

## ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC  
2425 New Holland Pike  
Lancaster, PA 17601  
Tel: (717)656-2300

Laboratory Job ID: 410-62319-1

Client Project/Site: Boeing Portland, Annual GW Event

**For:**

Landau & Associates, Inc.  
155 NE 100 ST  
Suite 302  
Seattle, Washington 98125

Attn: Evelyn Ives



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Authorized for release by:  
11/14/2021 8:47:25 AM

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
  - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
  - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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A handwritten signature in black ink that reads "Vanessa N. Badman". The signature is written in a cursive, flowing style.

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Vanessa Badman  
Project Manager  
11/14/2021 8:47:25 AM



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	12
QC Sample Results . . . . .	13
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Method Summary . . . . .	20
Sample Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	23

# Definitions/Glossary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

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**Job ID: 410-62319-1**

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**Laboratory: Eurofins Lancaster Laboratories Env, LLC**

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**Narrative**

**Job Narrative**  
**410-62319-1**

**Receipt**

The samples were received on 11/5/2021 11:11 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C

**GC/MS VOA**

Method 8260C\_LL: The continuing calibration verification (CCV) associated with batch 410-194046 recovered outside acceptance criteria, low biased, for Vinyl acetate. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



# Detection Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Client Sample ID: Trip blank-1121

Lab Sample ID: 410-62319-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.743		0.500	ug/L	1		8260C LL	Total/NA

## Client Sample ID: B0P-13ds-1121

Lab Sample ID: 410-62319-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.297		0.200	ug/L	1		8260C LL	Total/NA
Trichloroethene	2.17		0.200	ug/L	1		8260C LL	Total/NA

## Client Sample ID: B0P-13dg-1121

Lab Sample ID: 410-62319-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	41.7		5.00	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.552		0.200	ug/L	1		8260C LL	Total/NA

## Client Sample ID: B0P-31ds-1121

Lab Sample ID: 410-62319-4

No Detections.

## Client Sample ID: B0P-31dg-1121

Lab Sample ID: 410-62319-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11.4		5.00	ug/L	1		8260C LL	Total/NA
Chloroform	0.269		0.200	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.270		0.200	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	0.427		0.200	ug/L	1		8260C LL	Total/NA
Trichloroethene	2.83		0.200	ug/L	1		8260C LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

# Client Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

**Client Sample ID: Trip blank-1121**

**Lab Sample ID: 410-62319-1**

Date Collected: 11/02/21 00:00

Matrix: Water

Date Received: 11/05/21 11:11

**Method: 8260C LL - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 13:54	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 13:54	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:54	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 13:54	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 13:54	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 13:54	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 13:54	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 13:54	1
Acetone	5.00	U	5.00	ug/L			11/12/21 13:54	1
Benzene	0.200	U	0.200	ug/L			11/12/21 13:54	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 13:54	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 13:54	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 13:54	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 13:54	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
Chloroform	0.200	U	0.200	ug/L			11/12/21 13:54	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
cis-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:54	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 13:54	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 13:54	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 13:54	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 13:54	1
<b>Methylene Chloride</b>	<b>0.743</b>		0.500	ug/L			11/12/21 13:54	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 13:54	1
Styrene	0.500	U	0.500	ug/L			11/12/21 13:54	1
Tetrachloroethene	0.200	U	0.200	ug/L			11/12/21 13:54	1
Toluene	0.200	U	0.200	ug/L			11/12/21 13:54	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:54	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 13:54	1
Trichloroethene	0.200	U	0.200	ug/L			11/12/21 13:54	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 13:54	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 13:54	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 13:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		11/12/21 13:54	1
Dibromofluoromethane (Surr)	109		80 - 120		11/12/21 13:54	1
4-Bromofluorobenzene (Surr)	93		80 - 120		11/12/21 13:54	1
Toluene-d8 (Surr)	96		80 - 120		11/12/21 13:54	1

# Client Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

**Client Sample ID: B0P-13ds-1121**

**Lab Sample ID: 410-62319-2**

Date Collected: 11/02/21 17:50

Matrix: Water

Date Received: 11/05/21 11:11

**Method: 8260C LL - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 16:30	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 16:30	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 16:30	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 16:30	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 16:30	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 16:30	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 16:30	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 16:30	1
Acetone	5.00	U	5.00	ug/L			11/12/21 16:30	1
Benzene	0.200	U	0.200	ug/L			11/12/21 16:30	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 16:30	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 16:30	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 16:30	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 16:30	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
Chloroform	0.200	U	0.200	ug/L			11/12/21 16:30	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
<b>cis-1,2-Dichloroethene</b>	<b>0.297</b>		0.200	ug/L			11/12/21 16:30	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 16:30	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 16:30	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 16:30	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 16:30	1
Methylene Chloride	0.500	U	0.500	ug/L			11/12/21 16:30	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 16:30	1
Styrene	0.500	U	0.500	ug/L			11/12/21 16:30	1
Tetrachloroethene	0.200	U	0.200	ug/L			11/12/21 16:30	1
Toluene	0.200	U	0.200	ug/L			11/12/21 16:30	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 16:30	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 16:30	1
<b>Trichloroethene</b>	<b>2.17</b>		0.200	ug/L			11/12/21 16:30	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 16:30	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 16:30	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		11/12/21 16:30	1
Dibromofluoromethane (Surr)	107		80 - 120		11/12/21 16:30	1
4-Bromofluorobenzene (Surr)	92		80 - 120		11/12/21 16:30	1
Toluene-d8 (Surr)	96		80 - 120		11/12/21 16:30	1

# Client Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

**Client Sample ID: B0P-13dg-1121**

**Lab Sample ID: 410-62319-3**

Date Collected: 11/02/21 18:10

Matrix: Water

Date Received: 11/05/21 11:11

**Method: 8260C LL - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 16:52	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 16:52	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 16:52	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 16:52	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 16:52	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 16:52	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 16:52	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 16:52	1
<b>Acetone</b>	<b>41.7</b>		5.00	ug/L			11/12/21 16:52	1
Benzene	0.200	U	0.200	ug/L			11/12/21 16:52	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 16:52	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 16:52	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 16:52	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 16:52	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
Chloroform	0.200	U	0.200	ug/L			11/12/21 16:52	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
cis-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 16:52	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 16:52	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 16:52	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 16:52	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 16:52	1
Methylene Chloride	0.500	U	0.500	ug/L			11/12/21 16:52	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 16:52	1
Styrene	0.500	U	0.500	ug/L			11/12/21 16:52	1
Tetrachloroethene	0.200	U	0.200	ug/L			11/12/21 16:52	1
Toluene	0.200	U	0.200	ug/L			11/12/21 16:52	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 16:52	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 16:52	1
<b>Trichloroethene</b>	<b>0.552</b>		0.200	ug/L			11/12/21 16:52	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 16:52	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 16:52	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		11/12/21 16:52	1
Dibromofluoromethane (Surr)	109		80 - 120		11/12/21 16:52	1
4-Bromofluorobenzene (Surr)	93		80 - 120		11/12/21 16:52	1
Toluene-d8 (Surr)	96		80 - 120		11/12/21 16:52	1

# Client Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

**Client Sample ID: B0P-31ds-1121**

**Lab Sample ID: 410-62319-4**

Date Collected: 11/02/21 18:50

Matrix: Water

Date Received: 11/05/21 11:11

**Method: 8260C LL - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 17:15	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 17:15	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 17:15	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 17:15	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 17:15	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 17:15	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 17:15	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 17:15	1
Acetone	5.00	U	5.00	ug/L			11/12/21 17:15	1
Benzene	0.200	U	0.200	ug/L			11/12/21 17:15	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 17:15	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 17:15	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 17:15	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 17:15	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
Chloroform	0.200	U	0.200	ug/L			11/12/21 17:15	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
cis-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 17:15	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 17:15	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 17:15	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 17:15	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 17:15	1
Methylene Chloride	0.500	U	0.500	ug/L			11/12/21 17:15	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 17:15	1
Styrene	0.500	U	0.500	ug/L			11/12/21 17:15	1
Tetrachloroethene	0.200	U	0.200	ug/L			11/12/21 17:15	1
Toluene	0.200	U	0.200	ug/L			11/12/21 17:15	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 17:15	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 17:15	1
Trichloroethene	0.200	U	0.200	ug/L			11/12/21 17:15	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 17:15	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 17:15	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 17:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120				11/12/21 17:15	1
Dibromofluoromethane (Surr)	108		80 - 120				11/12/21 17:15	1
4-Bromofluorobenzene (Surr)	90		80 - 120				11/12/21 17:15	1
Toluene-d8 (Surr)	95		80 - 120				11/12/21 17:15	1

# Client Sample Results

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

**Client Sample ID: B0P-31dg-1121**

**Lab Sample ID: 410-62319-5**

Date Collected: 11/02/21 19:10

Matrix: Water

Date Received: 11/05/21 11:11

**Method: 8260C LL - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 17:37	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 17:37	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 17:37	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 17:37	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 17:37	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 17:37	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 17:37	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 17:37	1
<b>Acetone</b>	<b>11.4</b>		5.00	ug/L			11/12/21 17:37	1
Benzene	0.200	U	0.200	ug/L			11/12/21 17:37	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 17:37	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 17:37	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 17:37	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 17:37	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
<b>Chloroform</b>	<b>0.269</b>		0.200	ug/L			11/12/21 17:37	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
<b>cis-1,2-Dichloroethene</b>	<b>0.270</b>		0.200	ug/L			11/12/21 17:37	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 17:37	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 17:37	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 17:37	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 17:37	1
Methylene Chloride	0.500	U	0.500	ug/L			11/12/21 17:37	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 17:37	1
Styrene	0.500	U	0.500	ug/L			11/12/21 17:37	1
<b>Tetrachloroethene</b>	<b>0.427</b>		0.200	ug/L			11/12/21 17:37	1
Toluene	0.200	U	0.200	ug/L			11/12/21 17:37	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 17:37	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 17:37	1
<b>Trichloroethene</b>	<b>2.83</b>		0.200	ug/L			11/12/21 17:37	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 17:37	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 17:37	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		11/12/21 17:37	1
Dibromofluoromethane (Surr)	109		80 - 120		11/12/21 17:37	1
4-Bromofluorobenzene (Surr)	92		80 - 120		11/12/21 17:37	1
Toluene-d8 (Surr)	95		80 - 120		11/12/21 17:37	1

# Surrogate Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Method: 8260C LL - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	BFB (80-120)	TOL (80-120)
410-62319-1	Trip blank-1121	105	109	93	96
410-62319-2	B0P-13ds-1121	102	107	92	96
410-62319-3	B0P-13dg-1121	102	109	93	96
410-62319-4	B0P-31ds-1121	102	108	90	95
410-62319-5	B0P-31dg-1121	104	109	92	95
LCS 410-194046/5	Lab Control Sample	104	108	94	97
LCS 410-194046/7	Lab Control Sample	103	111	96	95
LCSD 410-194046/6	Lab Control Sample Dup	102	111	96	98
LCSD 410-194046/8	Lab Control Sample Dup	105	109	95	95
MB 410-194046/11	Method Blank	103	106	93	97

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
DBFM = Dibromofluoromethane (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Method: 8260C LL - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-194046/11

Matrix: Water

Analysis Batch: 194046

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,1,1-Trichloroethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
1,1,1,2-Tetrachloroethane	0.200	U	0.200	ug/L			11/12/21 13:32	1
1,1,2-Trichloroethane	0.200	U	0.200	ug/L			11/12/21 13:32	1
1,1-Dichloroethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
1,1-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:32	1
1,2-Dichloroethane	0.200	U	0.200	ug/L			11/12/21 13:32	1
1,2-Dichloropropane	0.500	U	0.500	ug/L			11/12/21 13:32	1
2-Butanone	5.00	U	5.00	ug/L			11/12/21 13:32	1
2-Hexanone	5.00	U	5.00	ug/L			11/12/21 13:32	1
4-Methyl-2-pentanone	5.00	U	5.00	ug/L			11/12/21 13:32	1
Acetone	5.00	U	5.00	ug/L			11/12/21 13:32	1
Benzene	0.200	U	0.200	ug/L			11/12/21 13:32	1
Bromodichloromethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
Bromoform	1.00	U	1.00	ug/L			11/12/21 13:32	1
Bromomethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
Carbon disulfide	0.500	U	0.500	ug/L			11/12/21 13:32	1
Carbon tetrachloride	0.200	U	0.200	ug/L			11/12/21 13:32	1
Chlorobenzene	0.500	U	0.500	ug/L			11/12/21 13:32	1
Chloroethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
Chloroform	0.200	U	0.200	ug/L			11/12/21 13:32	1
Chloromethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
cis-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:32	1
cis-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 13:32	1
Dibromochloromethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
Ethylbenzene	0.500	U	0.500	ug/L			11/12/21 13:32	1
Freon 113	0.500	U	0.500	ug/L			11/12/21 13:32	1
m&p-Xylene	0.500	U	0.500	ug/L			11/12/21 13:32	1
Methylene Chloride	0.500	U	0.500	ug/L			11/12/21 13:32	1
o-Xylene	0.500	U	0.500	ug/L			11/12/21 13:32	1
Styrene	0.500	U	0.500	ug/L			11/12/21 13:32	1
Tetrachloroethene	0.200	U	0.200	ug/L			11/12/21 13:32	1
Toluene	0.200	U	0.200	ug/L			11/12/21 13:32	1
trans-1,2-Dichloroethene	0.200	U	0.200	ug/L			11/12/21 13:32	1
trans-1,3-Dichloropropene	0.200	U	0.200	ug/L			11/12/21 13:32	1
Trichloroethene	0.200	U	0.200	ug/L			11/12/21 13:32	1
Trichlorofluoromethane	0.500	U	0.500	ug/L			11/12/21 13:32	1
Vinyl acetate	0.500	U	0.500	ug/L			11/12/21 13:32	1
Vinyl chloride	0.200	U	0.200	ug/L			11/12/21 13:32	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		11/12/21 13:32	1
Dibromofluoromethane (Surr)	106		80 - 120		11/12/21 13:32	1
4-Bromofluorobenzene (Surr)	93		80 - 120		11/12/21 13:32	1
Toluene-d8 (Surr)	97		80 - 120		11/12/21 13:32	1

# QC Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Method: 8260C LL - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 410-194046/5**

**Matrix: Water**

**Analysis Batch: 194046**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.235		ug/L		105	78 - 126
1,1,1,2-Tetrachloroethane	5.00	4.327		ug/L		87	75 - 123
1,1,2-Trichloroethane	5.00	4.776		ug/L		96	80 - 120
1,1-Dichloroethane	5.00	4.853		ug/L		97	74 - 120
1,1-Dichloroethene	5.00	5.138		ug/L		103	80 - 131
1,2-Dichloroethane	5.00	5.084		ug/L		102	69 - 122
1,2-Dichloropropane	5.00	4.755		ug/L		95	80 - 120
2-Butanone	62.5	64.66		ug/L		103	59 - 141
2-Hexanone	62.5	63.86		ug/L		102	52 - 140
4-Methyl-2-pentanone	62.5	61.81		ug/L		99	55 - 140
Acetone	62.5	64.51		ug/L		103	60 - 146
Benzene	5.00	5.039		ug/L		101	80 - 120
Bromodichloromethane	5.00	5.450		ug/L		109	73 - 124
Bromoform	5.00	5.731		ug/L		115	49 - 144
Bromomethane	5.00	5.621		ug/L		112	60 - 136
Carbon disulfide	5.00	4.903		ug/L		98	67 - 130
Carbon tetrachloride	5.00	5.361		ug/L		107	64 - 141
Chlorobenzene	5.00	5.044		ug/L		101	80 - 120
Chloroethane	5.00	5.117		ug/L		102	63 - 120
Chloroform	5.00	5.143		ug/L		103	80 - 120
Chloromethane	5.00	5.297		ug/L		106	56 - 124
cis-1,2-Dichloroethene	5.00	5.405		ug/L		108	80 - 122
cis-1,3-Dichloropropene	5.00	4.905		ug/L		98	67 - 121
Dibromochloromethane	5.00	5.231		ug/L		105	64 - 138
Ethylbenzene	5.00	4.757		ug/L		95	80 - 120
Freon 113	5.00	4.850		ug/L		97	75 - 133
m&p-Xylene	10.0	10.07		ug/L		101	80 - 120
Methylene Chloride	5.00	4.988		ug/L		100	80 - 120
o-Xylene	5.00	4.956		ug/L		99	80 - 120
Styrene	5.00	5.015		ug/L		100	80 - 120
Tetrachloroethene	5.00	4.946		ug/L		99	80 - 120
Toluene	5.00	4.712		ug/L		94	80 - 120
trans-1,2-Dichloroethene	5.00	5.035		ug/L		101	80 - 122
trans-1,3-Dichloropropene	5.00	4.739		ug/L		95	61 - 129
Trichloroethene	5.00	4.809		ug/L		96	80 - 120
Trichlorofluoromethane	5.00	5.095		ug/L		102	62 - 136
Vinyl chloride	5.00	4.843		ug/L		97	60 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	94		80 - 120
Toluene-d8 (Surr)	97		80 - 120

# QC Sample Results

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Method: 8260C LL - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-194046/7

Matrix: Water

Analysis Batch: 194046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl acetate	12.5	9.714		ug/L		78	38 - 145

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	111		80 - 120
4-Bromofluorobenzene (Surr)	96		80 - 120
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: LCSD 410-194046/6

Matrix: Water

Analysis Batch: 194046

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	5.00	5.348		ug/L		107	78 - 126	2	30
1,1,1,2-Tetrachloroethane	5.00	4.492		ug/L		90	75 - 123	4	30
1,1,1,2-Trichloroethane	5.00	4.798		ug/L		96	80 - 120	0	30
1,1-Dichloroethane	5.00	4.952		ug/L		99	74 - 120	2	30
1,1-Dichloroethene	5.00	5.208		ug/L		104	80 - 131	1	30
1,2-Dichloroethane	5.00	5.075		ug/L		101	69 - 122	0	30
1,2-Dichloropropane	5.00	4.898		ug/L		98	80 - 120	3	30
2-Butanone	62.5	62.60		ug/L		100	59 - 141	3	30
2-Hexanone	62.5	62.08		ug/L		99	52 - 140	3	30
4-Methyl-2-pentanone	62.5	59.24		ug/L		95	55 - 140	4	30
Acetone	62.5	63.90		ug/L		102	60 - 146	1	30
Benzene	5.00	5.150		ug/L		103	80 - 120	2	30
Bromodichloromethane	5.00	5.501		ug/L		110	73 - 124	1	30
Bromoform	5.00	5.778		ug/L		116	49 - 144	1	30
Bromomethane	5.00	5.790		ug/L		116	60 - 136	3	30
Carbon disulfide	5.00	5.020		ug/L		100	67 - 130	2	30
Carbon tetrachloride	5.00	5.425		ug/L		108	64 - 141	1	30
Chlorobenzene	5.00	5.125		ug/L		103	80 - 120	2	30
Chloroethane	5.00	5.287		ug/L		106	63 - 120	3	30
Chloroform	5.00	5.365		ug/L		107	80 - 120	4	30
Chloromethane	5.00	5.375		ug/L		107	56 - 124	1	30
cis-1,2-Dichloroethene	5.00	5.469		ug/L		109	80 - 122	1	30
cis-1,3-Dichloropropene	5.00	4.881		ug/L		98	67 - 121	0	30
Dibromochloromethane	5.00	5.243		ug/L		105	64 - 138	0	30
Ethylbenzene	5.00	4.844		ug/L		97	80 - 120	2	30
Freon 113	5.00	5.006		ug/L		100	75 - 133	3	30
m&p-Xylene	10.0	10.29		ug/L		103	80 - 120	2	30
Methylene Chloride	5.00	5.255		ug/L		105	80 - 120	5	30
o-Xylene	5.00	5.053		ug/L		101	80 - 120	2	30
Styrene	5.00	5.095		ug/L		102	80 - 120	2	30
Tetrachloroethene	5.00	5.050		ug/L		101	80 - 120	2	30
Toluene	5.00	4.743		ug/L		95	80 - 120	1	30
trans-1,2-Dichloroethene	5.00	5.060		ug/L		101	80 - 122	0	30
trans-1,3-Dichloropropene	5.00	4.779		ug/L		96	61 - 129	1	30
Trichloroethene	5.00	4.820		ug/L		96	80 - 120	0	30

Eurofins Lancaster Laboratories Env, LLC

# QC Sample Results

Client: Landau & Associates, Inc.  
 Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Method: 8260C LL - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-194046/6

Matrix: Water

Analysis Batch: 194046

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	5.00	5.251		ug/L		105	62 - 136	3	30
Vinyl chloride	5.00	4.990		ug/L		100	60 - 125	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	111		80 - 120
4-Bromofluorobenzene (Surr)	96		80 - 120
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: LCSD 410-194046/8

Matrix: Water

Analysis Batch: 194046

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl acetate	12.5	9.448		ug/L		76	38 - 145	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	105		80 - 120
Dibromofluoromethane (Surr)	109		80 - 120
4-Bromofluorobenzene (Surr)	95		80 - 120
Toluene-d8 (Surr)	95		80 - 120

# QC Association Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## GC/MS VOA

### Analysis Batch: 194046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-62319-1	Trip blank-1121	Total/NA	Water	8260C LL	
410-62319-2	B0P-13ds-1121	Total/NA	Water	8260C LL	
410-62319-3	B0P-13dg-1121	Total/NA	Water	8260C LL	
410-62319-4	B0P-31ds-1121	Total/NA	Water	8260C LL	
410-62319-5	B0P-31dg-1121	Total/NA	Water	8260C LL	
MB 410-194046/11	Method Blank	Total/NA	Water	8260C LL	
LCS 410-194046/5	Lab Control Sample	Total/NA	Water	8260C LL	
LCS 410-194046/7	Lab Control Sample	Total/NA	Water	8260C LL	
LCSD 410-194046/6	Lab Control Sample Dup	Total/NA	Water	8260C LL	
LCSD 410-194046/8	Lab Control Sample Dup	Total/NA	Water	8260C LL	

# Lab Chronicle

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Client Sample ID: Trip blank-1121

Lab Sample ID: 410-62319-1

Date Collected: 11/02/21 00:00

Matrix: Water

Date Received: 11/05/21 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	194046	11/12/21 13:54	DVW2	ELLE

## Client Sample ID: B0P-13ds-1121

Lab Sample ID: 410-62319-2

Date Collected: 11/02/21 17:50

Matrix: Water

Date Received: 11/05/21 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	194046	11/12/21 16:30	DVW2	ELLE

## Client Sample ID: B0P-13dg-1121

Lab Sample ID: 410-62319-3

Date Collected: 11/02/21 18:10

Matrix: Water

Date Received: 11/05/21 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	194046	11/12/21 16:52	DVW2	ELLE

## Client Sample ID: B0P-31ds-1121

Lab Sample ID: 410-62319-4

Date Collected: 11/02/21 18:50

Matrix: Water

Date Received: 11/05/21 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	194046	11/12/21 17:15	DVW2	ELLE

## Client Sample ID: B0P-31dg-1121

Lab Sample ID: 410-62319-5

Date Collected: 11/02/21 19:10

Matrix: Water

Date Received: 11/05/21 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	194046	11/12/21 17:37	DVW2	ELLE

### Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

# Accreditation/Certification Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

## Laboratory: Eurofins Lancaster Laboratories Env, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	PA200001	09-11-22

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

Method	Method Description	Protocol	Laboratory
8260C LL	Volatile Organic Compounds by GC/MS	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



# Sample Summary

Client: Landau & Associates, Inc.  
Project/Site: Boeing Portland, Annual GW Event

Job ID: 410-62319-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-62319-1	Trip blank-1121	Water	11/02/21 00:00	11/05/21 11:11
410-62319-2	B0P-13ds-1121	Water	11/02/21 17:50	11/05/21 11:11
410-62319-3	B0P-13dg-1121	Water	11/02/21 18:10	11/05/21 11:11
410-62319-4	B0P-31ds-1121	Water	11/02/21 18:50	11/05/21 11:11
410-62319-5	B0P-31dg-1121	Water	11/02/21 19:10	11/05/21 11:11

1

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v, LLC

# Chain of Custody Record

eurofins Environment Testing America

410-62319 Chain of Custody

Client Contact: Deborah Taege	Sampler: <i>JEC</i>	Lab PM: Badman, Vanessa	Carrier Tracking No(s):	COC No: 410-29675-9229 15
Company: The Boeing Company	Phone:	E-Mail: vanessa.badman@eurofinset.com	State of Origin: <i>OR</i>	Page: Page 15 of 25 - <i>1061 per</i>

Address: Support Services PO BOX 34083 City: Seattle State, Zip: WA, 98124 Phone: Email: deborah.a.taege@boeing.com	Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: 025116.120.412 WO #:	Analysis Requested										Job #:								
Project Name: Boeing Portland, Annual GW Event Site: Oregon	Project #: 41003196 SSOW#:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_LL - Boeing 38 8260C	5310C - (MOD) Total Organic Carbon	300_ORGFMS - Nitrate 300.0	300_ORGFMS - Nitrate, Nitrite	RSK_175 - (MOD) AMEE RSK-175	SM4500NH3_D - Local Method	6010D - Total Iron 6010D	6010D - Dissolved Iron 6010D	NWTPH_Dx - (MOD) Local Method	1654A_NP - Oil & Grease and TPH	365.1 - (MOD) Total Phosphorus	8270E_SIM - 1,4-Dioxane	Total Number of Containers	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Other:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_LL - Boeing 38 8260C	5310C - (MOD) Total Organic Carbon	300_ORGFMS - Nitrate 300.0	300_ORGFMS - Nitrate, Nitrite	300_ORGFMS - Nitrate, Nitrite	300_ORGFMS - Nitrate, Nitrite	RSK_175 - (MOD) AMEE RSK-175	SM4500NH3_D - Local Method	6010D - Total Iron 6010D	6010D - Dissolved Iron 6010D	NWTPH_Dx - (MOD) Local Method	1654A_NP - Oil & Grease and TPH	365.1 - (MOD) Total Phosphorus	8270E_SIM - 1,4-Dioxane	Total Number of Containers	Special Instructions/Note:	
<i>Trip blank - 1121</i>	<i>—</i>	<i>—</i>		<i>W</i>			<i>X</i>															<i>2</i>	
<i>BOP-13ds-1121</i>	<i>11/2/21</i>	<i>1750</i>	<i>G</i>	<i>W</i>			<i>X</i>															<i>3</i>	
<i>BOP-13dg-1121</i>	<i>11/2/21</i>	<i>1810</i>	<i>G</i>	<i>W</i>			<i>X</i>															<i>3</i>	
<i>BOP-31ds-1121</i>	<i>11/2/21</i>	<i>1850</i>	<i>G</i>	<i>W</i>			<i>X</i>															<i>3</i>	
<i>BOP-31dg-1121</i>	<i>11/2/21</i>	<i>1910</i>	<i>G</i>	<i>W</i>			<i>X</i>															<i>3</i>	

Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
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Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
Special Instructions/QC Requirements: \_\_\_\_\_

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>J6 Jesika Cavanagh</i>	Date/Time: <i>11/3/21 1333</i>	Company: <i>Lanham</i>	Received by: <i>th</i>
Relinquished by:	Date/Time:	Company: <i>Prosal</i>	Received by:
Relinquished by:	Date/Time:	Company:	Received by: <i>th</i>
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: <i>5.5</i>	Date/Time: <i>11/5/21 1111</i> Company: <i>ELLE</i>

## Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 410-62319-1

**Login Number: 62319**

**List Source: Eurofins Lancaster Laboratories Env, LLC**

**List Number: 1**

**Creator: Jeremiah, Cory T**

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ( $\leq 6^{\circ}\text{C}$ , not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ( $\leq 6^{\circ}\text{C}$ , not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	