	15 May 16th 2023	3:52:00 PM	25 min	6588	80	132.8	271.04 ** → Can b
Baseline - 300 C - Ozone Out	16 May 16th 2023	3:52:00 PM	25 min	6546	80	138.7	281.66
Baseline - 300 C - Pack Exit	17 May 16th 2023	3:52:00 PM	25 min	4451	24	29.1	84.38
MJ-II - 300 C - 5ppmW - Ozone In	18 May 16th 2023	6:02:00 PM	25 min	6263	70	124.3	255.74
MJ-II - 300 C - 5ppmW - Pack Exit	19 May 16th 2023	6:02:00 PM	25 min	4524	25	29.2	84.56
Field Blank	20 May 17th 2023	N/A	N/A	N/A	N/A	N/A	N/A
Baseline - 300 C - Ozone In/Ambient	21 May 17th 2023	11:05:00 AM	19 min	4374	58	127.8	262.04
Baseline - 300 C - Ozone Out	22 May 17th 2023	11:05:00 AM	19 min	4924	80	149.3	300.74
Baseline - 300 C - Pack Exit	23 May 17th 2023	11:05:00 AM	19 min	3592	28	33.1	91.58
2197 - 300 C - 5ppmW - Ozone In	24 May 17th 2023	1:00:00 PM	20 min	4551	50	82.4	180.32
2197 - 300 C - 5ppmW - Ozone Out	25 May 17th 2023	1:00:00 PM	20 min	4719	63	139	282.2
2197 - 300 C - 5ppmW - Ozone Out	26 May 17th 2023	1:00:00 PM	20 min	3800	28	29.9	85.82
Burnout - Ozone In	27 May 17th 2023						
Burnout - Ozone Out	28 May 17th 2023						
Burnout - Pack Exit	29 May 17th 2023						
Field Blank	30 May 18th 2023	N/A	N/A	N/A	N/A	N/A	N/A
MJ-II - 220 C - Ozone In	31 May 18th 2023	12:10:00 PM	25 min	6080	54	62.6	144.68
MJ-II - 220 C - Ozone Out	32 May 18th 2023	12:10:00 PM	25 min	6219	66	116.6	241.88
MJ-II - 220 C - Pack Exit	33 May 18th 2023	12:10:00 PM	25 min	5006	30	19	66.2
Baseline - 220C - Ozone In	34 May 18th 2023	5:07:00 PM	15 min	3582	53	70.4	158.72
Baseline - 220C - Ozone Out	35 May 18th 2023	5:07:00 PM	15 min	3720	66	119.3	246.74
Baseline - 220C - Pack Exit	36 May 18th 2023	5:07:00 PM	15 min	3002	30	19.3	66.74
Skydrol - 220C - 5ppmW - Ozone In	37 May 18th 2023	5:33:00 PM	20 min	5068	60	66.6	151.88
Skydrol - 220C - 5ppmW - Ozone Out	38 May 18th 2023	5:33:00 PM	20 min	4892	64	119.5	247.1
Skydrol - 220C - 5ppmW - Pack Exit	39 May 18th 2023	5:33:00 PM	20 min	4109	32	20.4	68.72

Total Ion Current GC/MS Chromatograms

Instrument Batch 2230724A

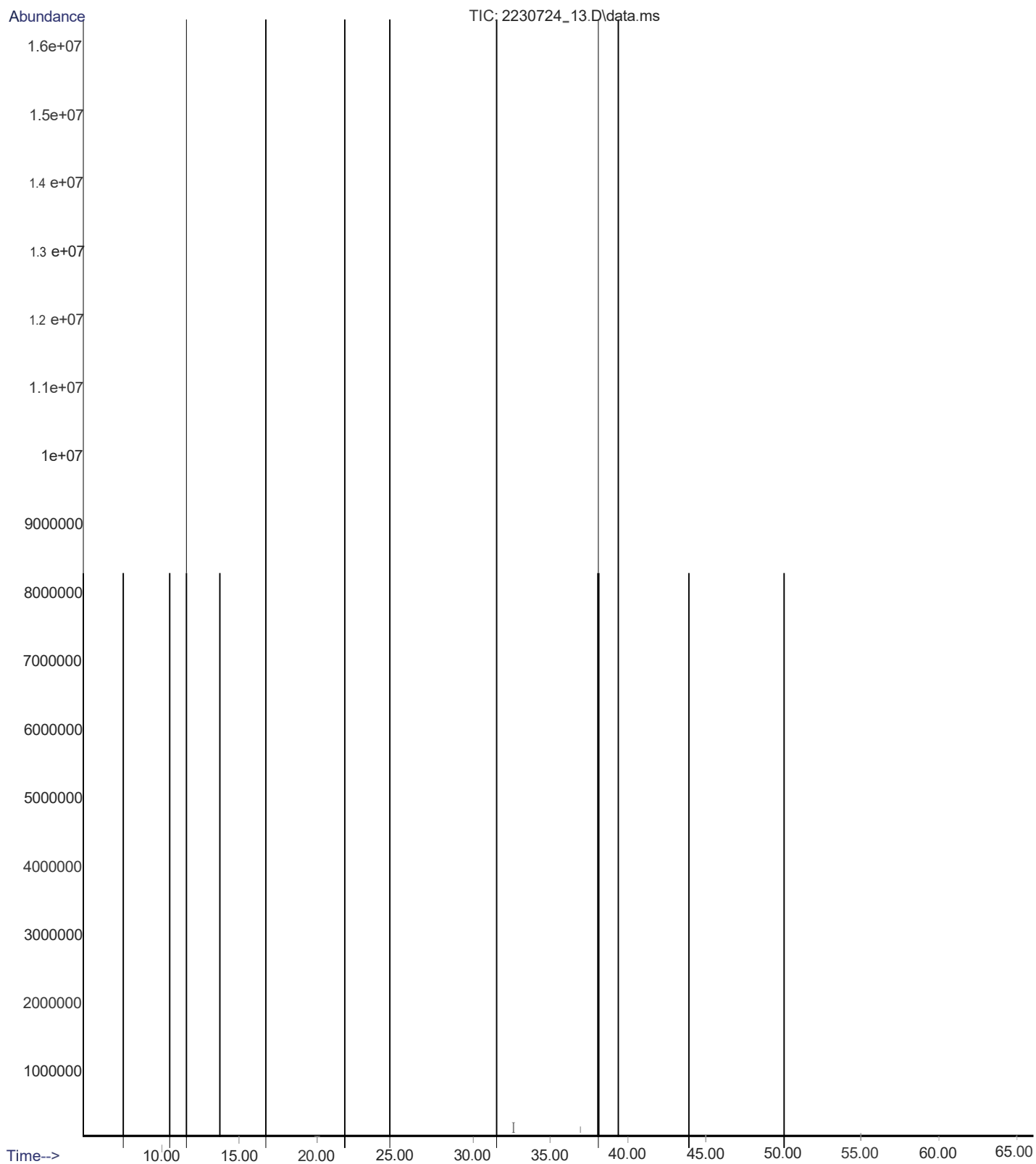
EPA Method TO-13

Work Order: W305169

Samples -01 Through -39

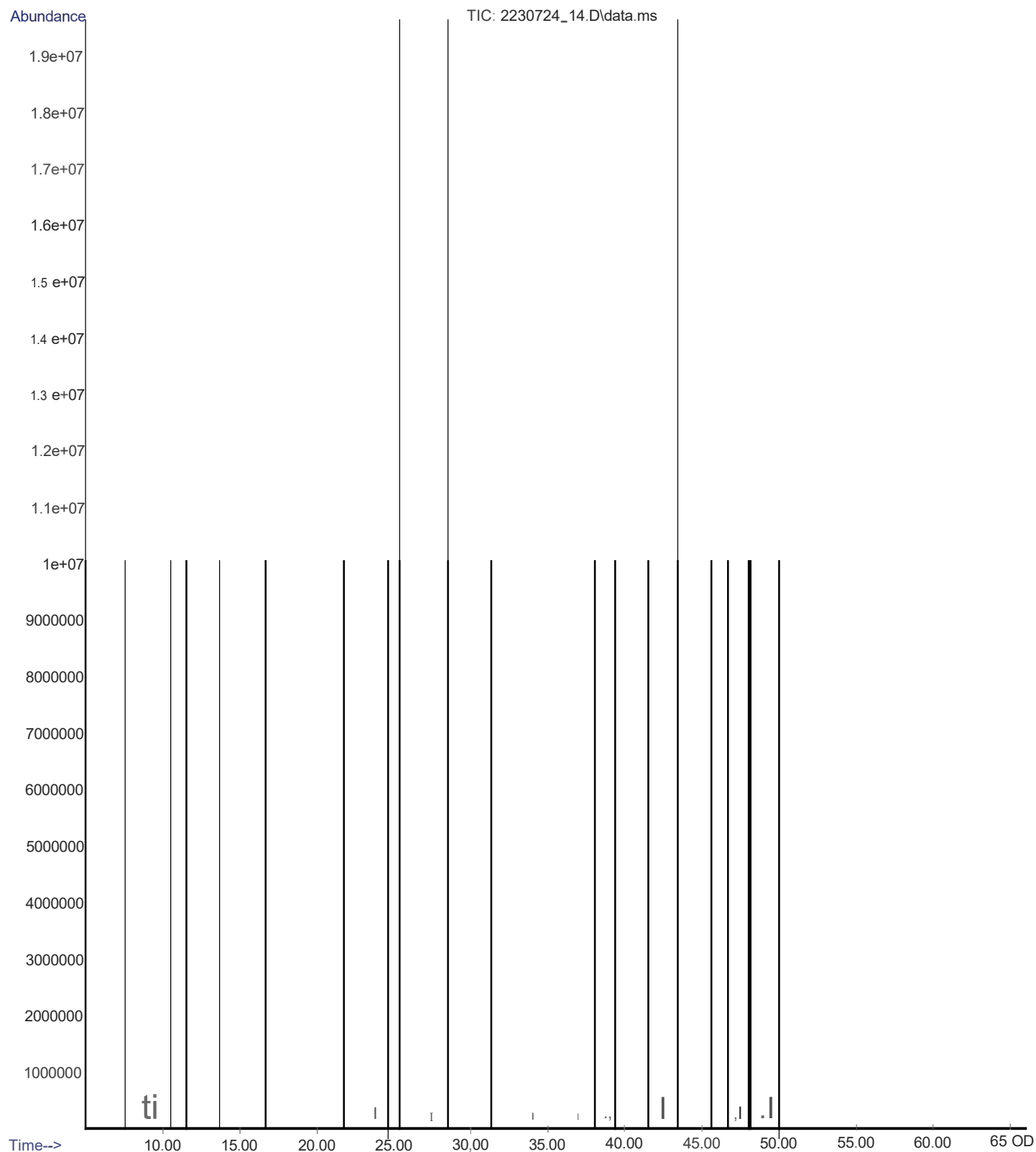
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Operator LJS
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Instrument GCMS-02
Sample Name:CB-S1
Misc Info
Vial Number: 12

*Calibration Blank
with Sunogate +
Internal STDs*

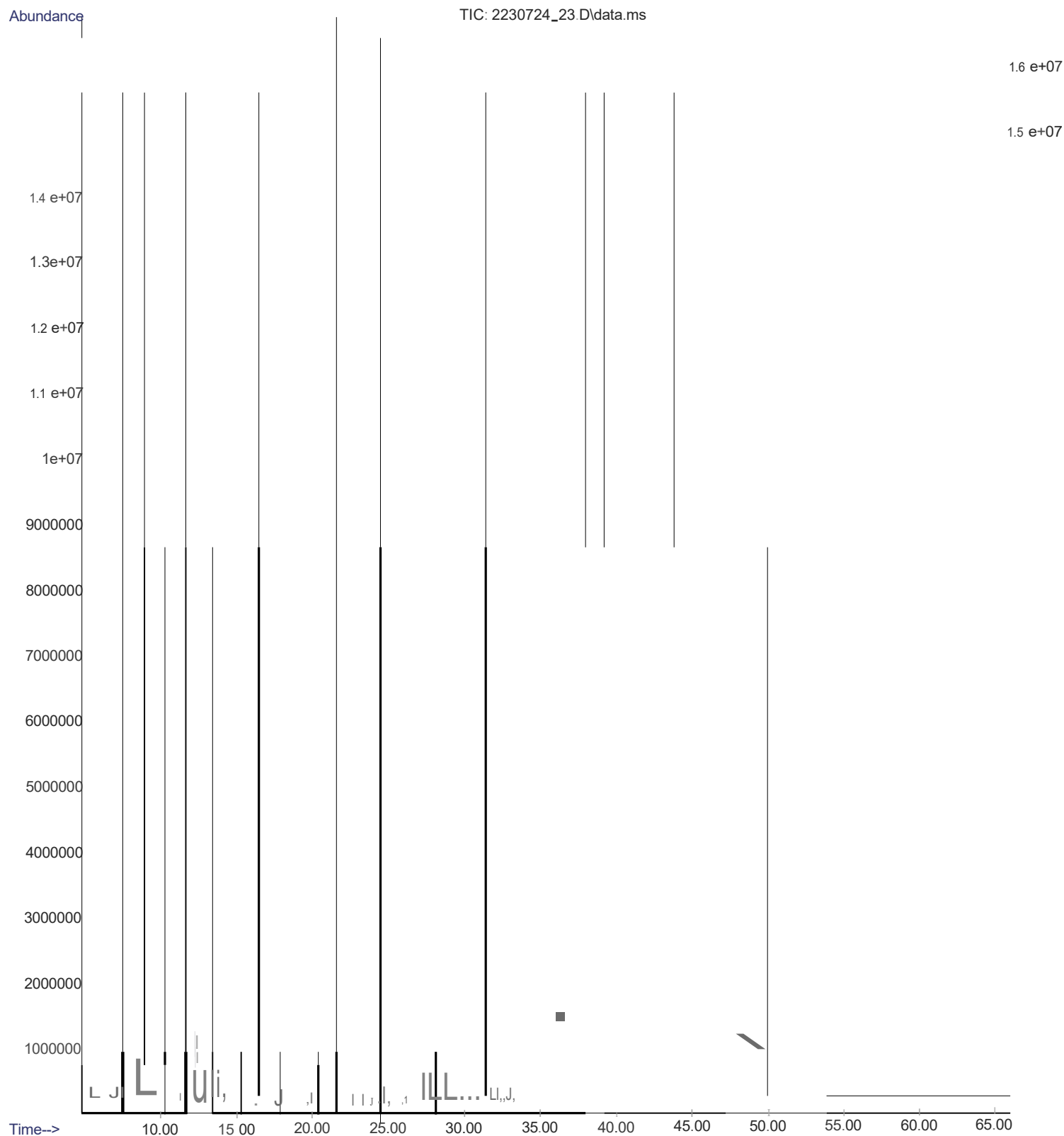


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Instrument GCMS-02
Sample Name: CCV1
Misc Info
Vial Number: 13

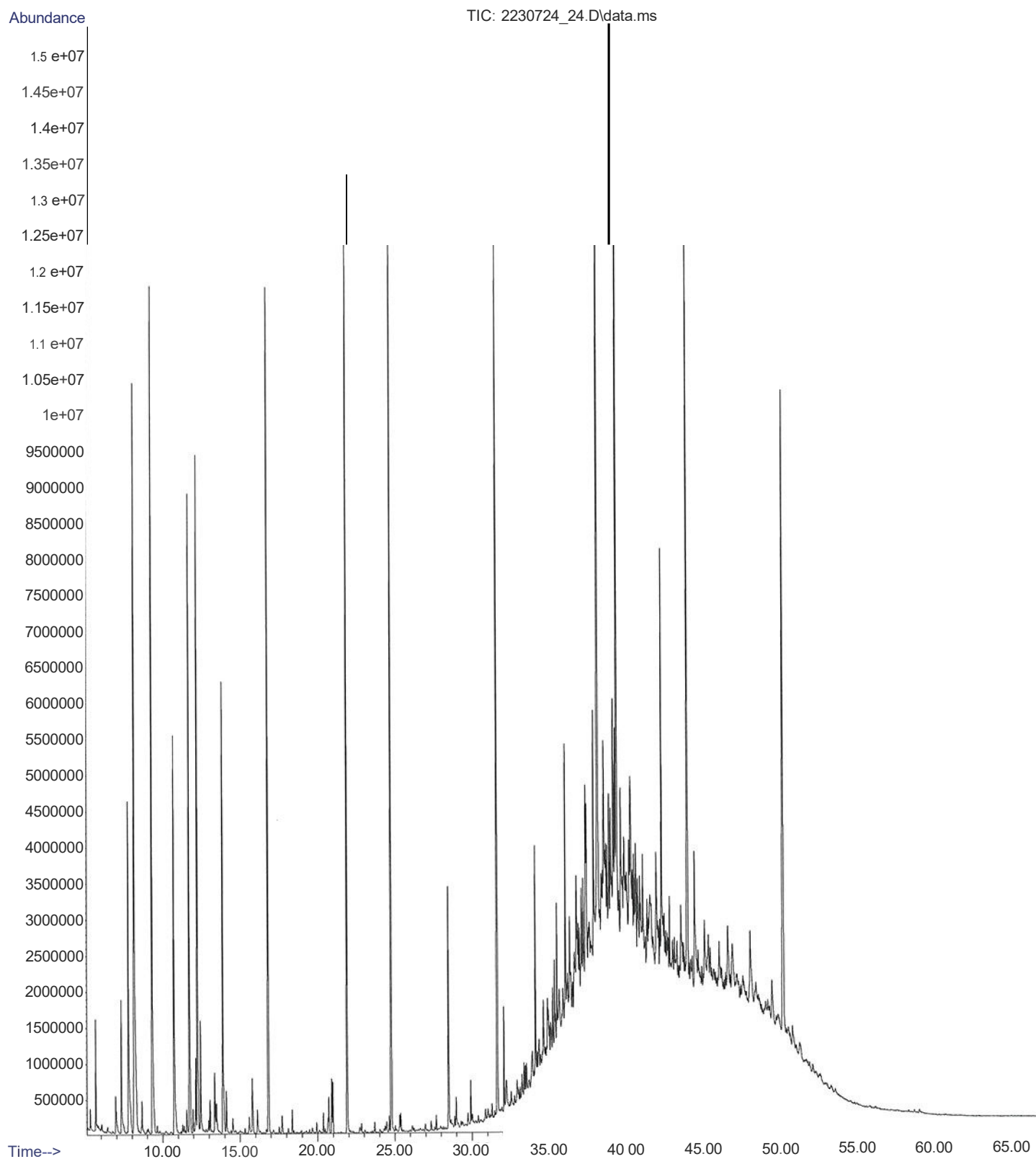
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af:..eo.J-



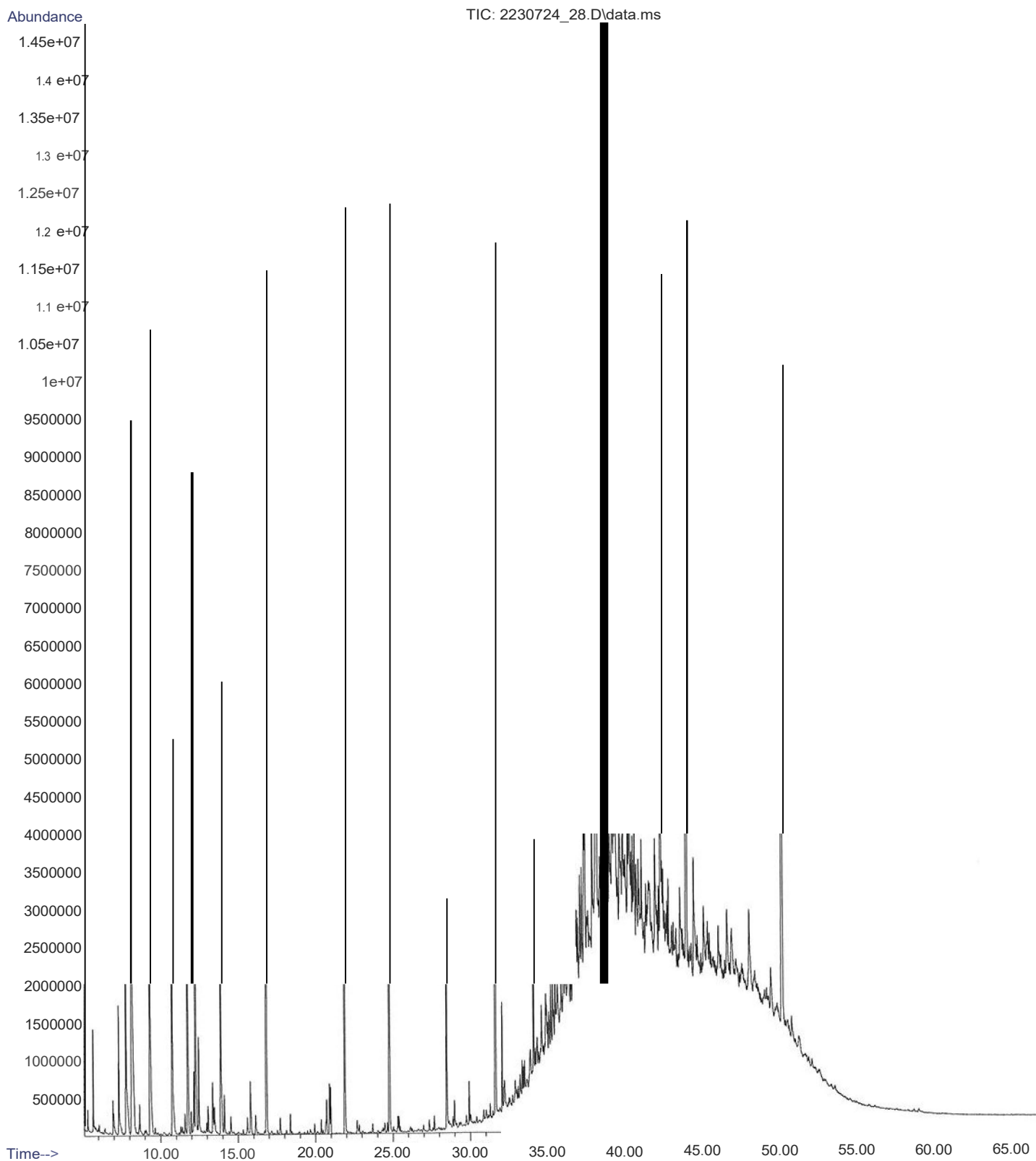
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Instrument . GCMS-02
Sample Name:W305169-01
Misc Info :
Vial Number:21



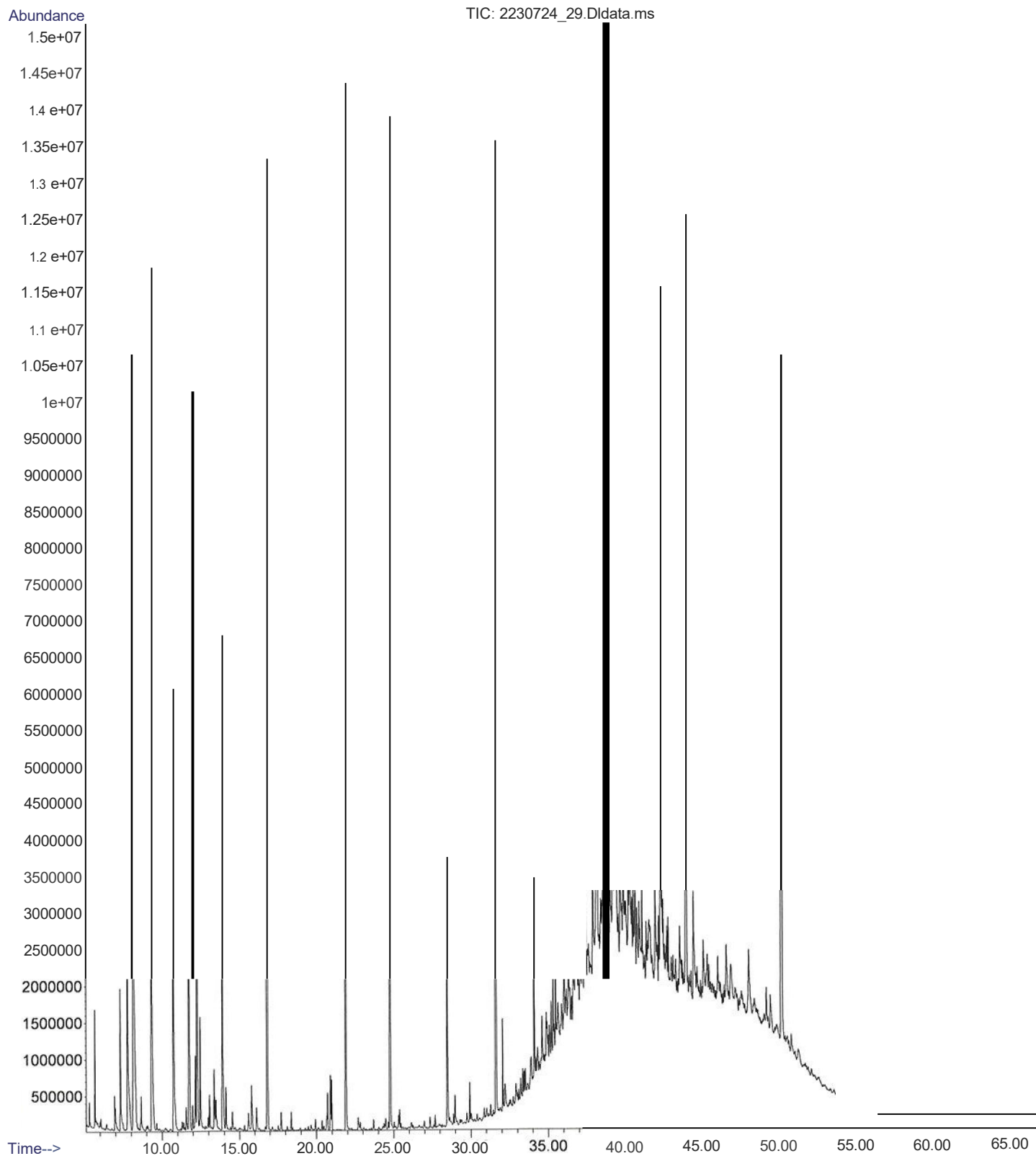
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Instrument GCMS-02
Sample Name: W305169-02
Misc Info .
Vial Number: 22



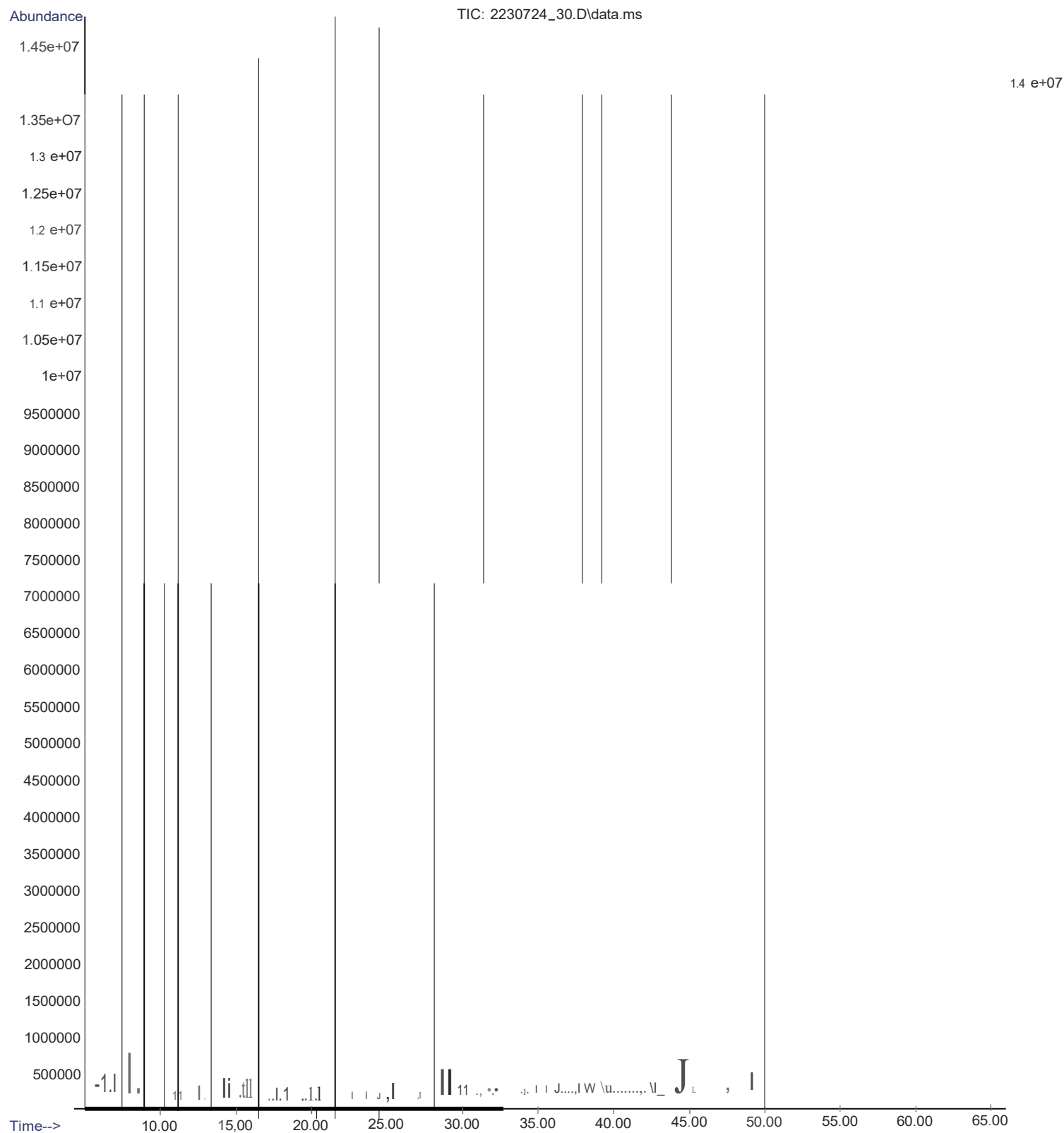
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Instrument GCMS-02
Sample Name:W305169-03
Misc Info
Vial Number: 23



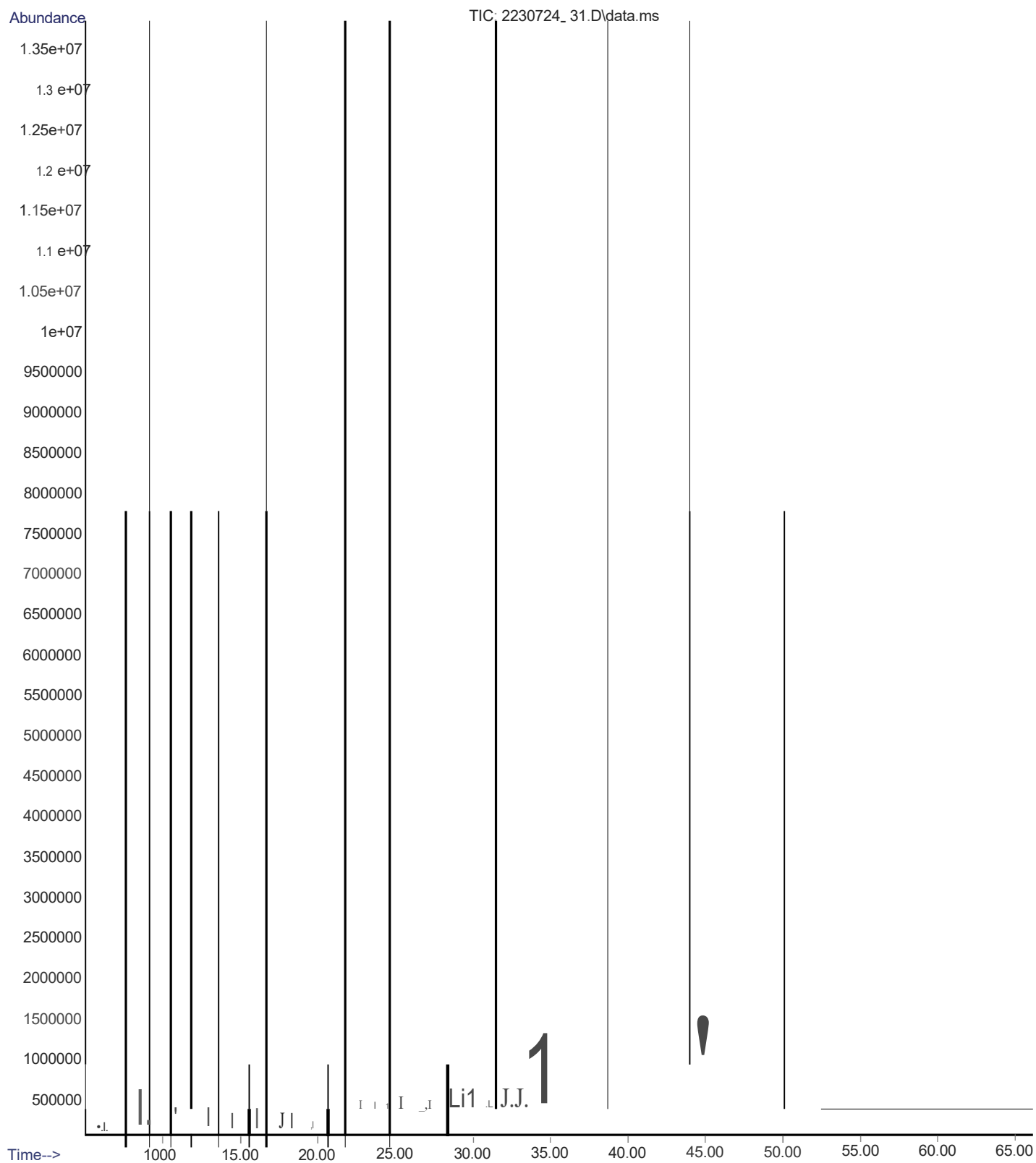
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Sample Name:W305169-04
Misc Info
Vial Number:24



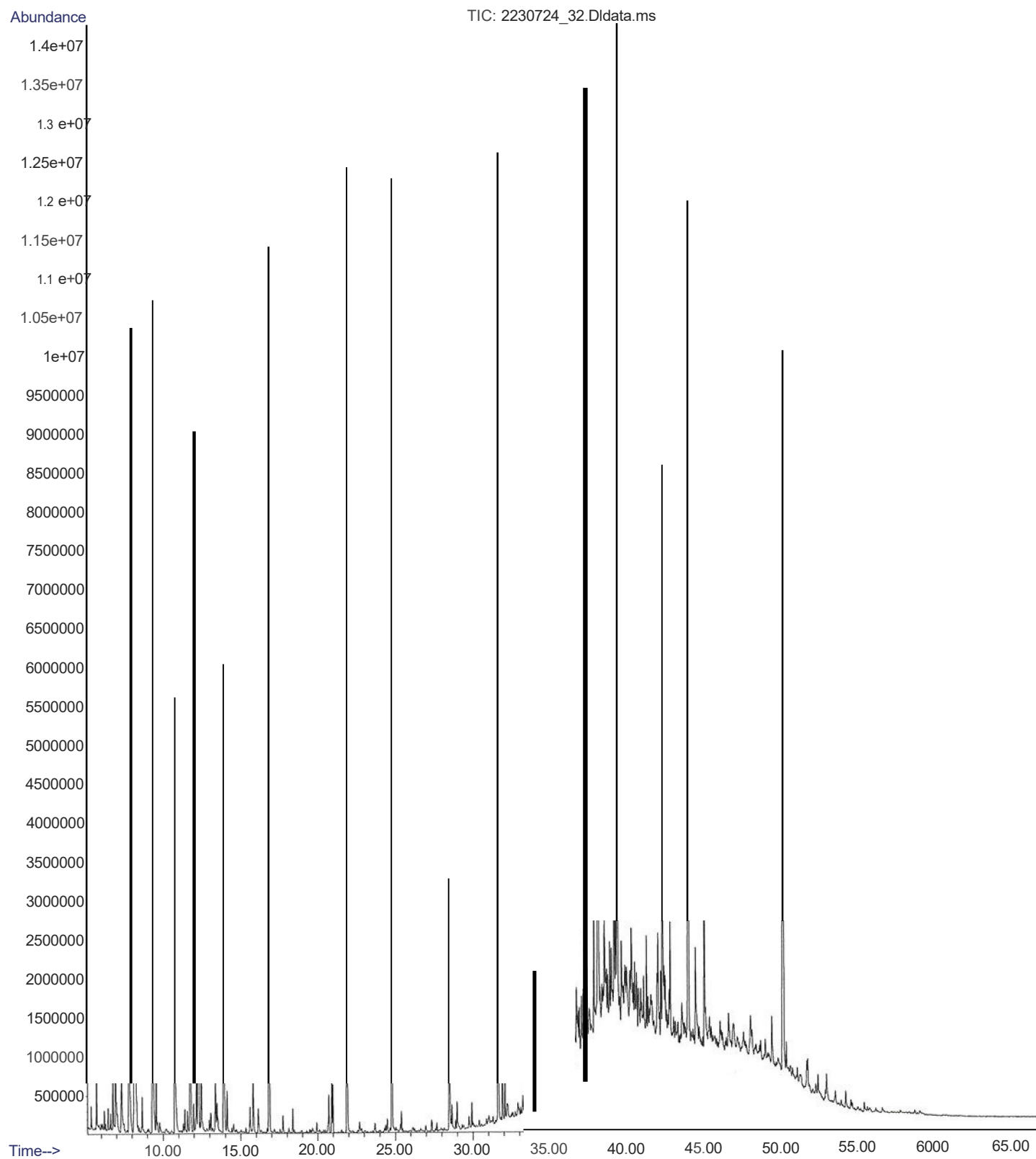
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Sample Name: W305169-05
Misc Info
Vial Number:25



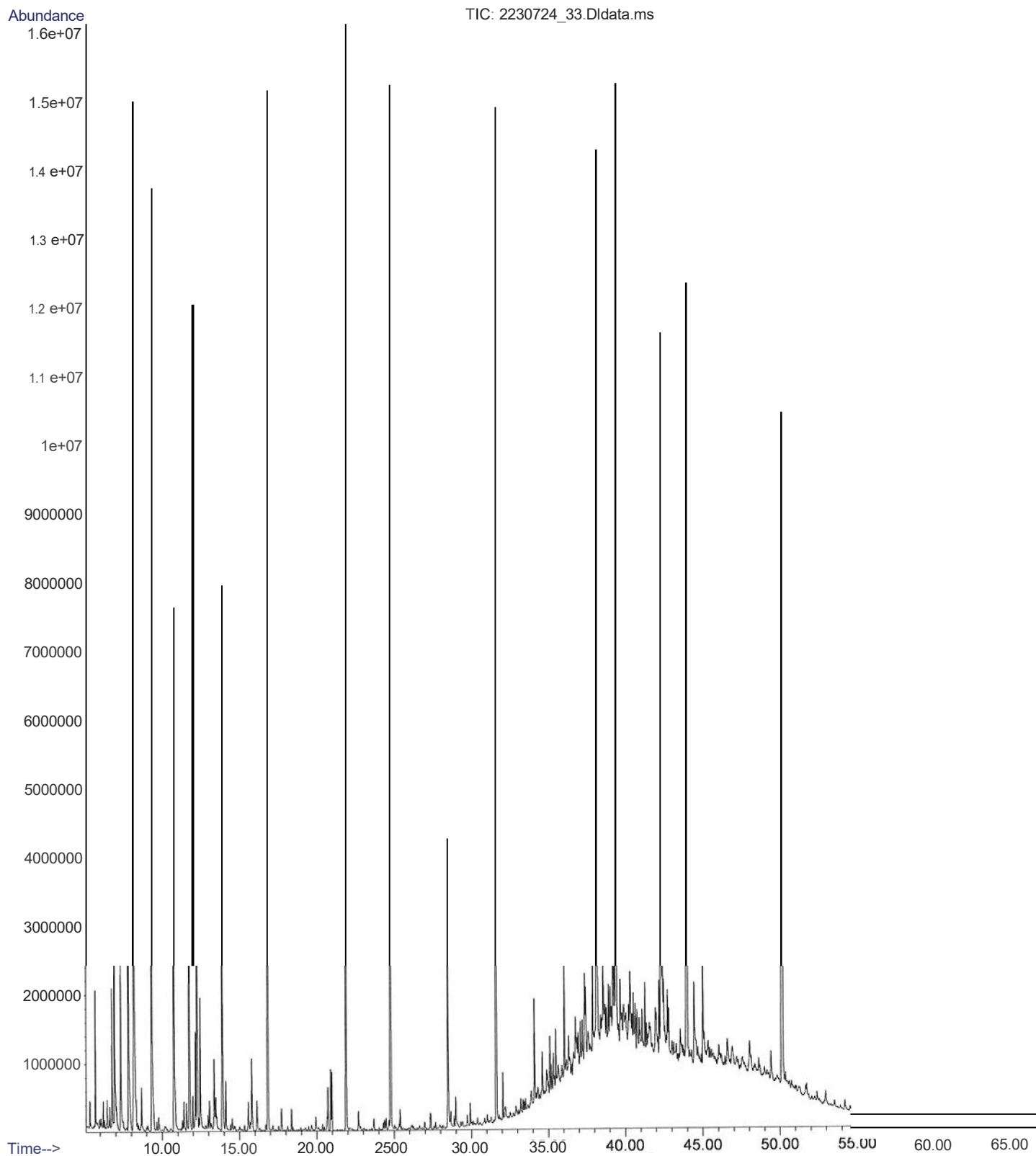
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Instrument GCMS-02
Sample Name:W305169-0-6
Misc Info •
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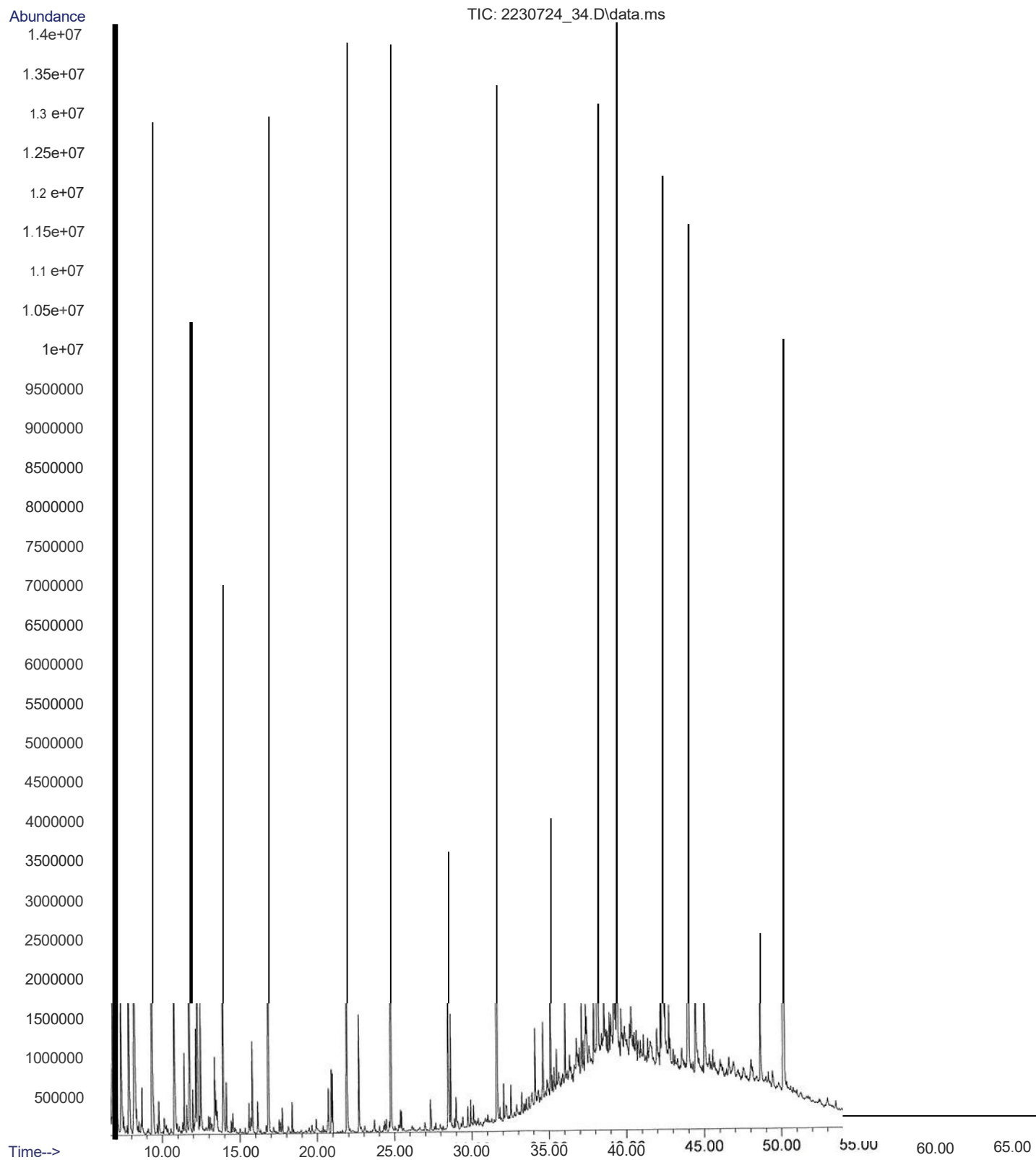
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Instrument GCMS-02
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Misc Info
Vial Number:27



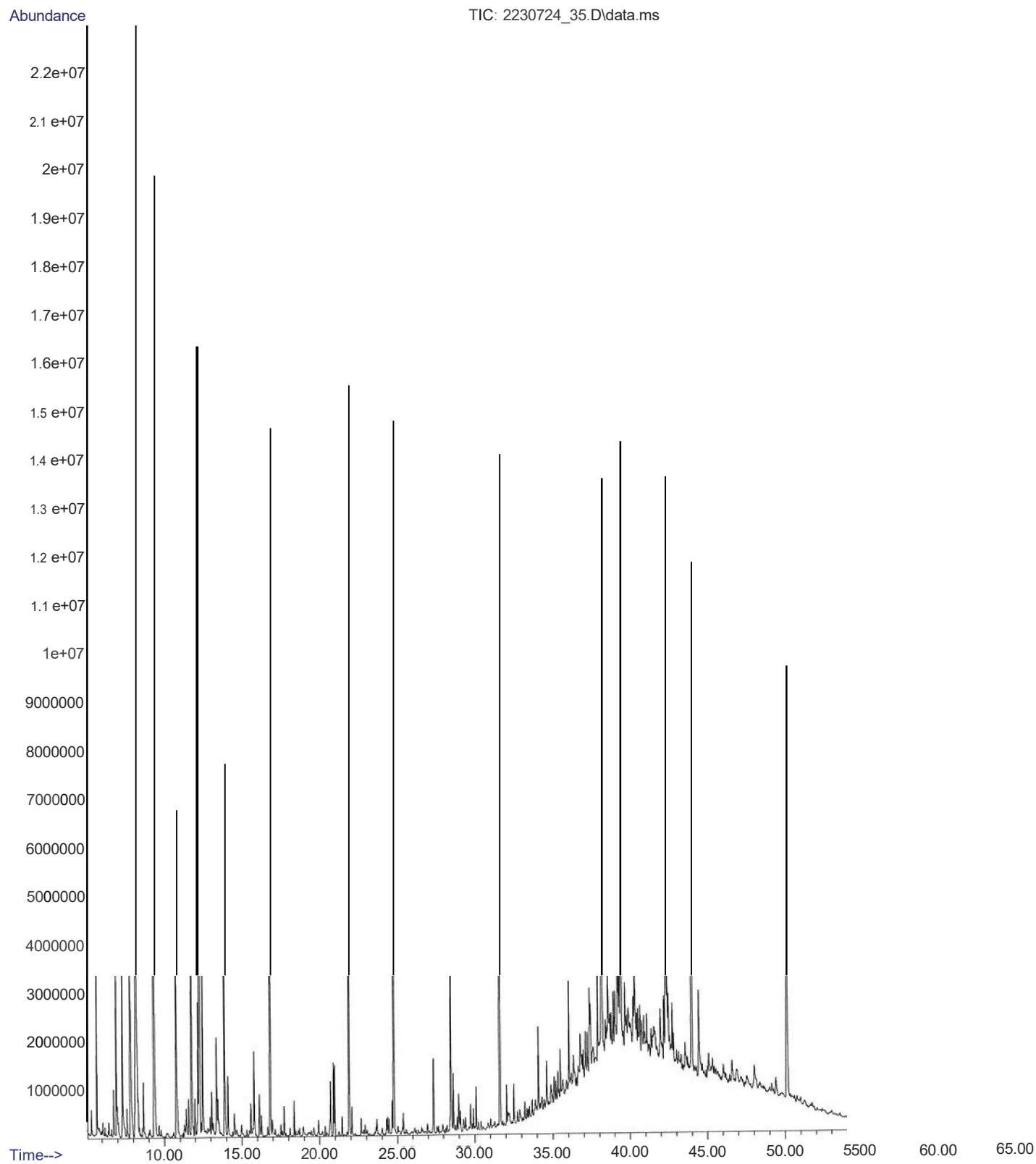
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Operator LJS
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Instrument GCMS-02
Sample Name:W305169-08
Misc Info .
Vial Number: 28



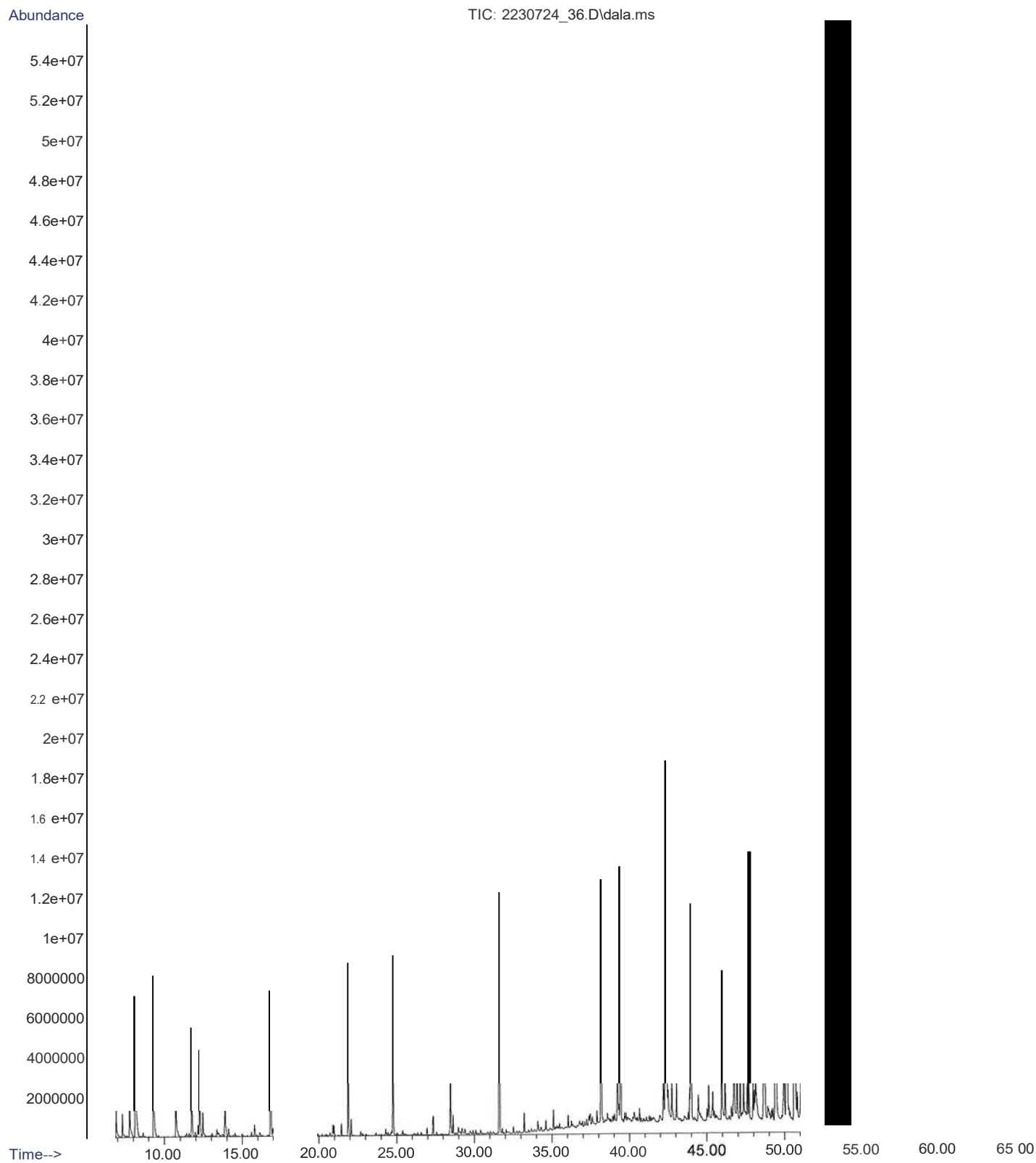
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_34.D
Operator LJS
Acquired 26 Jul 2023 4:21 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-09
Misc Info .
Vial Number: 29



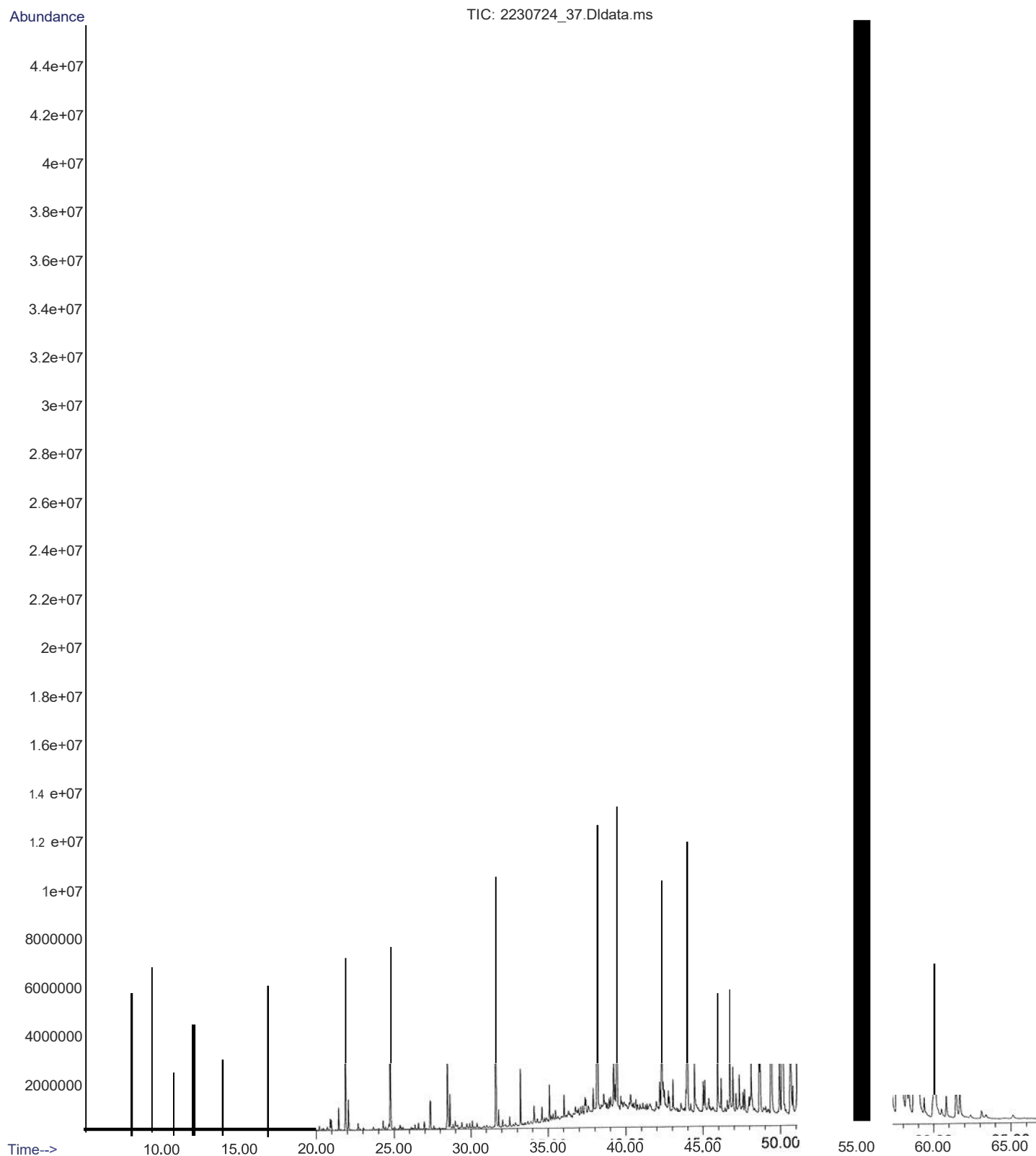
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_35.D
Operator LJS
Acquired 26 Jul 2023 5:40 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-10
Misc Info
Vial Number:30



File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_36.D
Operator LJS
Acquired 26 Jul 2023 6:59 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-11
Misc Info
VialNumber: 31

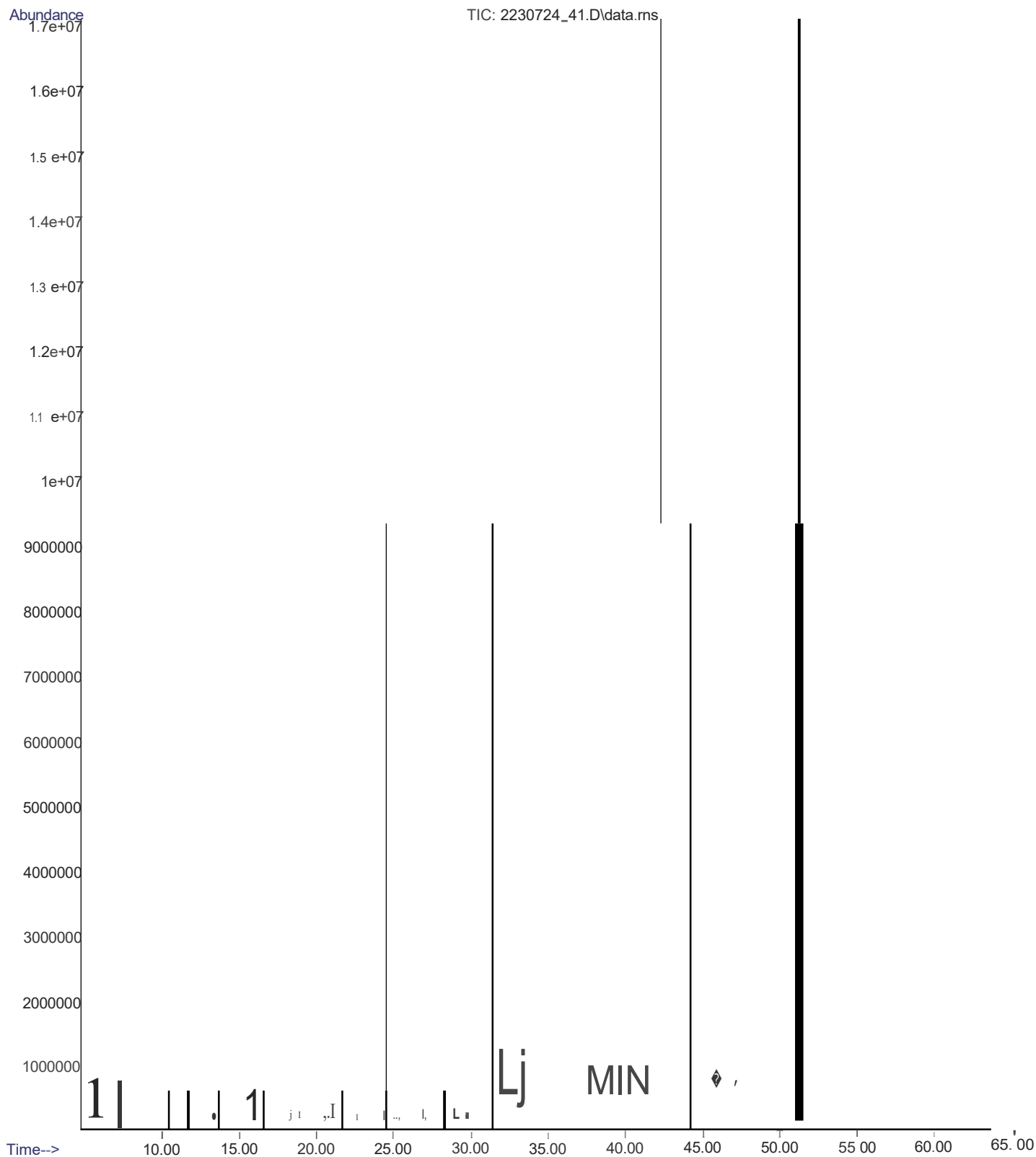


File :C:\msdchem\1\data\GC_MS_02\2023\2230724\2230724_37.D
Operator LJS
Acquired 26 Jul 2023 8:17 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-12
Misc Info .
Vial Number:32

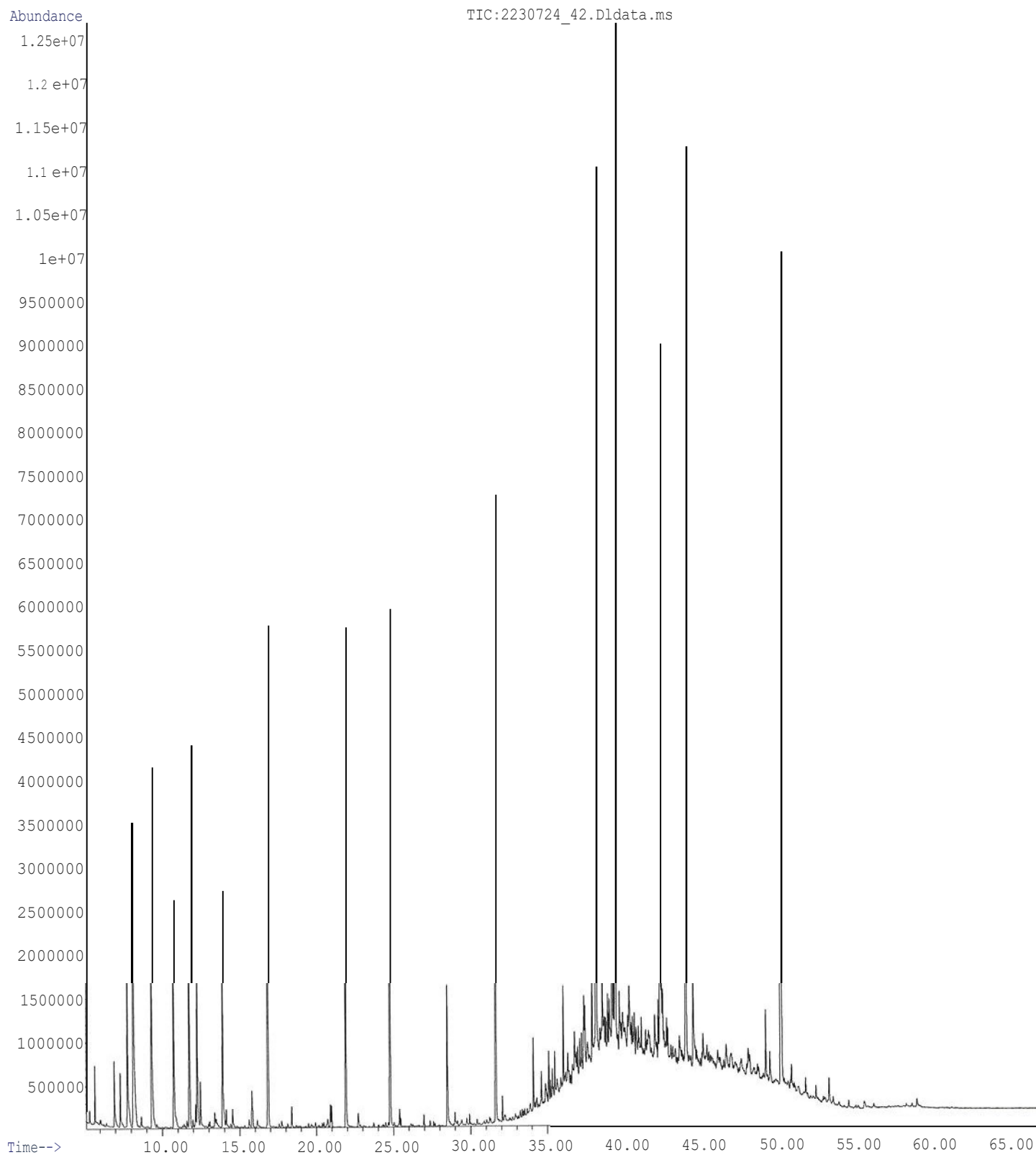


File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_41.D
Operator : LJS
Acquired 26 Jul 2023
Instrument GCMS-02
Sample Name:W305169-13
Misc Info
Vial Number: 33

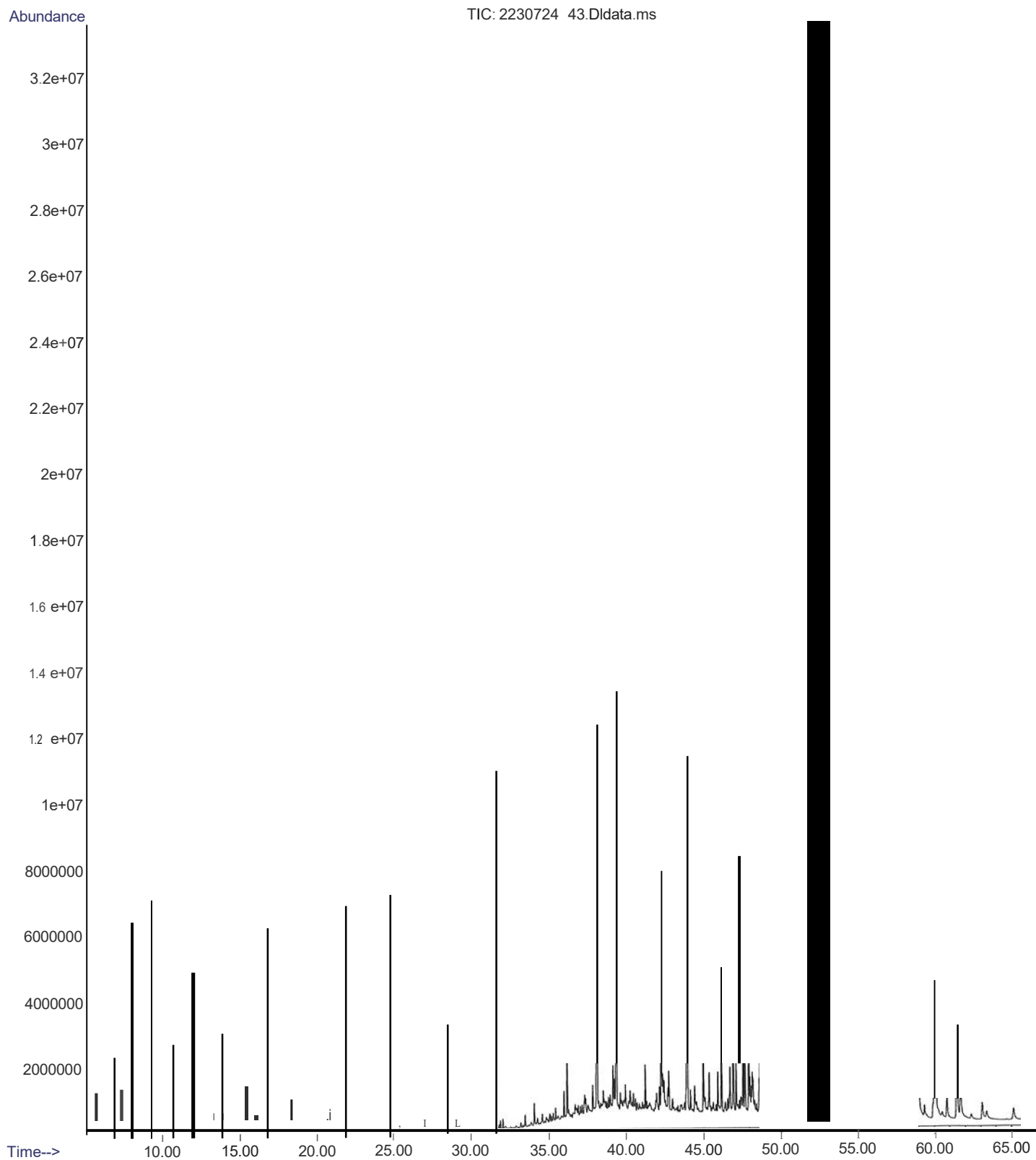
1:32 pm using AcqMethod PHOSPHATES_A01.M



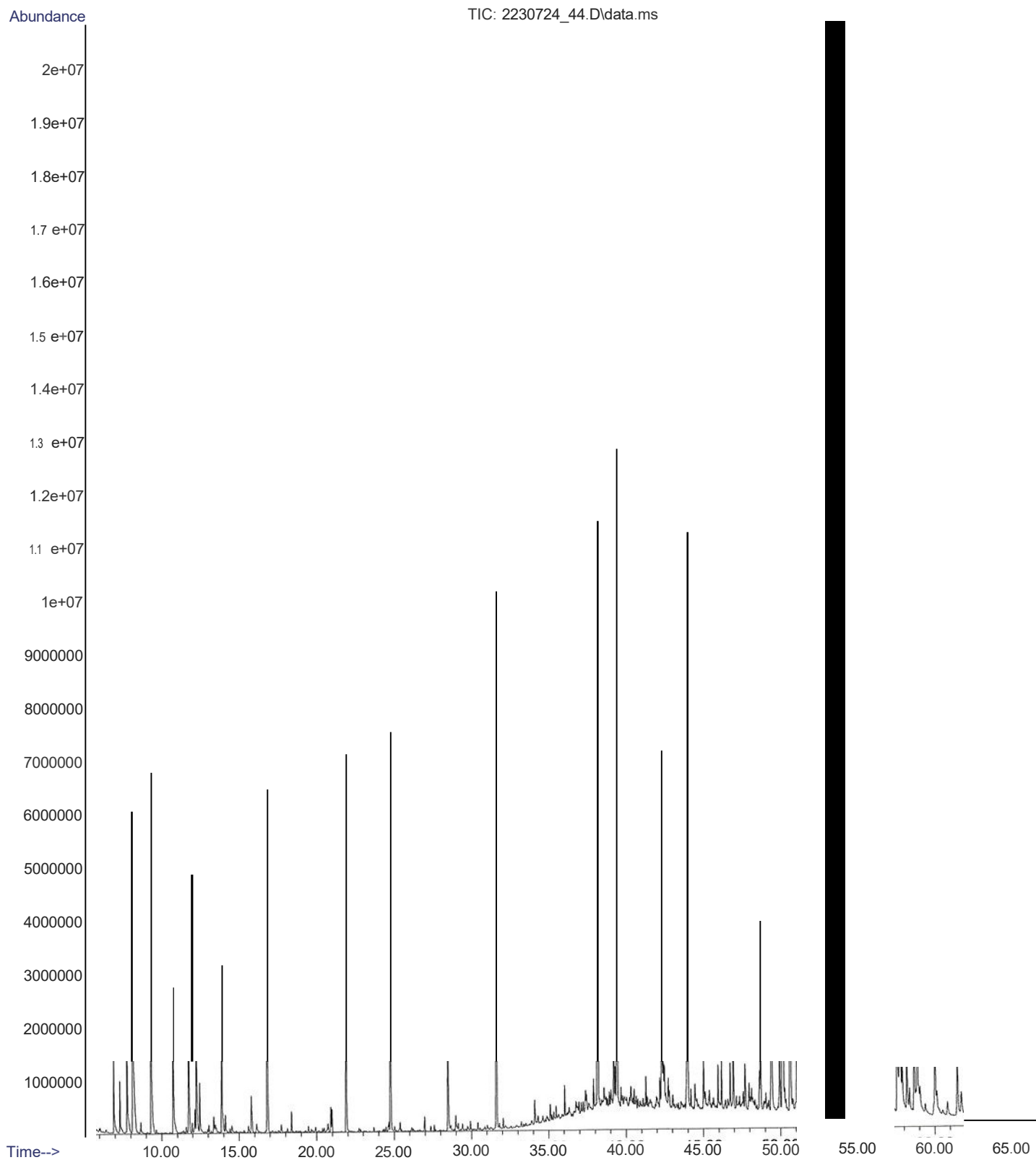
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_42.D
Operator LJS
Acquired 26 Jul 2023 2:51 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-14
Misc Info •
Vial Number:34



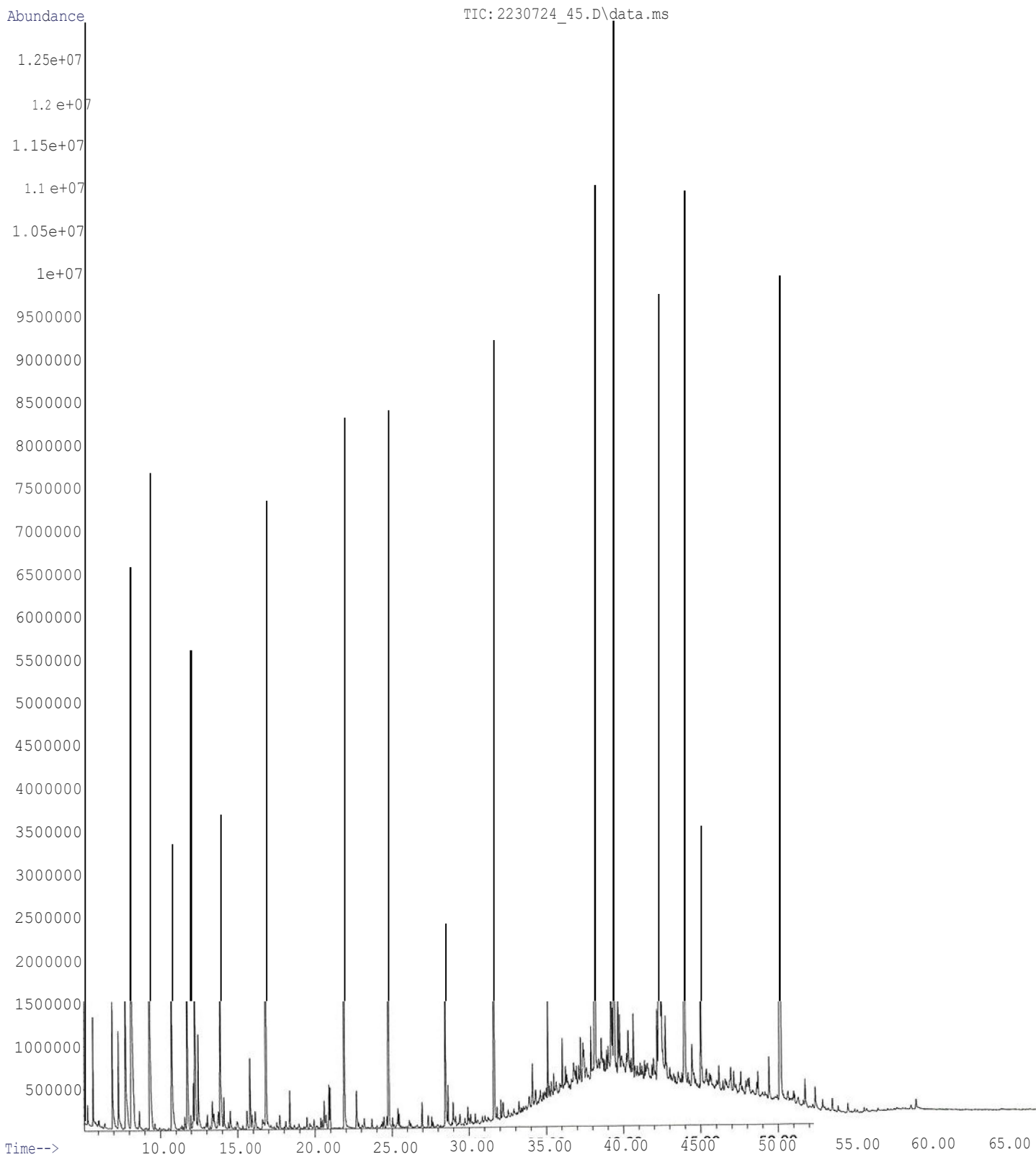
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_43.D
Operator LJS
Acquired 26 Jul 2023 4:09 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-15
Misc Info
Vial Number:35



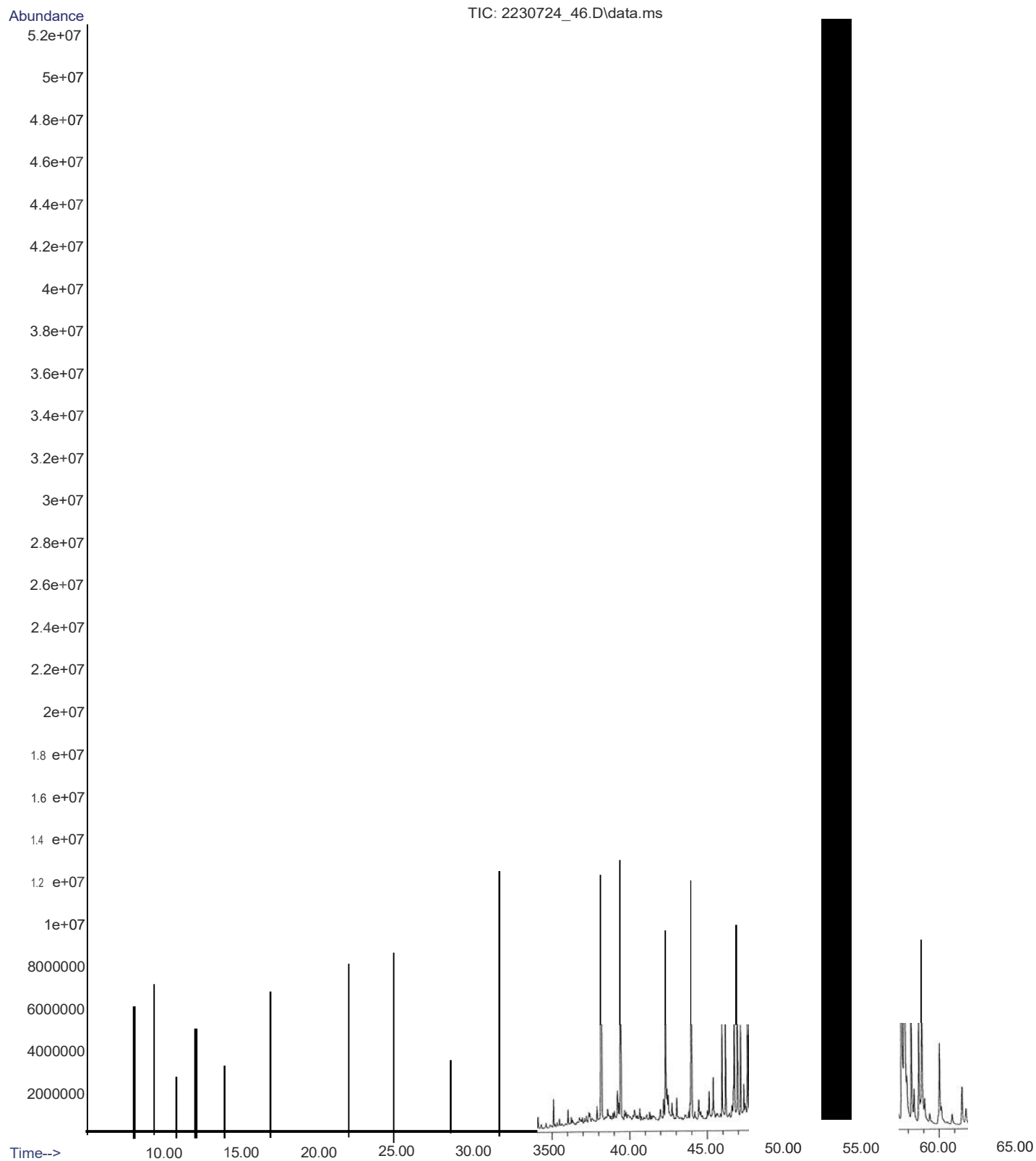
File :C:\Ymsdchem\1\data\GC_MS_02\2023\2230724A\2230724_44.D
Operator LJS
Acquired 26 Jul 2023 5:28 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-16
Misc Info .
Vial Number:36



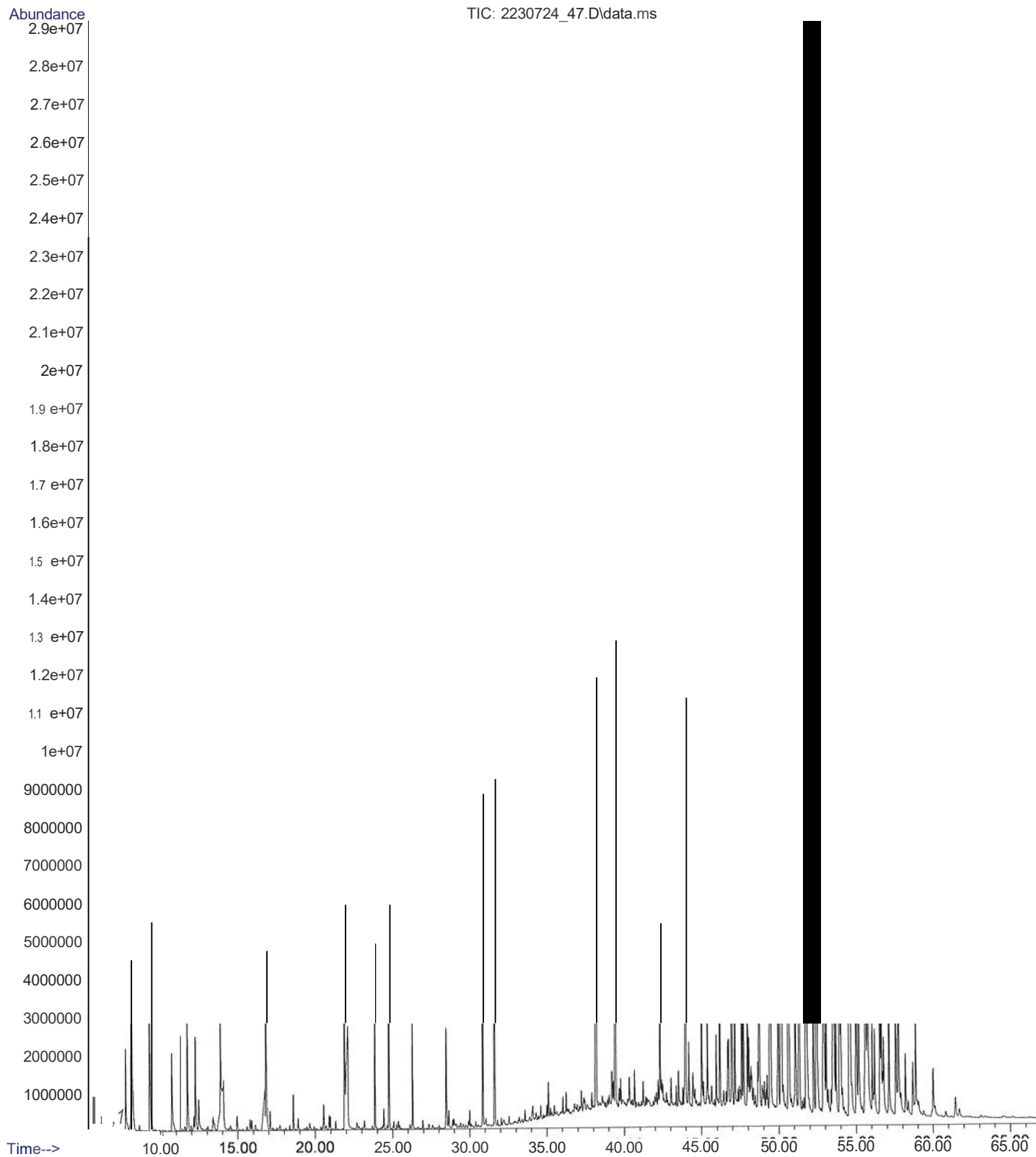
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_45.D
Operator LJS
Acquired 26 Jul 2023 6:47 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-17
Misc Info •
Vial Number:37



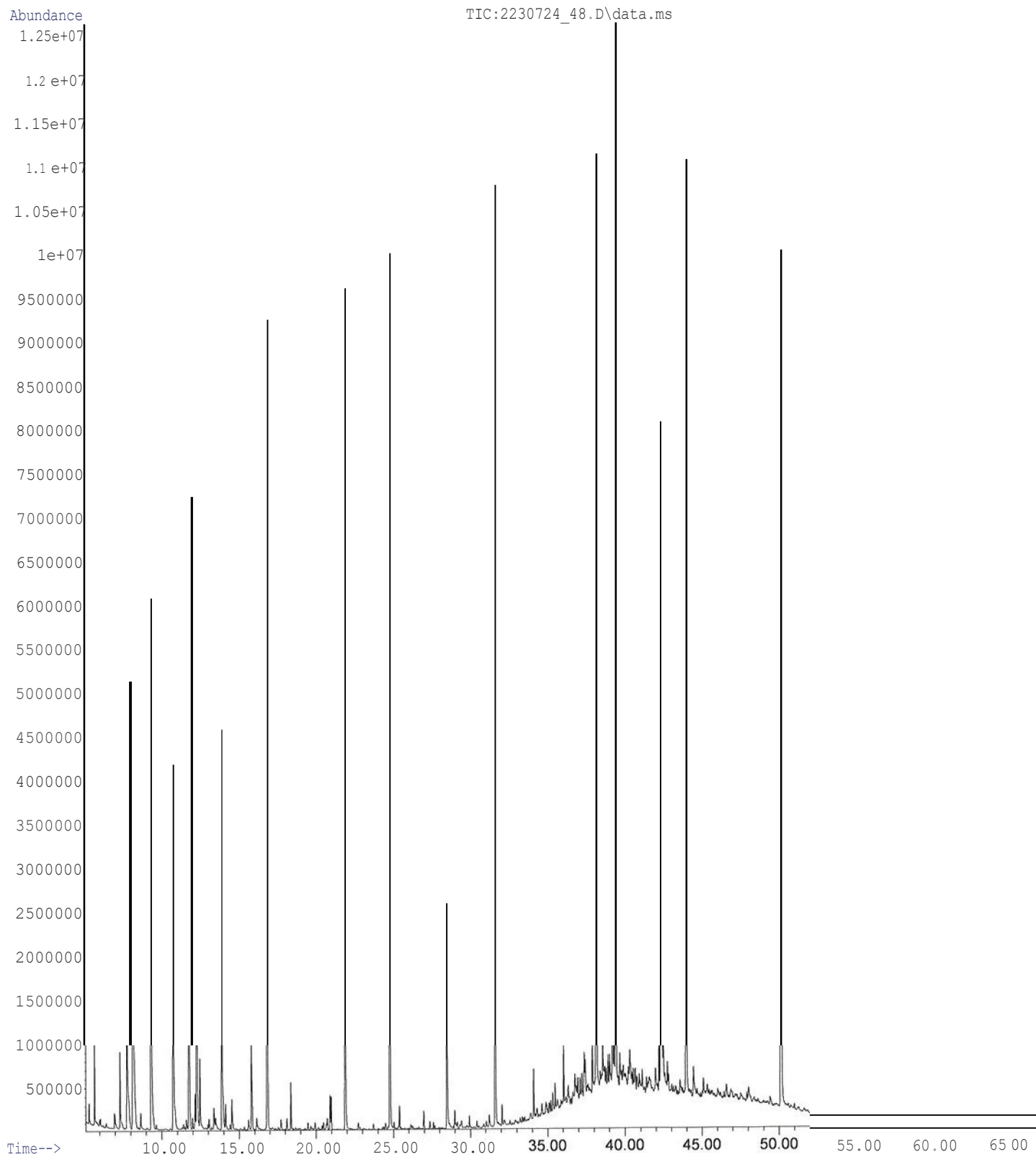
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_46.D
Operator LJS
Acquired 26 Jul 2023 8:06 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-18
Misc Info •
Vial Number: 38



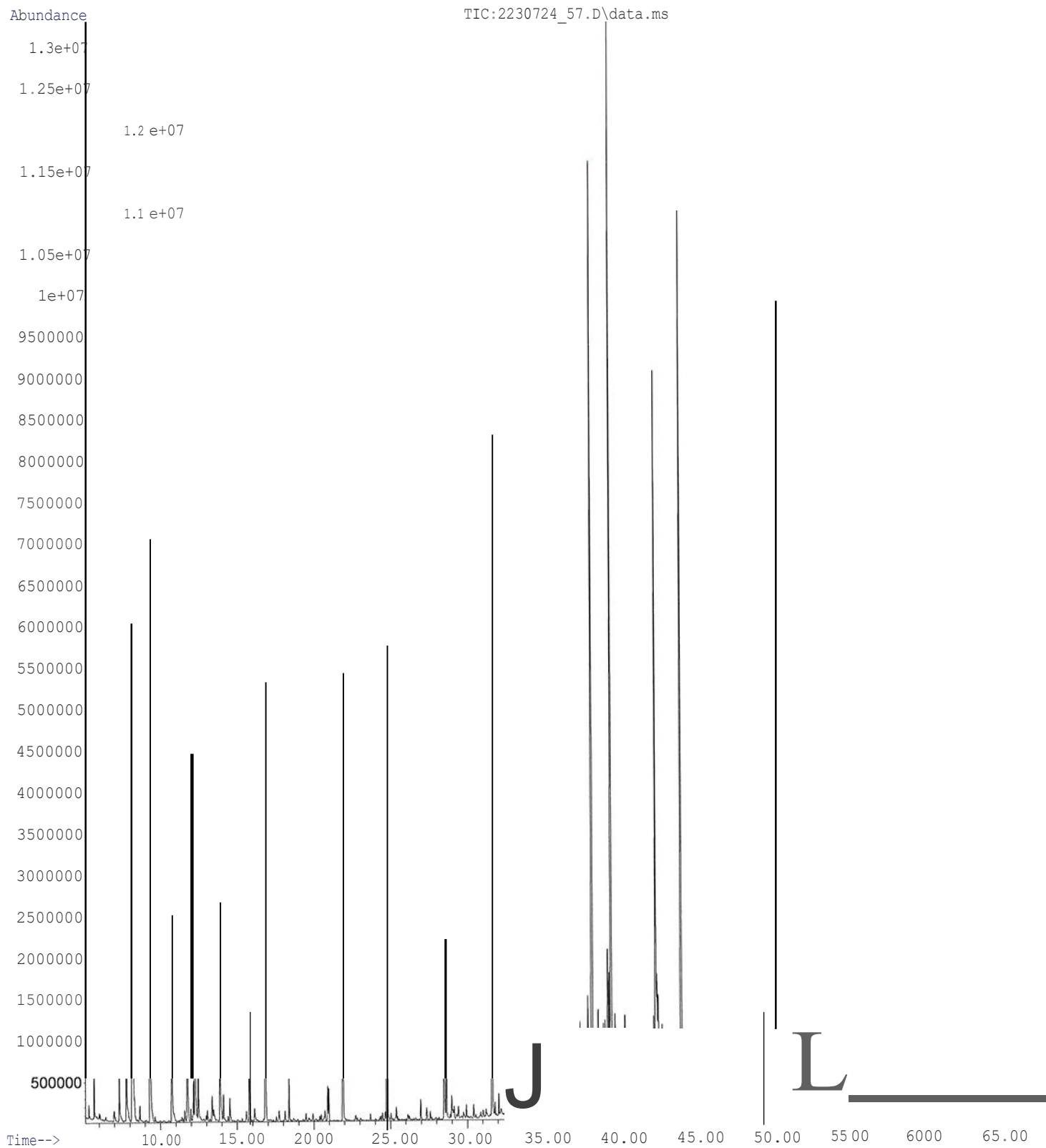
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_47.D
Operator LJS
Acquired 26 Jul 2023 9:25 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-19
Misc Info
Vial Number: 39



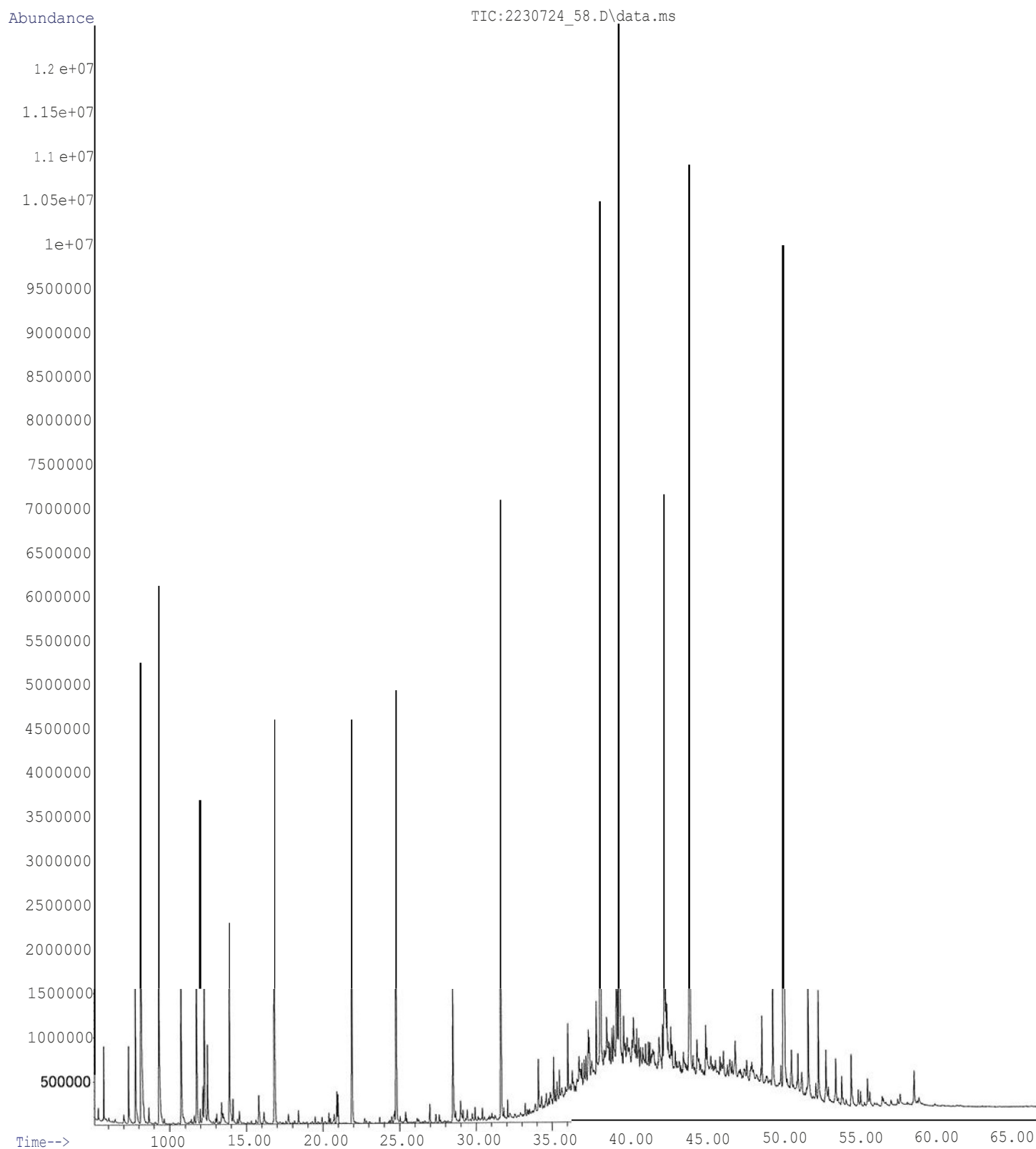
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_48.D
Operator LJS
Acquired 26 Jul 2023 10:43 pm using AcqMethod PHOSPHATES_A01.M
Instrument . GCMS-02
Sample Name:W305169-20
Misc Info :
Vial Number:40



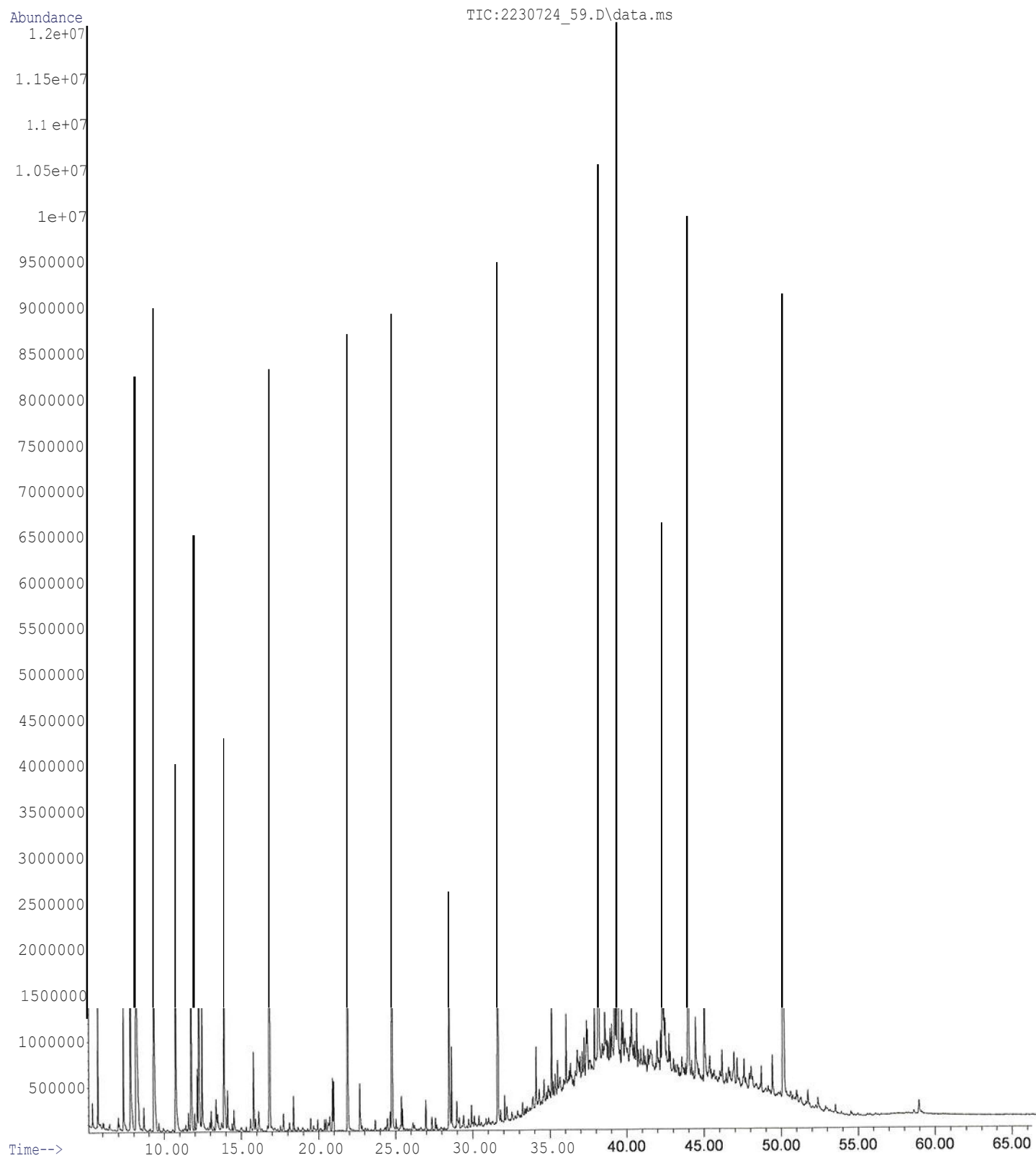
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_57.D
Operator : LJS
Acquired 27 Jul 2023 10:33 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-21
Misc Info :
Vial Number: 46



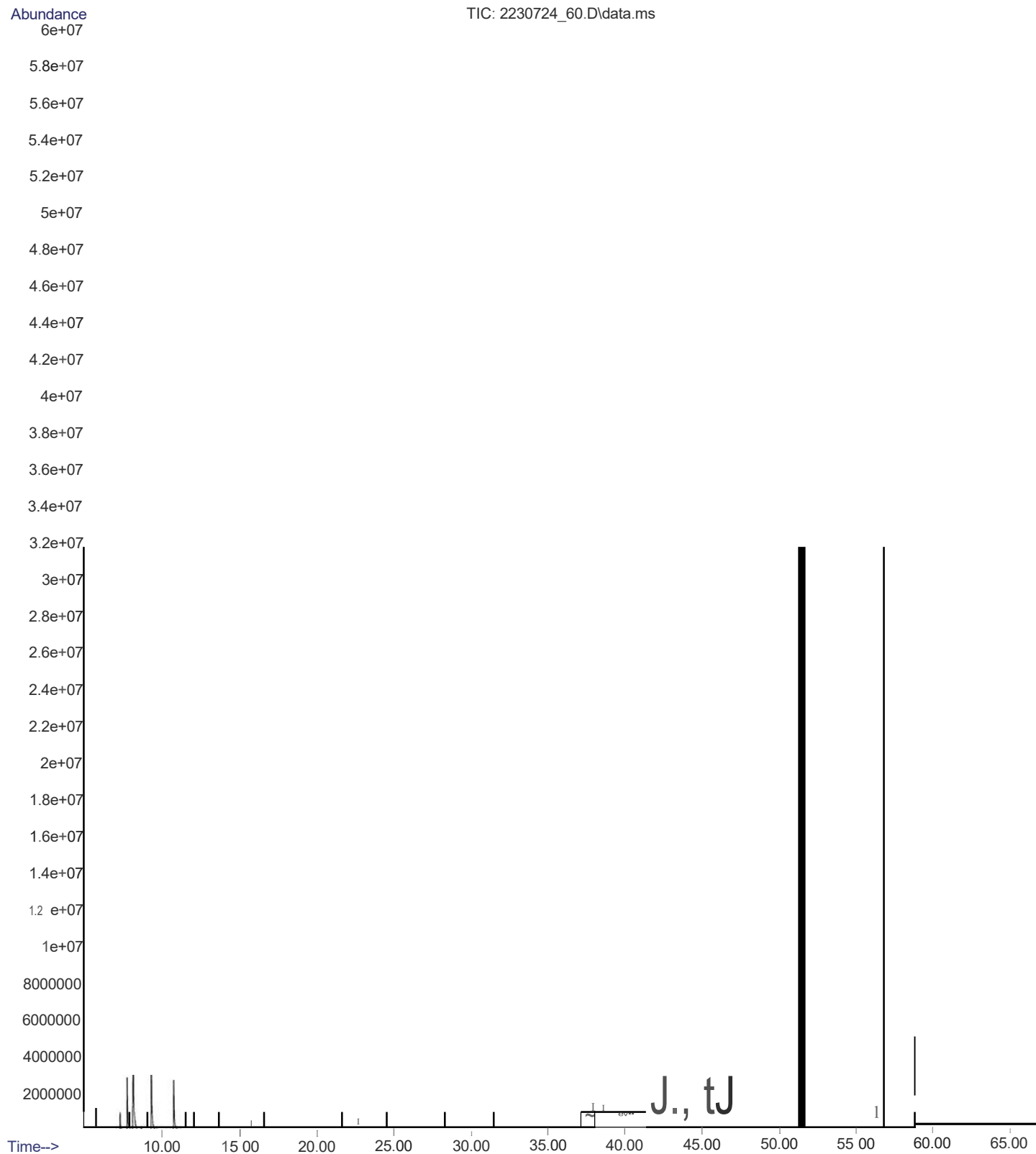
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_58.D
Operator : LJS
Acquired 27 Jul 2023 11:52 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-22
Misc Info .
Vial Number:47



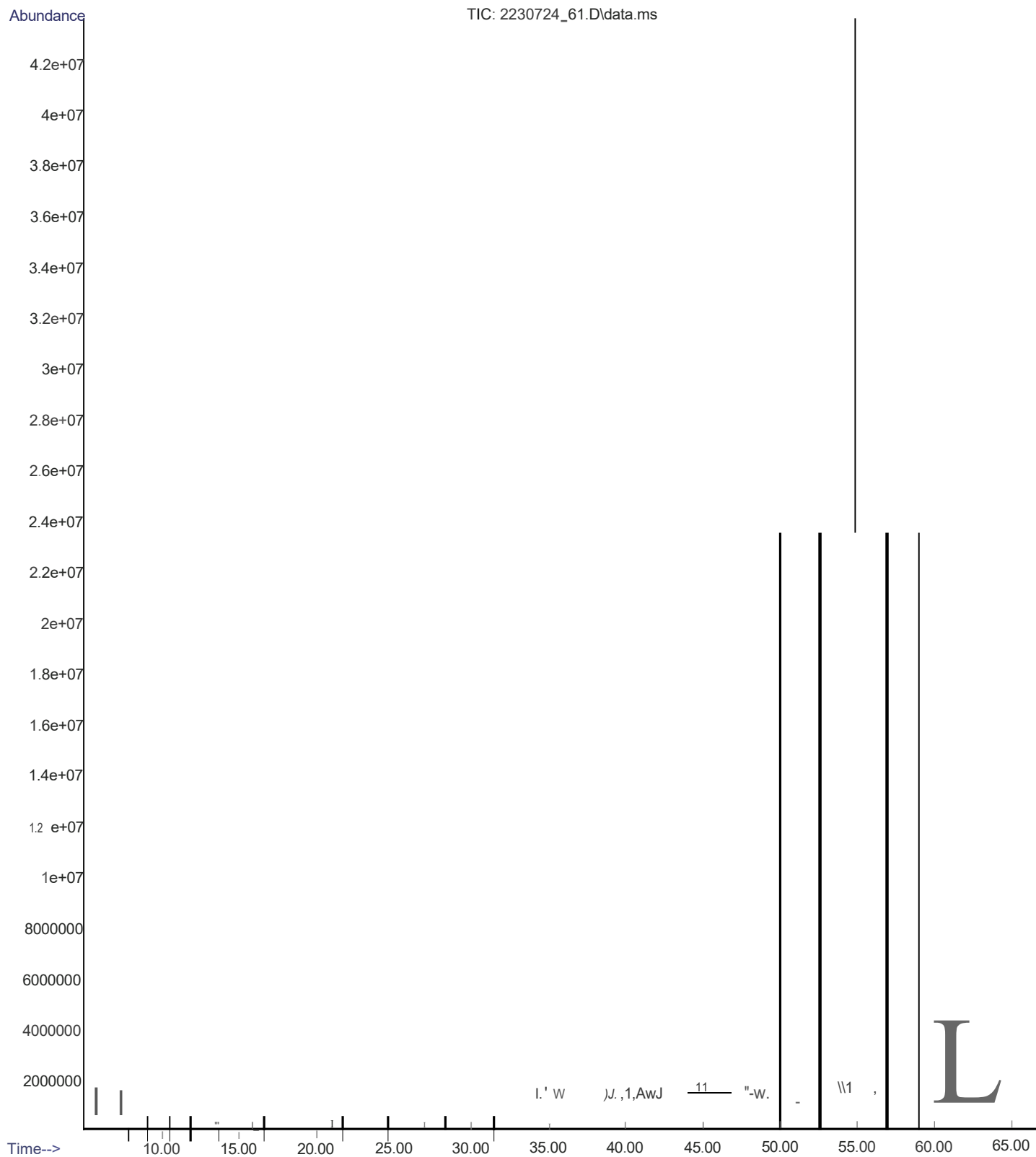
File :C:\msdchem\1\data\GC MS 02\2023\2230724A\2230724 59.D
Operator : LJS
Acquired 27 Jul 2023 1:10 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-23
Misc Info
VialNumber:48



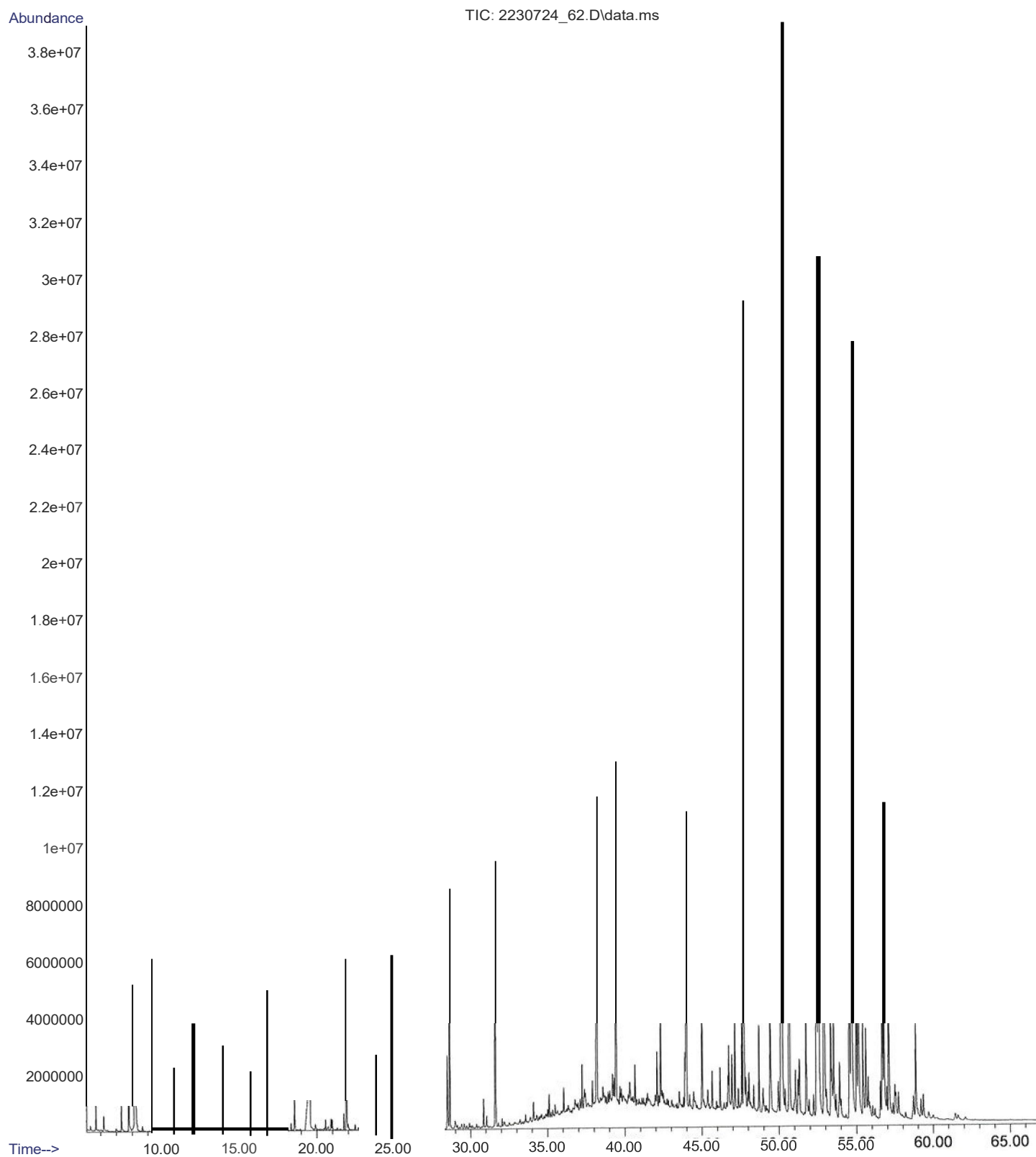
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_60.D
Operator LJS
Acquired 27 Jul 2023 2:28 pm using AcqMethod PHOSPHATES_A01.M
Instrument GQMS-02
Sample Name:W305169-24
Misc Info •
Vial Number:49



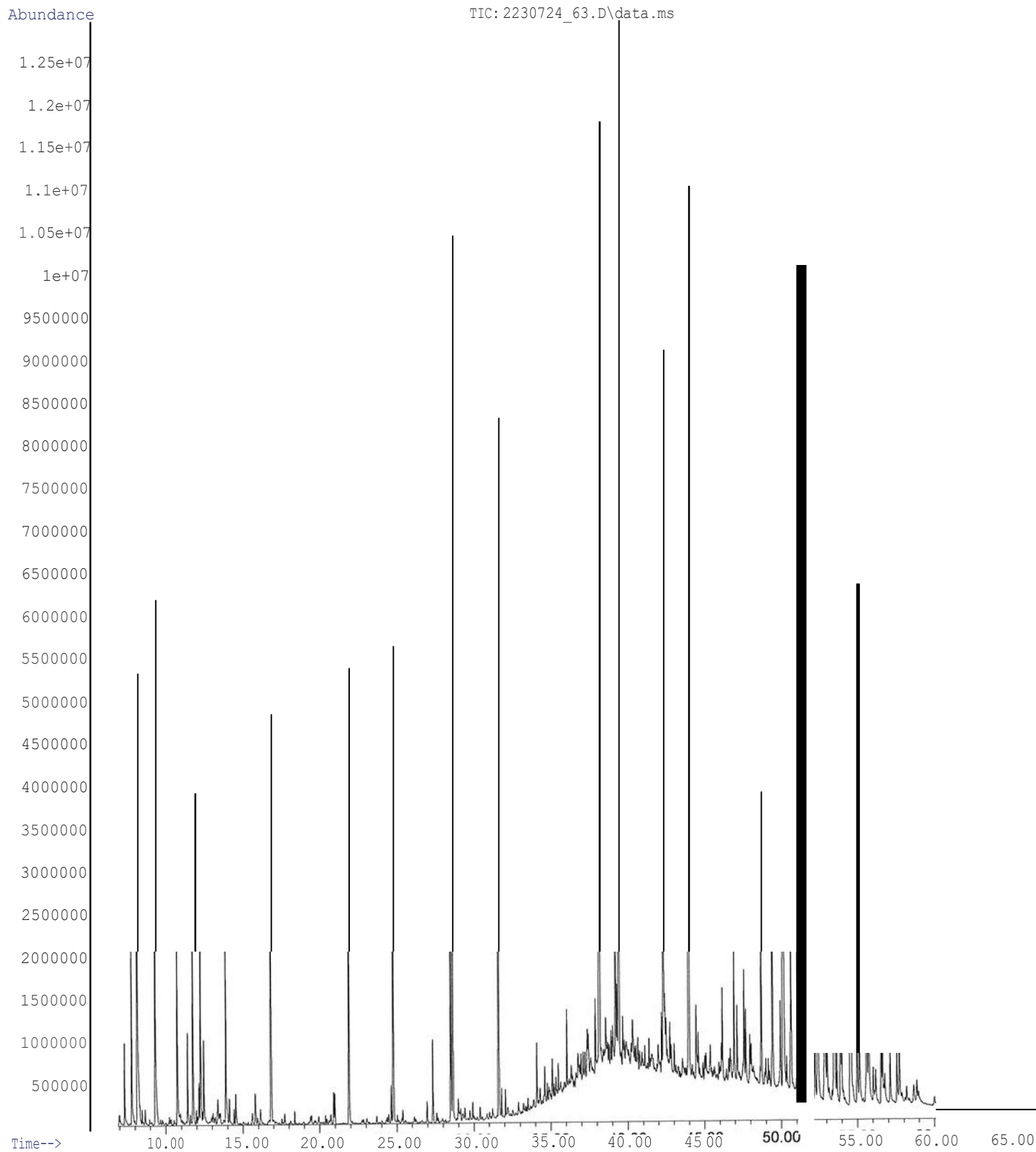
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_61.D
Operator LJS
Acquired 27 Jul 2023 3:46 pm using AcqMethod PHOSPHATES_AO1M
Instrument GCMS-02
Sample Name:W305169-25
Misc Info
Vial Number: 50



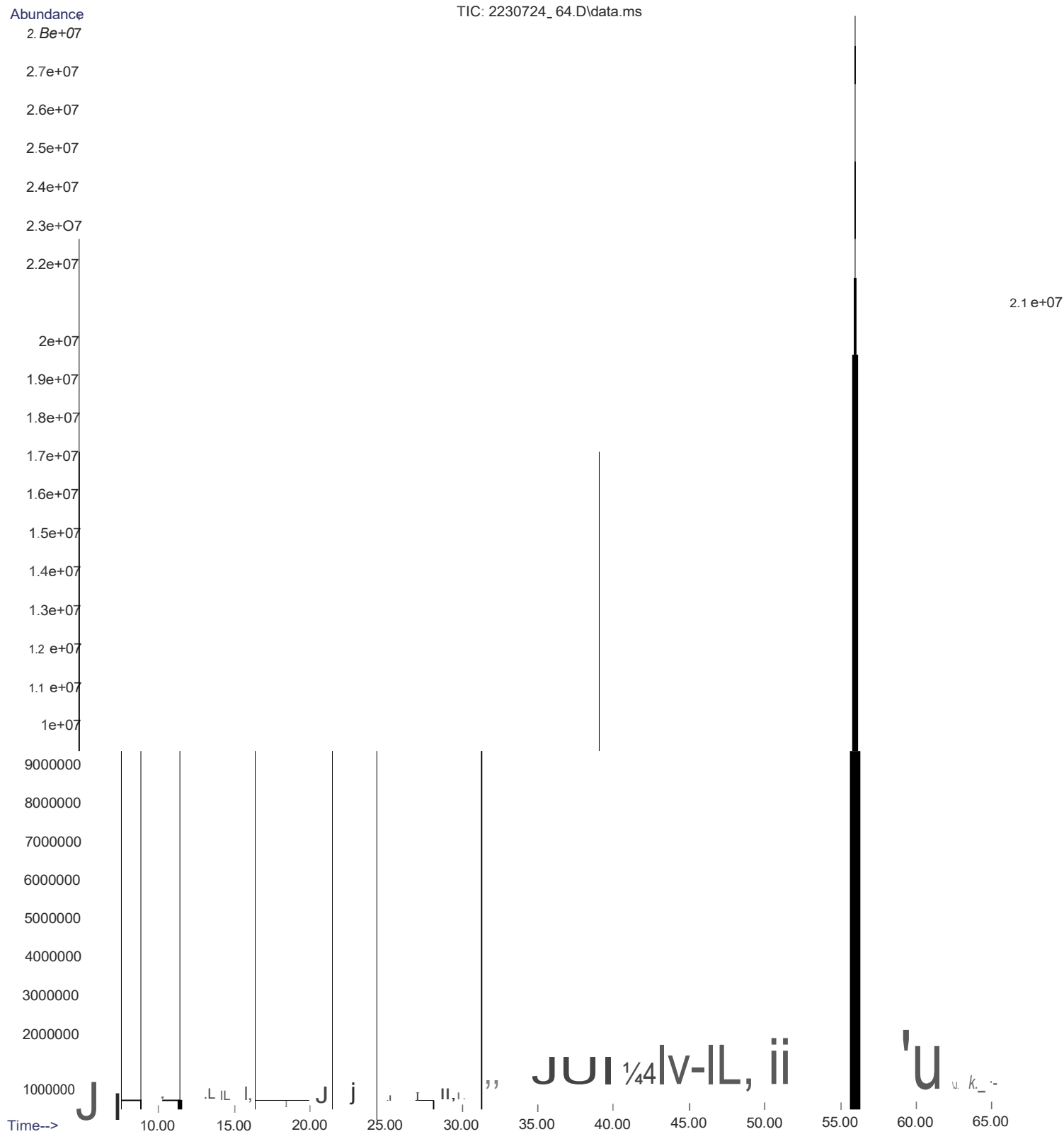
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_62.D
Operator LJS
Acquired 27 Jul 2023 5:05 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-26
Misc Info
Vial Number: 51



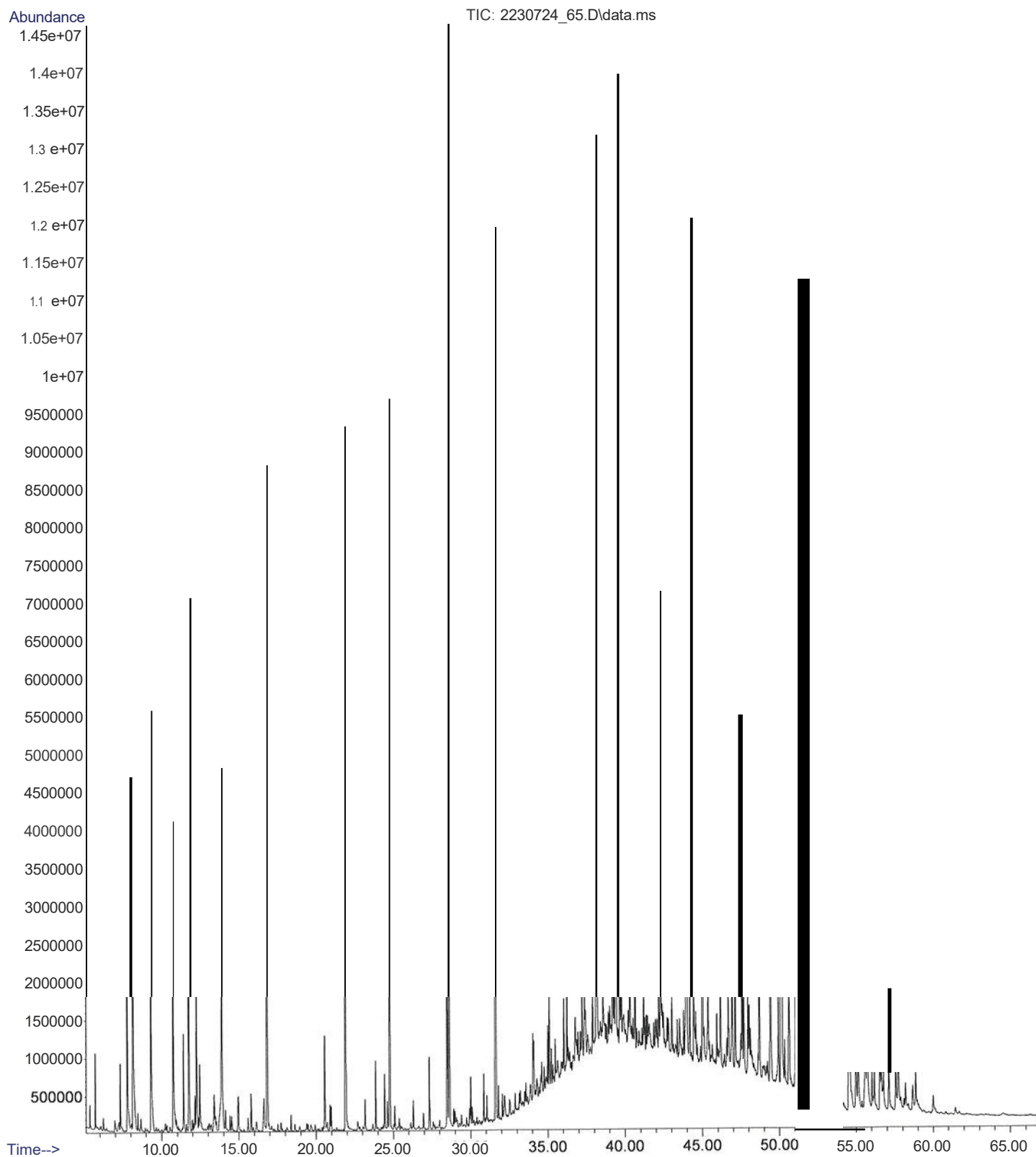
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_63.D
Operator LJS
Acquired 27 Jul 2023 6:23 pm using AcqMethod
Instrument PHOSPHATES_A01.M GCMS-02
Sample Name:W305169-27
Misc Info .
Vial Number: 52



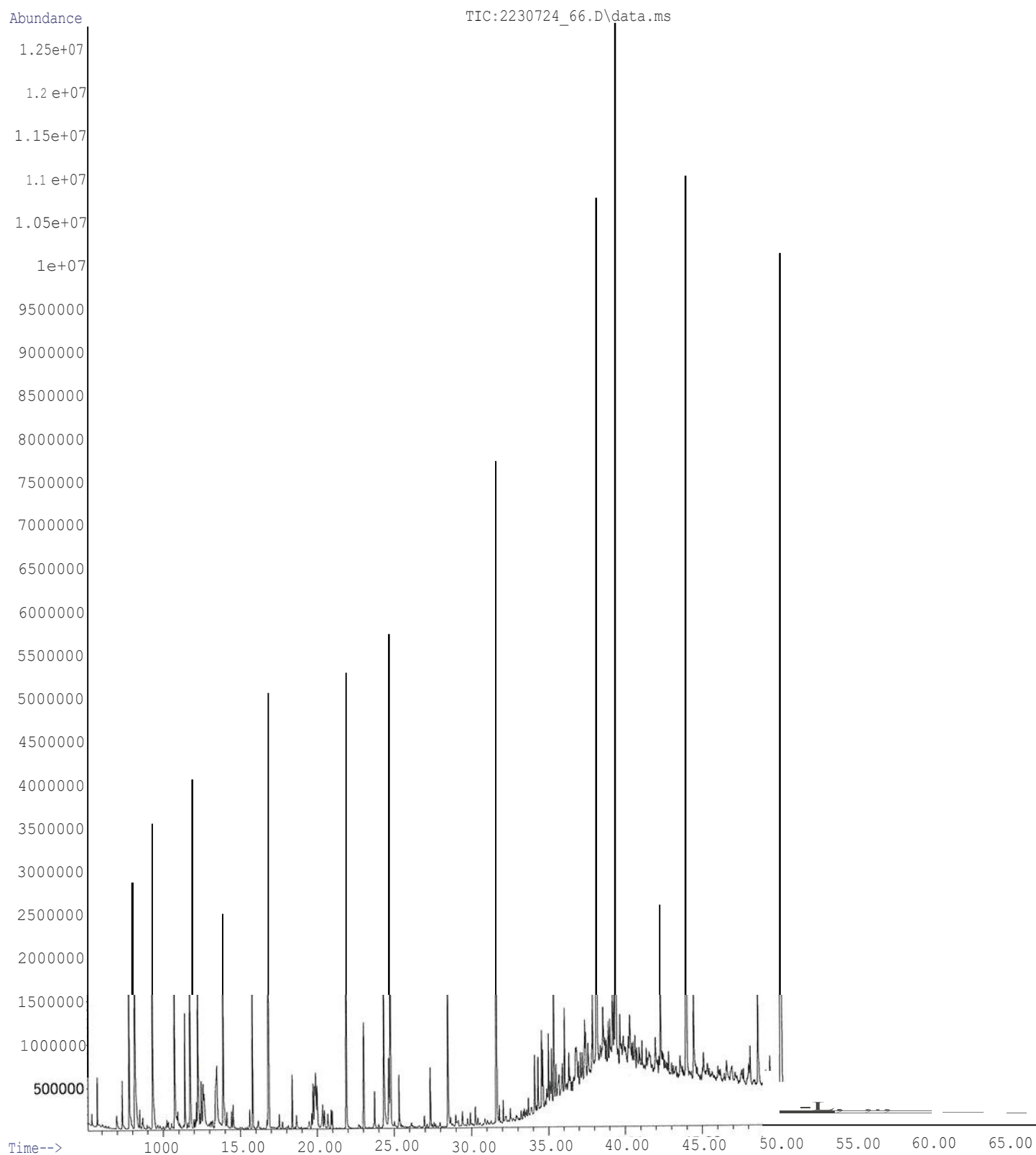
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_64.D
Operator LJS
Acquired 27 Jul 2023 7:42 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-28
Misc Info :
VialNumber:53

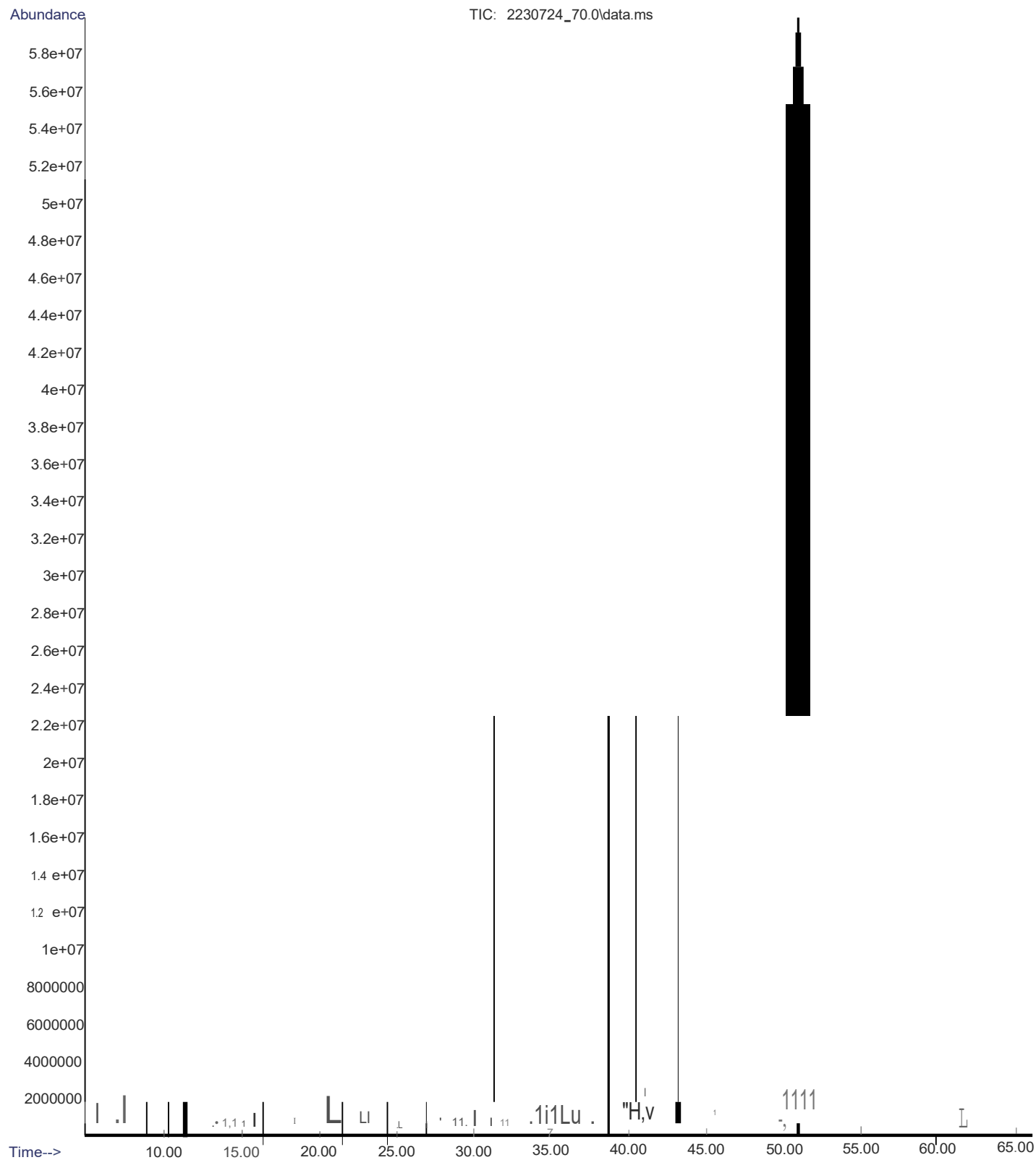


File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_65.D
Operator LJS
Acquired 27 Jul 2023 9:01 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-29
Misc Info :
Vial Number: 54

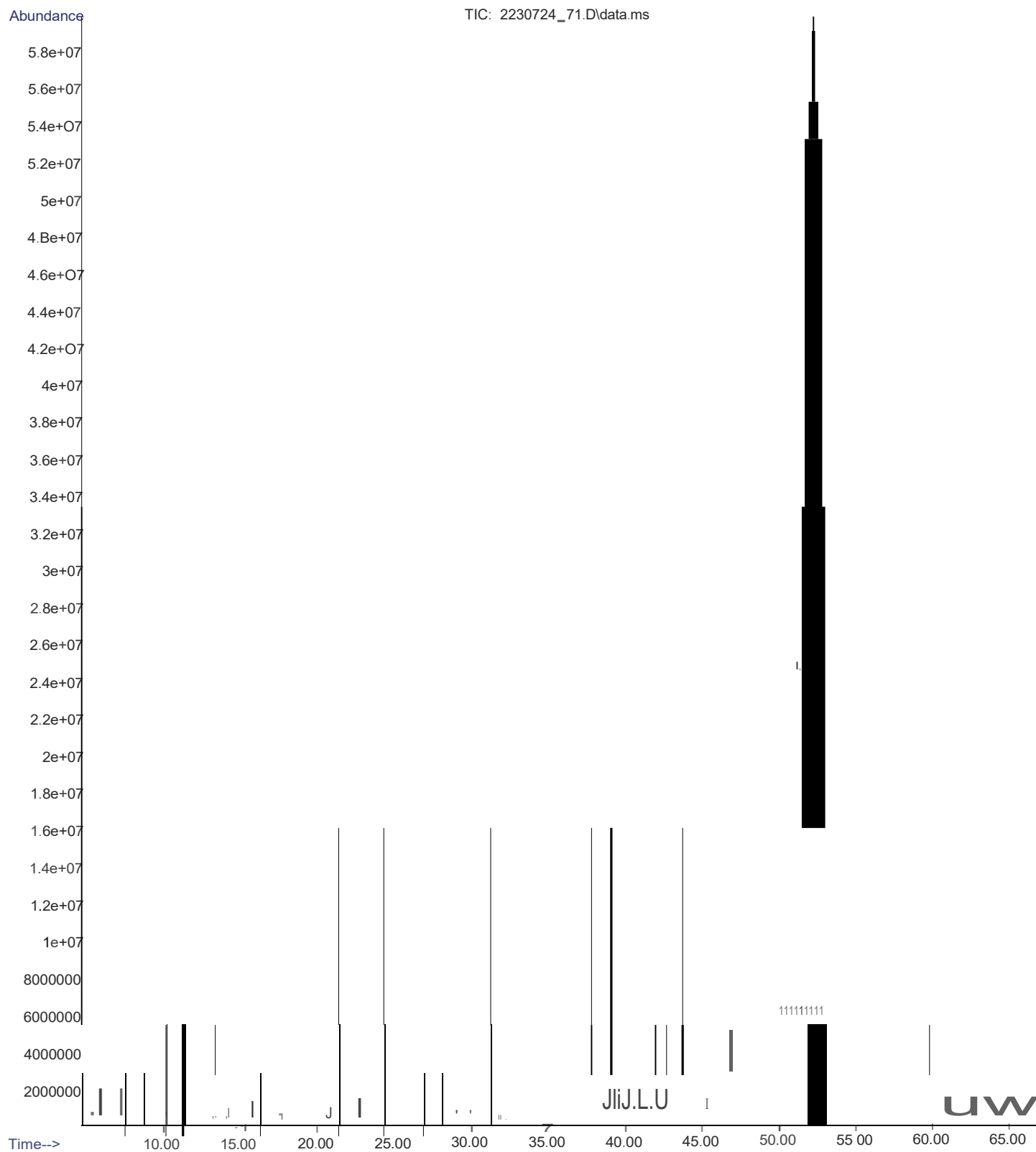


File :C:\msdchem\1\data\GC MS_02\2023\2230724A\2230724_66.D
Operator : LJS
Acquired 27 Jul 2023 10:19 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-30
Misc Info
Vial Number:55

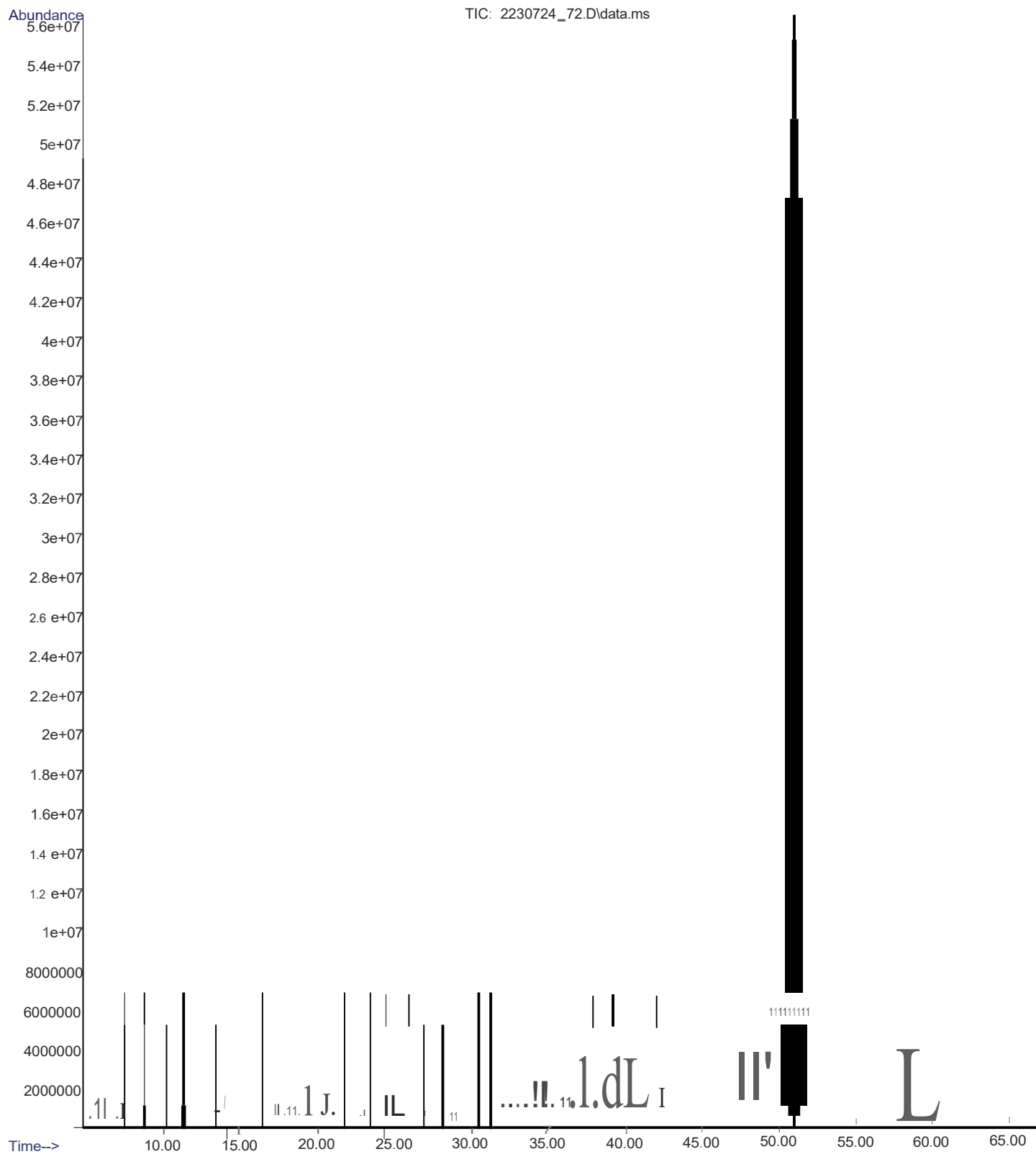




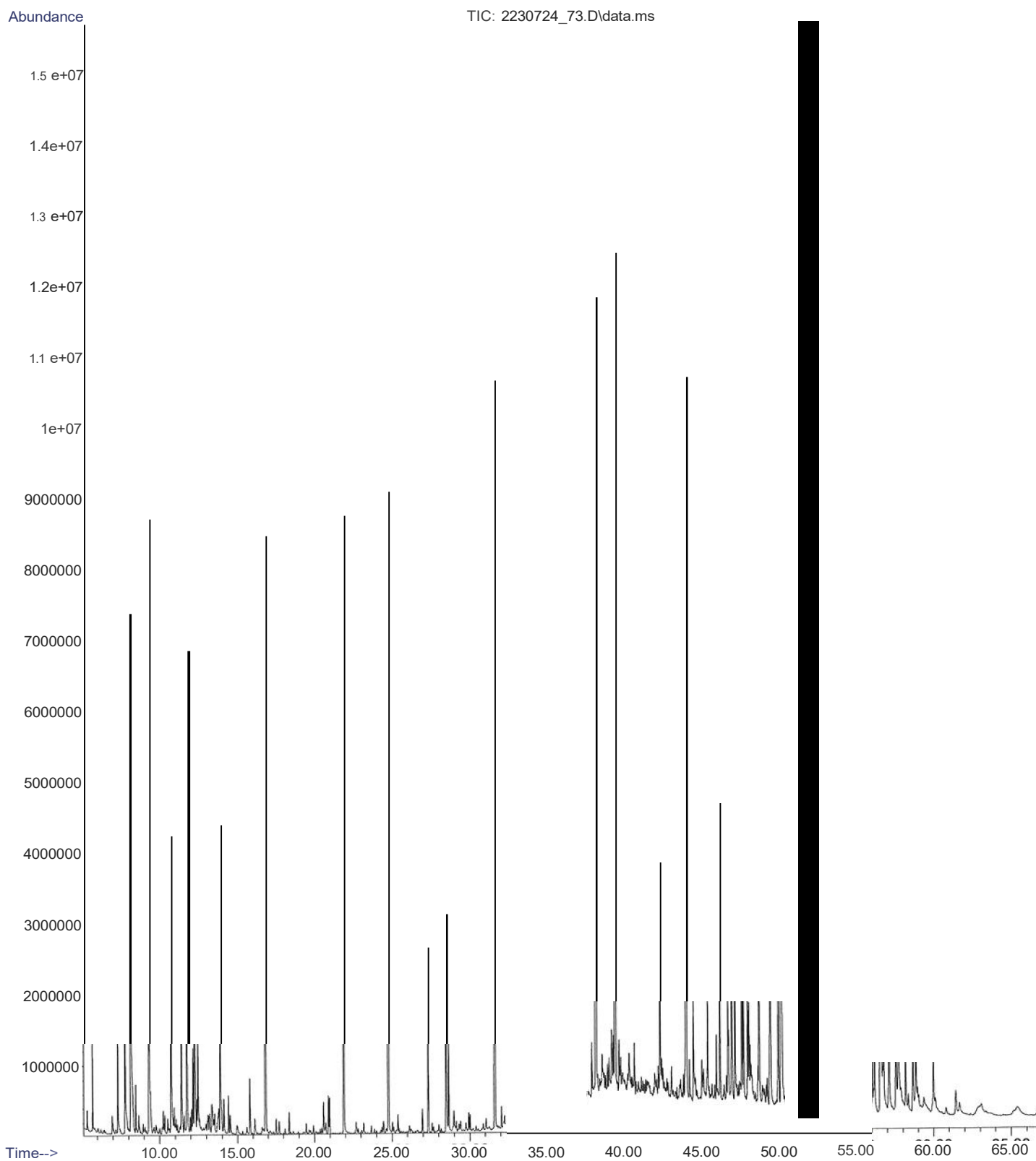
File :C:\msdchem\1\data\GC MS_02\2023\2230724A\2230724_71.D
Operator LJS
Acquired 28 Jul 2023 4:52 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-32
Misc Info
Vial Number:57



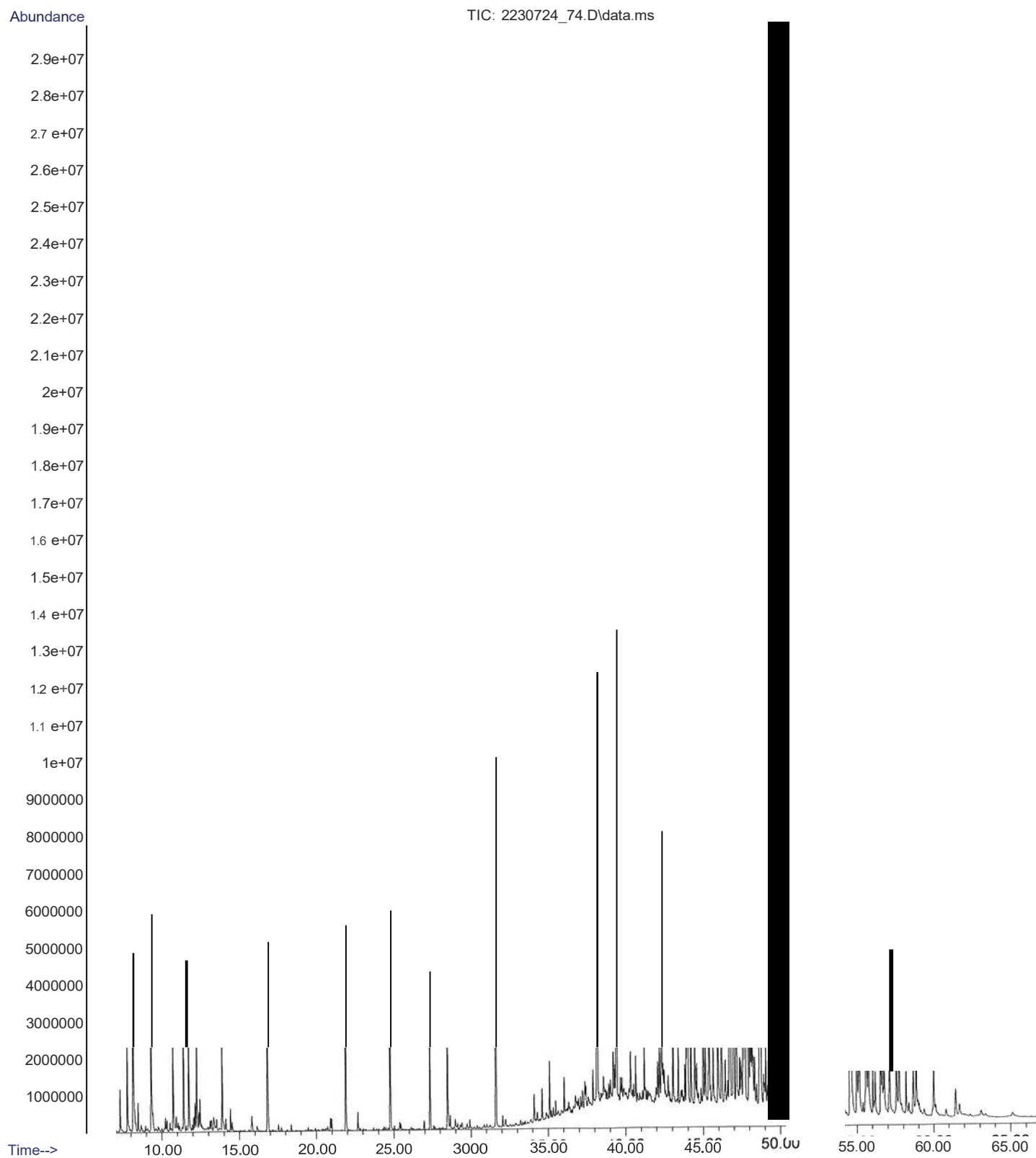
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_72.D
Operator LJS
Acquired 28 Jul 2023 6:10 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-33
Misc Info
Vial Number:58



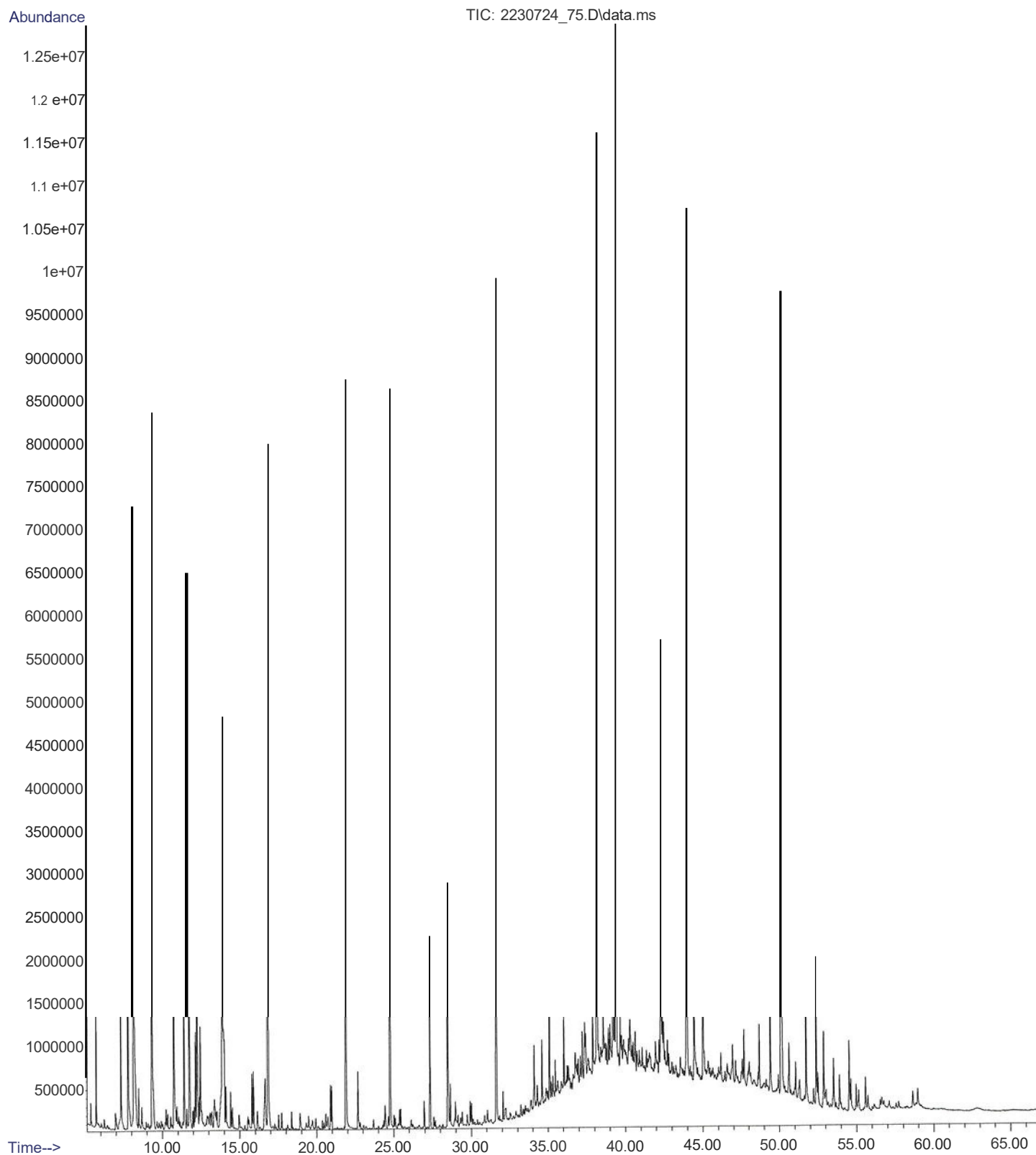
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_73.D
Operator LJS
Acquired 28 Jul 2023 7:29 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-34
Misc Info :
Vial Number:59



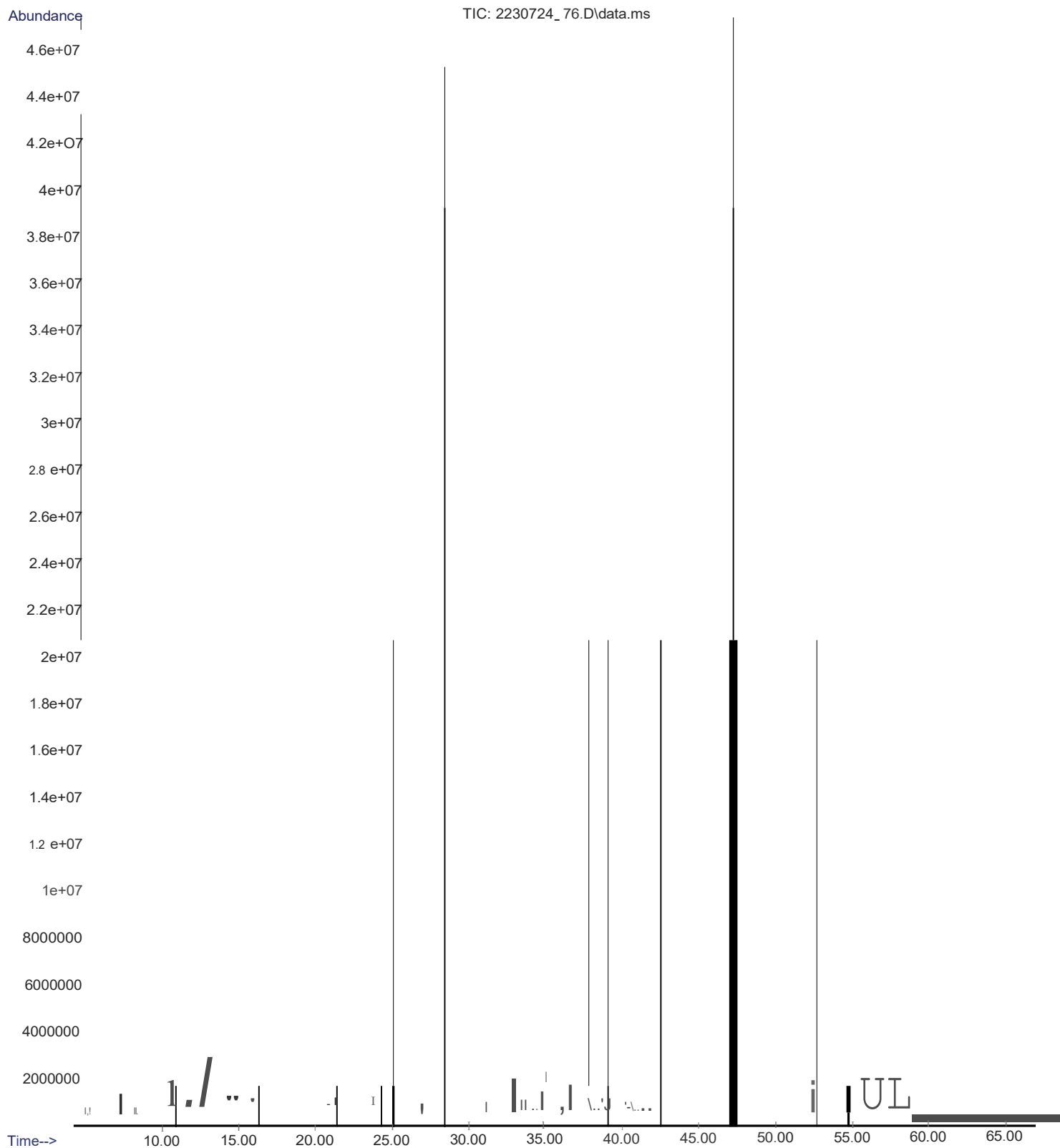
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_74.D
Operator LJS
Acquired 28 Jul2023 8:47 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-35
Misc Info •
Vial Number:60



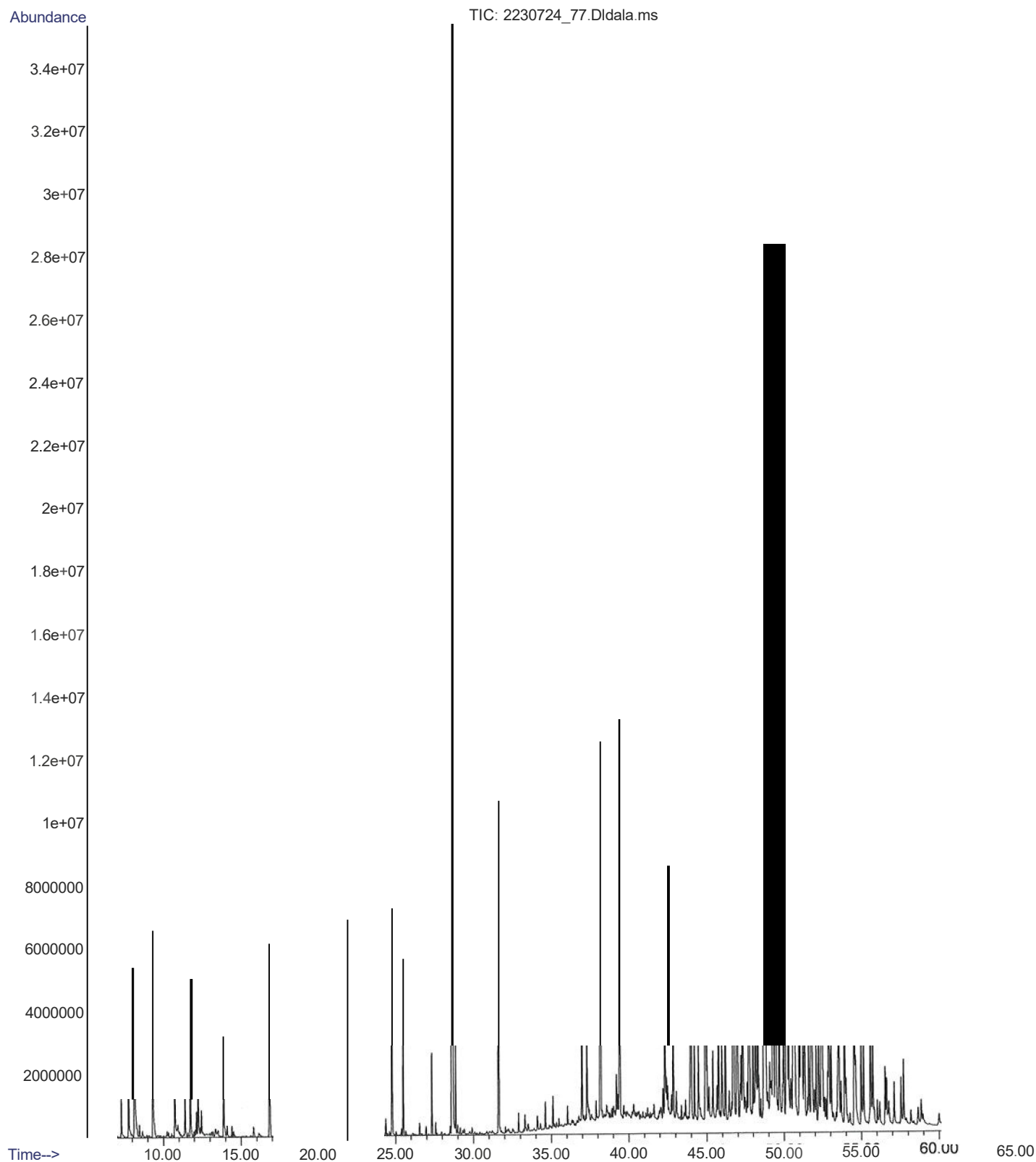
File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_75.D
Operator LJS
Acquired 28 Jul 2023 10:06 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name:W305169-36
Misc Info :
Vial Number:61



File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_76.D
Operator LJS
Acquired 28 Jul 2023 11:24 am using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-37
Misc Info
Vial Number: 62



File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_77.D
Operator LJS
Acquired 28 Jul 2023 12:42 pm using AcqMethod PHOSPHATES_A01.M
Instrument . GCMS-02
Sample Name:W305169-38
Misc Info
Vial Number:63



File :C:\msdchem\1\data\GC_MS_02\2023\2230724A\2230724_78.D
Operator : LJS
Acquired 28 Jul 2023 2:01 pm using AcqMethod PHOSPHATES_A01.M
Instrument GCMS-02
Sample Name: W305169-39
Misc Info
Vial Number: 64

