

## Jennifer Cline

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**From:** Jennifer Cline <jcline@cityofmolalla.com>  
**Sent:** Thursday, March 03, 2016 2:20 PM  
**To:** COLE David; 'HEINS Pat'  
**Cc:** Jason Clifford  
**Subject:** Priority Pollutants Reports  
**Attachments:** Cover Letter for Iron Report.docx; Q1156 Report-Iron.pdf; Q1156 Report-prelim.pdf

Hello,

Please find attached a letter from Jason Clifford and electronic copies of two Priority Pollutant reports. As Jason states in his letter, two reports have been provided due to the fact the lab did not include information for Iron in the first report. Hard copies have been sent by mail.

Please let Jason 503-793-5283 or myself know if you have any questions.

Regards,

**Jennifer Cline, P.E. | Public Works Director**

Licensed in OR, WA

[City of Molalla](#)

117 N Molalla Ave. | PO Box 248 ☒ | Molalla, OR 97038

O: 503.759.0218 | F: 503.829.3676



2/26/2016

Molalla WWTP Priority Pollutants per Permit 101514

Attn: Dave Cole, Pat Heins

Dear Sirs,

There are (2) Priority Pollutant reports this session. The reports are the same with the exception of this report that is attached to this letter; this report has the iron results of the test. I am sending you both reports since CH2MHill sent me (2) reports for you to place in our wastewater file. If you have any questions, do not hesitate to call me at 503-793-5283, Tuesday-Friday 0700-1730.

Respectfully,

Jason Clifford

Lead Operator

City of Molalla WWTP



## Analytical Report for

# Molalla, City of - Priority Pollutants

12424 S. Toliver Road  
Molalla, OR 97038

ASL Report #: Q1156

Project ID: 921133.OTC

**Attn: Jason Clifford**

Authorized and Released By:

Laboratory Project Manager  
Doug Hardy  
(541) 758-0235 ext.23107  
February 22, 2016

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Louisiana (05031)



ASL Report #: Q1156

**Sample Receipt Comments**

We certify that the test results meet all NELAP requirements.

NOTE: Iron results are not included and will follow.

**Sample Cross-Reference**

ASL Sample ID	Client Sample ID	Date/Time Collected	Date Received
Q115601	DMS Final Effluent Grab	02/01/16 08:30	02/01/16
Q115602	Trip Blank	02/01/16 08:00	02/01/16

Preliminary

## CASE NARRATIVE GC/MS VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E624: SW5030

Preliminary

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.22	J	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	102	70-130	
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	95	70-130	

Preliminary

U=Not detected and reported as less than detection limit  
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 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: Trip Blank</b>	<b>Lab Sample ID: Q115602</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:00	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: Trip Blank</b>				<b>Lab Sample ID: Q115602</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:00				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	101	70-130	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	93	70-130	

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: WB1-0203</b>	<b>Lab Sample ID: WB1-0203</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: WB1-0203</b>	<b>Lab Sample ID: WB1-0203</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	
Basis: As Received	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	94	70-130	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	96	70-130	
4-Bromofluorobenzene	92	70-130	

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS1W0203
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>							
Dichlorodifluoromethane	75-71-8	20.0	16.6	ug/L	83	E624	02/03/16
Chloromethane	74-87-3	20.0	18.4	ug/L	92	E624	02/03/16
Vinyl Chloride	75-01-4	20.0	20.8	ug/L	104	E624	02/03/16
Bromomethane	74-83-9	20.0	20.2	ug/L	101	E624	02/03/16
Chloroethane	75-00-3	20.0	20.6	ug/L	103	E624	02/03/16
Trichlorofluoromethane	75-69-4	20.0	21.4	ug/L	107	E624	02/03/16
Acrolein	107-02-8	20.0	18.6	ug/L	93	E624	02/03/16
1,1-Dichloroethene	75-35-4	20.0	18.0	ug/L	90	E624	02/03/16
Acrylonitrile	107-13-1	20.0	19.8	ug/L	99	E624	02/03/16
Methylene chloride	75-09-2	20.0	19.0	ug/L	95	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	20.0	18.6	ug/L	93	E624	02/03/16
1,1-Dichloroethane	75-34-3	20.0	18.2	ug/L	91	E624	02/03/16
Chloroform	67-66-3	20.0	19.3	ug/L	96	E624	02/03/16
1,2-Dichloroethane	107-06-2	20.0	19.8	ug/L	99	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	20.0	20.0	ug/L	100	E624	02/03/16
Carbon tetrachloride	56-23-5	20.0	20.3	ug/L	101	E624	02/03/16
Benzene	71-43-2	20.0	19.2	ug/L	96	E624	02/03/16
1,2-Dichloropropane	78-87-5	20.0	19.3	ug/L	96	E624	02/03/16
Trichloroethene (TCE)	79-01-6	20.0	19.9	ug/L	99	E624	02/03/16
Bromodichloromethane	75-27-4	20.0	20.0	ug/L	100	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	20.0	19.8	ug/L	99	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	20.0	21.9	ug/L	109	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	20.0	20.4	ug/L	102	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	20.0	19.3	ug/L	97	E624	02/03/16
Toluene	108-88-3	20.0	19.6	ug/L	98	E624	02/03/16
Dibromochloromethane	124-48-1	20.0	20.7	ug/L	104	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	20.0	18.7	ug/L	93	E624	02/03/16
Chlorobenzene	108-90-7	20.0	19.5	ug/L	97	E624	02/03/16
Ethylbenzene	100-41-4	20.0	18.5	ug/L	93	E624	02/03/16
Bromoform	75-25-2	20.0	20.7	ug/L	103	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	20.0	19.4	ug/L	97	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of Type: QC Matrix: Water	LCS ID: BS1W0203 Report Revision No.: 0 Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
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## GC/MS Volatiles

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	98	70-130	
1,2-Dichloroethane-d4	98	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	92	70-130	

Preliminary

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

## CASE NARRATIVE GC/MS SEMI-VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E625: SW3510

Preliminary

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: DMS Final Effluent Grab</b>				<b>Lab Sample ID: Q115601</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:30				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
Benzoic Acid	65-85-0	1.91	9.55	1.91	U	ug/L	E625	02/13/16
Pyridine	110-86-1	1.91	4.77	1.91	U	ug/L	E625	02/13/16
4-Chloroaniline	106-47-8	1.91	4.77	1.91	U	ug/L	E625	02/13/16
2-Nitroaniline	88-74-4	1.91	4.77	1.91	U	ug/L	E625	02/13/16
Dibenzofuran	132-64-9	1.91	4.77	1.91	U	ug/L	E625	02/13/16
3-Nitroaniline	99-09-2	1.91	4.77	1.91	U	ug/L	E625	02/13/16
4-Nitroaniline	100-01-6	1.91	4.77	1.91	U	ug/L	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	1.91	4.77	1.91	U	ug/L	E625	02/13/16
Carbazole	86-74-8	1.91	4.77	1.91	U	ug/L	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	35	21-115	
Phenol-d5	24	5-115	
Nitrobenzene-d5	60	35-114	
2-Fluorobiphenyl	66	43-116	
2,4,6-Tribromophenol	77	5-123	
Terphenyl-d14	92	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: WB1-0202</b>				<b>Lab Sample ID: WB1-0202</b>			
Project Name: Molalla, City of				Date Received: N/A			
Sample Date: N/A				Dilution Factor: 1			
Sample Time: N/A				Report Revision No.: 0			
Type: QC							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
Benzoic Acid	65-85-0	2.00	10.0	2.00	U	ug/L	E625	02/13/16
Pyridine	110-86-1	2.00	5.00	2.00	U	ug/L	E625	02/13/16
4-Chloroaniline	106-47-8	2.00	5.00	2.00	U	ug/L	E625	02/13/16
2-Nitroaniline	88-74-4	2.00	5.00	2.00	U	ug/L	E625	02/13/16
Dibenzofuran	132-64-9	2.00	5.00	2.00	U	ug/L	E625	02/13/16
3-Nitroaniline	99-09-2	2.00	5.00	2.00	U	ug/L	E625	02/13/16
4-Nitroaniline	100-01-6	2.00	5.00	2.00	U	ug/L	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	2.00	5.00	2.00	U	ug/L	E625	02/13/16
Carbazole	86-74-8	2.00	5.00	2.00	U	ug/L	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	52	21-115	
Phenol-d5	37	5-115	
Nitrobenzene-d5	71	35-114	
2-Fluorobiphenyl	60	43-116	
2,4,6-Tribromophenol	70	5-123	
Terphenyl-d14	101	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information			Lab Information		
Project Name: Molalla, City of			LCS ID: BS1W0202		
Type: QC			Report Revision No.: 0		
Matrix: Water			Dilution Factor: 1		

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
Dibenzofuran	132-64-9	80.0	57.1	ug/L	71	E625	02/13/16
3-Nitroaniline	99-09-2	80.0	59.8	ug/L	75	E625	02/13/16
4-Nitroaniline	100-01-6	80.0	62.7	ug/L	78	E625	02/13/16
Pyridine	110-86-1	80.0	28.1	ug/L	35	E625	02/13/16
Benzoic Acid	65-85-0	80.0	30.8	ug/L	38	E625	02/13/16
4-Chloroaniline	106-47-8	80.0	54.2	ug/L	68	E625	02/13/16
2-Nitroaniline	88-74-4	80.0	62.0	ug/L	78	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	80.0	59.1	ug/L	74	E625	02/13/16
Carbazole	86-74-8	80.0	62.8	ug/L	78	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	46	21-115	
Phenol-d5	36	5-115	
Nitrobenzene-d5	74	35-114	
2-Fluorobiphenyl	50	43-116	
2,4,6-Tribromophenol	80	5-123	
Terphenyl-d14	102	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

## CASE NARRATIVE GC/MS SEMI-VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**  
E625-SIM: SW3510

Preliminary

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: DMS Final Effluent Grab</b>				<b>Lab Sample ID: Q115601</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:30				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
N-Nitrosodimethylamine	62-75-9	0.0089	0.19	0.0089	U	ug/L	E625-SIMM	02/16/16
Aniline	62-53-3	0.034	0.19	0.034	U	ug/L	E625-SIMM	02/16/16
Phenol	108-95-2	0.012	0.19	0.012	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroethyl)ether	111-44-4	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
2-Chlorophenol	95-57-8	0.029	0.19	0.041	J	ug/L	E625-SIMM	02/16/16
1,3-Dichlorobenzene	541-73-1	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
1,4-Dichlorobenzene	106-46-7	0.030	0.19	0.030	U	ug/L	E625-SIMM	02/16/16
Benzyl alcohol	100-51-6	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
1,2-Dichlorobenzene	95-50-1	0.033	0.19	0.033	U	ug/L	E625-SIMM	02/16/16
2-Methylphenol	95-48-7	0.019	0.19	0.019	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroisopropyl)ether	108-60-1	0.035	0.19	0.035	U	ug/L	E625-SIMM	02/16/16
3-,4-Methylphenol	108-39-4/106	0.013	0.19	0.013	U	ug/L	E625-SIMM	02/16/16
N-Nitroso-di-n-propylamine	621-64-7	0.025	0.19	0.025	U	ug/L	E625-SIMM	02/16/16
Hexachloroethane	67-72-1	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Nitrobenzene	98-95-3	0.048	0.19	0.048	U	ug/L	E625-SIMM	02/16/16
Isophorone	78-59-1	0.032	0.19	0.032	U	ug/L	E625-SIMM	02/16/16
2-Nitrophenol	88-75-5	0.030	0.19	0.030	U	ug/L	E625-SIMM	02/16/16
2,4-Dimethylphenol	105-67-9	0.031	0.19	0.031	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroethoxy)methane	111-91-1	0.032	0.19	0.032	U	ug/L	E625-SIMM	02/16/16
2,4-Dichlorophenol	120-83-2	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
1,2,4-Trichlorobenzene	120-82-1	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
Naphthalene	91-20-3	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
Hexachlorobutadiene	87-68-3	0.011	0.19	0.011	U	ug/L	E625-SIMM	02/16/16
4-Chloro-3-methyl phenol	59-50-7	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
2-Methylnaphthalene	91-57-6	0.036	0.19	0.036	U	ug/L	E625-SIMM	02/16/16
1-Methylnaphthalene	90-12-0	0.062	0.19	0.062	U	ug/L	E625-SIMM	02/16/16
Hexachlorocyclopentadiene	77-47-4	0.0062	0.19	0.0062	U	ug/L	E625-SIMM	02/16/16
2,4,6-Trichlorophenol	88-06-2	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
2,4,5-Trichlorophenol	95-95-4	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
2-Chloronaphthalene	91-58-7	0.035	0.19	0.035	U	ug/L	E625-SIMM	02/16/16
Dimethylphthalate	131-11-3	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
Acenaphthylene	208-96-8	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
2,6-Dinitrotoluene	606-20-2	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
Acenaphthene	83-32-9	0.034	0.19	0.034	U	ug/L	E625-SIMM	02/16/16
2,4-Dinitrophenol	51-28-5	0.027	0.48	0.027	U	ug/L	E625-SIMM	02/16/16
4-Nitrophenol	100-02-7	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
2,4-Dinitrotoluene	121-14-2	0.015	0.19	0.015	U	ug/L	E625-SIMM	02/16/16
Diethylphthalate	84-66-2	0.021	0.19	0.35		ug/L	E625-SIMM	02/16/16
Fluorene	86-73-7	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
4-Chlorophenyl phenyl ether	7005-72-3	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
4,6-Dinitro-2-methyl phenol	534-52-1	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
N-Nitrosodiphenylamine	86-30-6	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
4-Bromophenyl phenyl ether	101-55-3	0.026	0.19	0.026	U	ug/L	E625-SIMM	02/16/16
Hexachlorobenzene	118-74-1	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
Pentachlorophenol	87-86-5	0.045	0.19	0.045	U	ug/L	E625-SIMM	02/16/16
Phenanthrene	85-01-8	0.036	0.19	0.036	U	ug/L	E625-SIMM	02/16/16
Anthracene	120-12-7	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16
Di-n-butylphthalate	84-74-2	0.023	0.19	0.11	J	ug/L	E625-SIMM	02/16/16
Fluoranthene	206-44-0	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
Pyrene	129-00-0	0.022	0.19	0.022	U	ug/L	E625-SIMM	02/16/16
Benzidine	92-87-5	0.049	0.48	0.049	U	ug/L	E625-SIMM	02/16/16
Butylbenzylphthalate	85-68-7	0.046	0.19	0.046	U	ug/L	E625-SIMM	02/16/16
Benzo(a)anthracene	56-55-3	0.015	0.19	0.015	U	ug/L	E625-SIMM	02/16/16
3,3'-Dichlorobenzidine	91-94-1	0.027	0.19	0.027	U	ug/L	E625-SIMM	02/16/16
Chrysene	218-01-9	0.022	0.19	0.022	U	ug/L	E625-SIMM	02/16/16
bis(2-Ethylhexyl)phthalate	117-81-7	0.093	0.19	0.33		ug/L	E625-SIMM	02/16/16
Di-n-octylphthalate	117-84-0	0.024	0.19	0.17	J	ug/L	E625-SIMM	02/16/16
Benzo(b)fluoranthene	205-99-2	0.018	0.19	0.018	U	ug/L	E625-SIMM	02/16/16
Benzo(k)fluoranthene	207-08-9	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16
Benzo(a)pyrene	50-32-8	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Indeno(1,2,3-c,d)pyrene	193-39-5	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Dibenzo(a,h)anthracene	53-70-3	0.018	0.19	0.018	U	ug/L	E625-SIMM	02/16/16
Benzo(g,h,i)perylene	191-24-2	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	62	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: WB1-0202</b>				<b>Lab Sample ID: WB1-0202</b>			
Project Name: Molalla, City of				Date Received: N/A			
Sample Date: N/A				Dilution Factor: 1			
Sample Time: N/A				Report Revision No.: 0			
Type: QC							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
N-Nitrosodimethylamine	62-75-9	0.0093	0.20	0.0093	U	ug/L	E625-SIMM	02/13/16
Aniline	62-53-3	0.036	0.20	0.036	U	ug/L	E625-SIMM	02/13/16
Phenol	108-95-2	0.012	0.20	0.012	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroethyl)ether	111-44-4	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
2-Chlorophenol	95-57-8	0.030	0.20	0.036	J	ug/L	E625-SIMM	02/13/16
1,3-Dichlorobenzene	541-73-1	0.031	0.20	0.031	U	ug/L	E625-SIMM	02/13/16
1,4-Dichlorobenzene	106-46-7	0.031	0.20	0.031	U	ug/L	E625-SIMM	02/13/16
Benzyl alcohol	100-51-6	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
1,2-Dichlorobenzene	95-50-1	0.035	0.20	0.035	U	ug/L	E625-SIMM	02/13/16
2-Methylphenol	95-48-7	0.020	0.20	0.020	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroisopropyl)ether	108-60-1	0.037	0.20	0.037	U	ug/L	E625-SIMM	02/13/16
3-,4-Methylphenol	108-39-4/106	0.014	0.20	0.014	U	ug/L	E625-SIMM	02/13/16
N-Nitroso-di-n-propylamine	621-64-7	0.026	0.20	0.026	U	ug/L	E625-SIMM	02/13/16
Hexachloroethane	67-72-1	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Nitrobenzene	98-95-3	0.050	0.20	0.050	U	ug/L	E625-SIMM	02/13/16
Isophorone	78-59-1	0.034	0.20	0.034	U	ug/L	E625-SIMM	02/13/16
2-Nitrophenol	88-75-5	0.032	0.20	0.032	U	ug/L	E625-SIMM	02/13/16
2,4-Dimethylphenol	105-67-9	0.033	0.20	0.033	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroethoxy)methane	111-91-1	0.034	0.20	0.034	U	ug/L	E625-SIMM	02/13/16
2,4-Dichlorophenol	120-83-2	0.030	0.20	0.030	U	ug/L	E625-SIMM	02/13/16
1,2,4-Trichlorobenzene	120-82-1	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
Naphthalene	91-20-3	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
Hexachlorobutadiene	87-68-3	0.012	0.20	0.012	U	ug/L	E625-SIMM	02/13/16
4-Chloro-3-methyl phenol	59-50-7	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
2-Methylnaphthalene	91-57-6	0.038	0.20	0.038	U	ug/L	E625-SIMM	02/13/16
1-Methylnaphthalene	90-12-0	0.065	0.20	0.065	U	ug/L	E625-SIMM	02/13/16
Hexachlorocyclopentadiene	77-47-4	0.0065	0.20	0.0065	U	ug/L	E625-SIMM	02/13/16
2,4,6-Trichlorophenol	88-06-2	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
2,4,5-Trichlorophenol	95-95-4	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
2-Chloronaphthalene	91-58-7	0.036	0.20	0.036	U	ug/L	E625-SIMM	02/13/16
Dimethylphthalate	131-11-3	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
Acenaphthylene	208-96-8	0.030	0.20	0.030	U	ug/L	E625-SIMM	02/13/16
2,6-Dinitrotoluene	606-20-2	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
Acenaphthene	83-32-9	0.035	0.20	0.035	U	ug/L	E625-SIMM	02/13/16
2,4-Dinitrophenol	51-28-5	0.028	0.50	0.028	U	ug/L	E625-SIMM	02/13/16
4-Nitrophenol	100-02-7	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
2,4-Dinitrotoluene	121-14-2	0.015	0.20	0.015	U	ug/L	E625-SIMM	02/13/16
Diethylphthalate	84-66-2	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Fluorene	86-73-7	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
4-Chlorophenyl phenyl ether	7005-72-3	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
4,6-Dinitro-2-methyl phenol	534-52-1	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
N-Nitrosodiphenylamine	86-30-6	0.020	0.20	0.020	U	ug/L	E625-SIMM	02/13/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: WB1-0202</b>				<b>Lab Sample ID: WB1-0202</b>			
Project Name: Molalla, City of				Date Received: N/A			
Sample Date: N/A				Dilution Factor: 1			
Sample Time: N/A				Report Revision No.: 0			
Type: QC							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
4-Bromophenyl phenyl ether	101-55-3	0.027	0.20	0.027	U	ug/L	E625-SIMM	02/13/16
Hexachlorobenzene	118-74-1	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
Pentachlorophenol	87-86-5	0.047	0.20	0.047	U	ug/L	E625-SIMM	02/13/16
Phenanthrene	85-01-8	0.038	0.20	0.038	U	ug/L	E625-SIMM	02/13/16
Anthracene	120-12-7	0.021	0.20	0.021	U	ug/L	E625-SIMM	02/13/16
Di-n-butylphthalate	84-74-2	0.024	0.20	0.085	J	ug/L	E625-SIMM	02/13/16
Fluoranthene	206-44-0	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
Pyrene	129-00-0	0.023	0.20	0.023	U	ug/L	E625-SIMM	02/13/16
Benzidine	92-87-5	0.052	0.50	0.13	J	ug/L	E625-SIMM	02/13/16
Butylbenzylphthalate	85-68-7	0.048	0.20	0.048	U	ug/L	E625-SIMM	02/13/16
Benzo(a)anthracene	56-55-3	0.016	0.20	0.016	U	ug/L	E625-SIMM	02/13/16
3,3'-Dichlorobenzidine	91-94-1	0.028	0.20	0.028	U	ug/L	E625-SIMM	02/13/16
Chrysene	218-01-9	0.023	0.20	0.023	U	ug/L	E625-SIMM	02/13/16
bis(2-Ethylhexyl)phthalate	117-81-7	0.097	0.20	0.097	U	ug/L	E625-SIMM	02/13/16
Di-n-octylphthalate	117-84-0	0.026	0.20	0.026	U	ug/L	E625-SIMM	02/13/16
Benzo(b)fluoranthene	205-99-2	0.019	0.20	0.019	J	ug/L	E625-SIMM	02/13/16
Benzo(k)fluoranthene	207-08-9	0.021	0.20	0.021	U	ug/L	E625-SIMM	02/13/16
Benzo(a)pyrene	50-32-8	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Indeno(1,2,3-c,d)pyrene	193-39-5	0.021	0.20	0.078	J	ug/L	E625-SIMM	02/13/16
Dibenzo(a,h)anthracene	53-70-3	0.019	0.20	0.092	J	ug/L	E625-SIMM	02/13/16
Benzo(g,h,i)perylene	191-24-2	0.021	0.20	0.069	J	ug/L	E625-SIMM	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	61	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information		Lab Information	
Project Name: Molalla, City of		LCS ID: BS2W0202	
Type: QC		Report Revision No.: 0	
Matrix: Water		Dilution Factor: 1	

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
N-Nitrosodimethylamine	62-75-9	2.00	1.05	ug/L	53	E625-SIMM	02/13/16
Aniline	62-53-3	2.00	1.26	ug/L	63	E625-SIMM	02/13/16
Phenol	108-95-2	2.00	0.85	ug/L	43	E625-SIMM	02/13/16
bis(2-Chloroethyl)ether	111-44-4	2.00	1.59	ug/L	79	E625-SIMM	02/13/16
2-Chlorophenol	95-57-8	2.00	1.53	ug/L	76	E625-SIMM	02/13/16
1,3-Dichlorobenzene	541-73-1	2.00	1.06	ug/L	53	E625-SIMM	02/13/16
1,4-Dichlorobenzene	106-46-7	2.00	1.10	ug/L	55	E625-SIMM	02/13/16
1-Methylnaphthalene	90-12-0	2.00	1.41	ug/L	70	E625-SIMM	02/13/16
Benzyl alcohol	100-51-6	2.00	1.55	ug/L	78	E625-SIMM	02/13/16
1,2-Dichlorobenzene	95-50-1	2.00	1.18	ug/L	59	E625-SIMM	02/13/16
2-Methylphenol	95-48-7	2.00	1.43	ug/L	71	E625-SIMM	02/13/16
bis(2-Chloroisopropyl)ether	108-60-1	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
3-,4-Methylphenol	108-39-4/106	2.00	1.37	ug/L	69	E625-SIMM	02/13/16
N-Nitroso-di-n-propylamine	621-64-7	2.00	1.55	ug/L	77	E625-SIMM	02/13/16
Hexachloroethane	67-72-1	2.00	0.82	ug/L	41	E625-SIMM	02/13/16
Nitrobenzene	98-95-3	2.00	1.86	ug/L	93	E625-SIMM	02/13/16
Isophorone	78-59-1	2.00	1.58	ug/L	79	E625-SIMM	02/13/16
2-Nitrophenol	88-75-5	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
2,4-Dimethylphenol	105-67-9	2.00	1.20	ug/L	60	E625-SIMM	02/13/16
bis(2-Chloroethoxy)methane	111-91-1	2.00	1.49	ug/L	74	E625-SIMM	02/13/16
2,4-Dichlorophenol	120-83-2	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
1,2,4-Trichlorobenzene	120-82-1	2.00	1.17	ug/L	58	E625-SIMM	02/13/16
Naphthalene	91-20-3	2.00	1.39	ug/L	69	E625-SIMM	02/13/16
Hexachlorobutadiene	87-68-3	2.00	0.71	ug/L	35	E625-SIMM	02/13/16
4-Chloro-3-methyl phenol	59-50-7	2.00	1.51	ug/L	75	E625-SIMM	02/13/16
2-Methylnaphthalene	91-57-6	2.00	1.38	ug/L	69	E625-SIMM	02/13/16
Hexachlorocyclopentadiene	77-47-4	2.00	0.52	ug/L	26	E625-SIMM	02/13/16
2,4,6-Trichlorophenol	88-06-2	2.00	1.44	ug/L	72	E625-SIMM	02/13/16
2,4,5-Trichlorophenol	95-95-4	2.00	1.46	ug/L	73	E625-SIMM	02/13/16
2-Chloronaphthalene	91-58-7	2.00	1.37	ug/L	68	E625-SIMM	02/13/16
Dimethylphthalate	131-11-3	2.00	1.60	ug/L	80	E625-SIMM	02/13/16
Acenaphthylene	208-96-8	2.00	1.42	ug/L	71	E625-SIMM	02/13/16
2,6-Dinitrotoluene	606-20-2	2.00	1.62	ug/L	81	E625-SIMM	02/13/16
Acenaphthene	83-32-9	2.00	1.40	ug/L	70	E625-SIMM	02/13/16
2,4-Dinitrophenol	51-28-5	2.00	1.52	ug/L	76	E625-SIMM	02/13/16
4-Nitrophenol	100-02-7	2.00	0.83	ug/L	41	E625-SIMM	02/13/16
2,4-Dinitrotoluene	121-14-2	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
Diethylphthalate	84-66-2	2.00	1.64	ug/L	82	E625-SIMM	02/13/16
Fluorene	86-73-7	2.00	1.45	ug/L	73	E625-SIMM	02/13/16
4-Chlorophenyl phenyl ether	7005-72-3	2.00	1.41	ug/L	70	E625-SIMM	02/13/16
4,6-Dinitro-2-methyl phenol	534-52-1	2.00	1.67	ug/L	84	E625-SIMM	02/13/16
N-Nitrosodiphenylamine	86-30-6	2.00	1.51	ug/L	75	E625-SIMM	02/13/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS2W0202
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
4-Bromophenyl phenyl ether	101-55-3	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
Hexachlorobenzene	118-74-1	2.00	1.30	ug/L	65	E625-SIMM	02/13/16
Pentachlorophenol	87-86-5	2.00	1.67	ug/L	83	E625-SIMM	02/13/16
Phenanthrene	85-01-8	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
Anthracene	120-12-7	2.00	1.47	ug/L	74	E625-SIMM	02/13/16
Di-n-butylphthalate	84-74-2	2.00	1.72	ug/L	86	E625-SIMM	02/13/16
Fluoranthene	206-44-0	2.00	1.58	ug/L	79	E625-SIMM	02/13/16
Pyrene	129-00-0	2.00	1.55	ug/L	78	E625-SIMM	02/13/16
Benzidine	92-87-5	2.00	0.42	ug/L	21	E625-SIMM	02/13/16
Butylbenzylphthalate	85-68-7	2.00	1.68	ug/L	84	E625-SIMM	02/13/16
Benzo(a)anthracene	56-55-3	2.00	1.52	ug/L	76	E625-SIMM	02/13/16
3,3'-Dichlorobenzidine	91-94-1	2.00	1.18	ug/L	59	E625-SIMM	02/13/16
Chrysene	218-01-9	2.00	1.53	ug/L	77	E625-SIMM	02/13/16
bis(2-Ethylhexyl)phthalate	117-81-7	2.00	1.68	ug/L	84	E625-SIMM	02/13/16
Di-n-octylphthalate	117-84-0	2.00	1.78	ug/L	89	E625-SIMM	02/13/16
Benzo(b)fluoranthene	205-99-2	2.00	1.73	ug/L	86	E625-SIMM	02/13/16
Benzo(k)fluoranthene	207-08-9	2.00	1.74	ug/L	87	E625-SIMM	02/13/16
Benzo(a)pyrene	50-32-8	2.00	1.65	ug/L	82	E625-SIMM	02/13/16
Indeno(1,2,3-c,d)pyrene	193-39-5	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
Dibenzo(a,h)anthracene	53-70-3	2.00	1.57	ug/L	79	E625-SIMM	02/13/16
Benzo(g,h,i)perylene	191-24-2	2.00	1.52	ug/L	76	E625-SIMM	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	65	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



## CASE NARRATIVE METALS ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E1631E

E200.7: E200.2

E200.8: E200.2

SM2340B

Preliminary

# CH2M ASL

Client Information				Lab Information			
Client Sample ID: DMS Final Effluent Grab				Lab Sample ID: Q115601			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Report Revision No: 0			
Sample Time: 08:30							
Type: Grab							
Matrix: Water							

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Antimony	1	0.031	0.50	0.12	J	ug/L	E200.8	E200.2	02/09/16
Arsenic	1	0.030	0.50	0.23	J	ug/L	E200.8	E200.2	02/09/16
Beryllium	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Cadmium	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Chromium	1	0.10	1.00	0.10	U	ug/L	E200.8	E200.2	02/09/16
Copper	1	0.50	2.00	0.70	J	ug/L	E200.8	E200.2	02/09/16
Hardness, Total as CaCO3	1	0.71	3.31	41.6		mg/L	SM2340B	NONE	02/02/16
Lead	1	0.041	0.50	0.063	J	ug/L	E200.8	E200.2	02/09/16
Mercury	1	0.28	1.00	0.55	J	ng/L	E1631E	METHOD	02/09/16
Nickel	1	0.025	0.50	0.78		ug/L	E200.8	E200.2	02/09/16
Selenium	1	0.069	0.50	0.27	J	ug/L	E200.8	E200.2	02/09/16
Silver	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Thallium	1	0.025	0.20	0.025	U	ug/L	E200.8	E200.2	02/09/16
Zinc	1	2.50	10.0	3.99	J	ug/L	E200.8	E200.2	02/09/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of Sample Date: N/A Sample Time: N/A Type: QC Matrix: Water	Method Blank ID: WB1-0208  Date Received: N/A Report Revision No: 0

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Mercury	1	0.28	1.00	0.28	U	ng/L	E1631E	METHOD	02/09/16

Preliminary

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	Method Blank ID: WB2-0202
Sample Date: N/A	Date Received: N/A
Sample Time: N/A	Report Revision No: 0
Type: QC	
Matrix: Water	

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Antimony	1	0.031	0.50	0.032	J	ug/L	E200.8	E200.2	02/09/16
Arsenic	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Beryllium	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Cadmium	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Chromium	1	0.10	1.00	0.10	U	ug/L	E200.8	E200.2	02/09/16
Copper	1	0.50	2.00	0.50	U	ug/L	E200.8	E200.2	02/09/16
Hardness, Total as CaCO3	1	0.71	3.31	0.71	U	mg/L	SM2340B	NONE	02/02/16
Lead	1	0.041	0.50	0.041	U	ug/L	E200.8	E200.2	02/09/16
Nickel	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Selenium	1	0.069	0.50	0.069	U	ug/L	E200.8	E200.2	02/09/16
Silver	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Thallium	1	0.025	0.20	0.025	U	ug/L	E200.8	E200.2	02/09/16
Zinc	1	2.50	10.0	2.50	U	ug/L	E200.8	E200.2	02/09/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of Type: QC Matrix: Water	Blank Spike ID: BS1W0208 Report Revision No: 0 Dilution Factor: 1

Analyte	Spike Amount	Result	Units	%Recovery	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>							
Mercury	5.00	4.30	ng/L	86	E1631E	METHOD	02/09/16

Preliminary

U=Not detected and report as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	Blank Spike ID: BS2W0202
Type: QC	Report Revision No: 0
Matrix: Water	Dilution Factor: 1

Analyte	Spike Amount	Result	Units	%Recovery	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>							
Antimony	50.0	47.8	ug/L	96	E200.8	E200.2	02/09/16
Arsenic	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16
Beryllium	50.0	48.5	ug/L	97	E200.8	E200.2	02/09/16
Cadmium	50.0	49.2	ug/L	98	E200.8	E200.2	02/09/16
Chromium	50.0	49.9	ug/L	100	E200.8	E200.2	02/09/16
Copper	50.0	48.2	ug/L	96	E200.8	E200.2	02/09/16
Lead	50.0	47.0	ug/L	94	E200.8	E200.2	02/09/16
Nickel	50.0	49.4	ug/L	99	E200.8	E200.2	02/09/16
Selenium	50.0	49.1	ug/L	98	E200.8	E200.2	02/09/16
Silver	25.0	23.8	ug/L	95	E200.8	E200.2	02/09/16
Thallium	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16
Zinc	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16

Preliminary

U=Not detected and report as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E350.1

E420.4

**Matrix Spike/Matrix Spike Duplicate(s):**

E350.1: MSD recovery of Ammonia in sample DMS Final Effluent Grab (116%) failed to meet the acceptance criteria of 90-110%.

Preliminary

# CH2M ASL

Client Information				Lab Information			
Project Name: Molalla, City of				Lab Batch ID: Q1156			
Date Received: 02/01/16				Analysis Method: E350.1			
Type: See C.O.C.				Units: mg/L			
Matrix: Water				Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Ammonia-N RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	0.020	0.10	6.47		02/02/16
WB1-0202	WB1-0202	1	0.020	0.10	0.020	U	02/02/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information				Lab Information			
Project Name: Molalla, City of				Lab Batch ID: Q1156			
Date Received: 02/01/16				Analysis Method: E420.4			
Type: See C.O.C.				Units: ug/L			
Matrix: Water				Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Phenolics RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	3.59	10.0	3.59	U	02/16/16
WB1-0216	WB1-0216	1	3.59	10.0	3.59	U	02/16/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information		Lab Information	
Project Name: Molalla, City of Type: QC Matrix: Water		Lab Batch ID: Q1156 Report Revision No.: 0	

LCS ID	Analyte	Spike Amount	Sample Result	Units	% Recovery	Analysis Method	Date Analyzed
<b>General Chemistry</b>							
BS1W0202	Ammonia-N	2.18	2.27	mg/L	104	E350.1	02/02/16
BS1W0216	Phenolics	50.0	53.9	ug/L	108	E420.4	02/16/16

Preliminary

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

ASTM D4282

E310.2

E335.4

E353.2

Preliminary

# CH2M ASL

Client Information			Lab Information			
Project Name: Molalla, City of			Lab Batch ID: Q1156			
Date Received: 02/01/16			Analysis Method: E310.2			
Type: See C.O.C.			Units: mg/L			
Matrix: Water			Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Alkalinity, Total as CaCO3 RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	3.00	10.0	65.7		02/15/16
WB1-021516	WB1-021516	1	3.00	10.0	3.00	U	02/15/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information			Lab Information		
Project Name: Molalla, City of			Lab Batch ID: Q1156		
Date Received: 02/01/16			Analysis Method: ASTM D4282		
Type: See C.O.C.			Units: ug/L		
Matrix: Water			Report Revision No.: 0		

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Cyanide, Free RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	0.25	0.50	5.57		02/09/16
WB1-020816	WB1-020816	1	0.25	0.50	0.25	U	02/09/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
Project Name: Molalla, City of				Lab Batch ID: Q1156			
Date Received: 02/01/16				Analysis Method: E335.4			
Type: See C.O.C.				Units: mg/L			
Matrix: Water				Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Cyanide, Total RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	0.0015	0.0050	0.0054		02/09/16
WB1-020916	WB1-020916	1	0.0015	0.0050	0.0015	U	02/09/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information			Lab Information			
Project Name: Molalla, City of			Lab Batch ID: Q1156			
Date Received: 02/01/16			Analysis Method: E353.2			
Type: See C.O.C.			Units: mg/L			
Matrix: Water			Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Nitrate/Nitrite-N RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	4	0.011	0.040	1.14		02/19/16
WB3-021916	WB3-021916	1	0.0028	0.010	0.0049	J	02/19/16

Preliminary

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information		Lab Information	
Project Name: Molalla, City of Type: QC Matrix: Water		Lab Batch ID: Q1156 Report Revision No.: 0	

LCS ID	Analyte	Spike Amount	Sample Result	Units	% Recovery	Analysis Method	Date Analyzed
<b>General Chemistry</b>							
BS1W0208	Cyanide, Free	5.00	5.11	ug/L	102	ASTM D4282	02/09/16
BS1W0209	Cyanide, Total	0.10	0.095	mg/L	95	E335.4	02/09/16
BS1W0215	Alkalinity, Total as CaCO3	106	105	mg/L	99	E310.2	02/15/16
BS3W0219	Nitrate/Nitrite-N	0.67	0.69	mg/L	103	E353.2	02/19/16

Preliminary

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative







SDG ID: Q1156

Date Received: 2/1/2016

Client/Project: City of Molalla

Received By: JVP

Were custody seals intact and on the outside of the cooler?  Yes  No  N/A

Shipping Record:  Hand Delivered  On File  COC

Radiological Screening for DoD  Yes  No  N/A

Packing Material:  Hand Delivered  Ice  Blue Ice  Box

Temp OK? (<6C) Therm ID: TH173 Exp. 04/16 8.6 °C  Yes  No  N/A

Was a Chain of Custody (CoC) Provided?  Yes  No  N/A

Was the CoC correctly filled out (If No, document below)  Yes  No  N/A

Did sample labels agree with COC? (If No, document below)  Yes  No  N/A

Did the CoC list a correct bottle count and the preservative types (No=Correct on CoC)  Yes  No  N/A

Were the sample containers in good condition (broken or leaking)?  Yes  No  N/A

Was enough sample volume provided for analysis? (If No, document below)  Yes  No  N/A

Containers supplied by ASL?  Yes  No  N/A

Any sample with < 1/2 holding time remaining? If so contact LPM  Yes  No  N/A

Samples have multi-phase? If yes, document on SRER  Yes  No  N/A

All water VOCs free of air bubbles? No, document on SRER  Yes  No  N/A

pH of all samples met criteria on receipt? If "No", preserve and document below.  Yes  No  N/A

Dissolved/Soluble metals filtered in the field?  Yes  No  N/A

Dissolved/Soluble metals have sediment in bottom of container? If so document below.  Yes  No  N/A

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials/Time	24 hour pH check Initials/Time
LLHg sample -01	HCl	15248A E:6/26/18	1.25mL	JVP/1314	

Did pH of all metals samples preserved upon receipt meet criteria 24 hours after preservation?  Yes  No

**Sample Exception Report** (The following exceptions were noted)

1) Trip Blank not recorded on COC. Logged in as "Trip Blank" (Q115602).  
 2) VOC samples contain air bubbles >6mm.  
 3) Samples arrived unlabeled. Logged in according to Sample Kit Request.

Client was notified on: \_\_\_\_\_ Client contact: \_\_\_\_\_

Resolution to Exception:



## Analytical Report for

# Molalla, City of - Priority Pollutants

12424 S. Toliver Road  
Molalla, OR 97038

ASL Report #: Q1156

Project ID: 921133.OTC

**Attn: Jason Clifford**

Authorized and Released By:

Laboratory Project Manager  
Doug Hardy  
(541) 758-0235 ext.23107  
February 25, 2016

All analyses performed by CH2M HILL are clearly indicated. Any subcontracted analyses are included as appended reports as received from the subcontracted laboratory. The results included in this report only relate to the samples listed on the following Sample Cross-Reference page. This report shall not be reproduced except in full, without the written approval of the laboratory.

Any unusual difficulties encountered during the analysis of your samples are discussed in the attached case narratives.



Accredited in accordance with NELAP:  
Oregon (100022)  
Louisiana (05031)



ASL Report #: Q1156

### Sample Receipt Comments

We certify that the test results meet all NELAP requirements.

### Sample Cross-Reference

<b>ASL Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date Received</b>
Q115601	DMS Final Effluent Grab	02/01/16 08:30	02/01/16
Q115602	Trip Blank	02/01/16 08:00	02/01/16

## CASE NARRATIVE GC/MS VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E624: SW5030

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.22	J	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: DMS Final Effluent Grab</b>				<b>Lab Sample ID: Q115601</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:30				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	102	70-130	
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	95	70-130	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: Trip Blank</b>	<b>Lab Sample ID: Q115602</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:00	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: Trip Blank</b>				<b>Lab Sample ID: Q115602</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:00				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	101	70-130	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	93	70-130	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: WB1-0203</b>	<b>Lab Sample ID: WB1-0203</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								
Dichlorodifluoromethane	75-71-8	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloromethane	74-87-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Vinyl Chloride	75-01-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromomethane	74-83-9	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroethane	75-00-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichlorofluoromethane	75-69-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrolein	107-02-8	0.50	5.00	0.50	U	ug/L	E624	02/03/16
1,1-Dichloroethene	75-35-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Acrylonitrile	107-13-1	0.50	5.00	0.50	U	ug/L	E624	02/03/16
Methylene chloride	75-09-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1-Dichloroethane	75-34-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chloroform	67-66-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloroethane	107-06-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Carbon tetrachloride	56-23-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Benzene	71-43-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,2-Dichloropropane	78-87-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Trichloroethene (TCE)	79-01-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromodichloromethane	75-27-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	0.50	2.00	0.50	U	ug/L	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Toluene	108-88-3	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Dibromochloromethane	124-48-1	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Chlorobenzene	108-90-7	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Ethylbenzene	100-41-4	0.15	0.50	0.15	U	ug/L	E624	02/03/16
Bromoform	75-25-2	0.15	0.50	0.15	U	ug/L	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	0.15	0.50	0.15	U	ug/L	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Client Sample ID: <b>WB1-0203</b>	Lab Sample ID: <b>WB1-0203</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	
Basis: As Received	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>								

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	94	70-130	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	96	70-130	
4-Bromofluorobenzene	92	70-130	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS1W0203
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Volatiles</b>							
Dichlorodifluoromethane	75-71-8	20.0	16.6	ug/L	83	E624	02/03/16
Chloromethane	74-87-3	20.0	18.4	ug/L	92	E624	02/03/16
Vinyl Chloride	75-01-4	20.0	20.8	ug/L	104	E624	02/03/16
Bromomethane	74-83-9	20.0	20.2	ug/L	101	E624	02/03/16
Chloroethane	75-00-3	20.0	20.6	ug/L	103	E624	02/03/16
Trichlorofluoromethane	75-69-4	20.0	21.4	ug/L	107	E624	02/03/16
Acrolein	107-02-8	20.0	18.6	ug/L	93	E624	02/03/16
1,1-Dichloroethene	75-35-4	20.0	18.0	ug/L	90	E624	02/03/16
Acrylonitrile	107-13-1	20.0	19.8	ug/L	99	E624	02/03/16
Methylene chloride	75-09-2	20.0	19.0	ug/L	95	E624	02/03/16
trans-1,2-Dichloroethene	156-60-5	20.0	18.6	ug/L	93	E624	02/03/16
1,1-Dichloroethane	75-34-3	20.0	18.2	ug/L	91	E624	02/03/16
Chloroform	67-66-3	20.0	19.3	ug/L	96	E624	02/03/16
1,2-Dichloroethane	107-06-2	20.0	19.8	ug/L	99	E624	02/03/16
1,1,1-Trichloroethane	71-55-6	20.0	20.0	ug/L	100	E624	02/03/16
Carbon tetrachloride	56-23-5	20.0	20.3	ug/L	101	E624	02/03/16
Benzene	71-43-2	20.0	19.2	ug/L	96	E624	02/03/16
1,2-Dichloropropane	78-87-5	20.0	19.3	ug/L	96	E624	02/03/16
Trichloroethene (TCE)	79-01-6	20.0	19.9	ug/L	99	E624	02/03/16
Bromodichloromethane	75-27-4	20.0	20.0	ug/L	100	E624	02/03/16
2-Chloroethylvinyl ether	110-75-8	20.0	19.8	ug/L	99	E624	02/03/16
cis-1,3-Dichloropropene	10061-01-5	20.0	21.9	ug/L	109	E624	02/03/16
trans-1,3-Dichloropropene	10061-02-6	20.0	20.4	ug/L	102	E624	02/03/16
1,1,2-Trichloroethane	79-00-5	20.0	19.3	ug/L	97	E624	02/03/16
Toluene	108-88-3	20.0	19.6	ug/L	98	E624	02/03/16
Dibromochloromethane	124-48-1	20.0	20.7	ug/L	104	E624	02/03/16
Tetrachloroethene (PCE)	127-18-4	20.0	18.7	ug/L	93	E624	02/03/16
Chlorobenzene	108-90-7	20.0	19.5	ug/L	97	E624	02/03/16
Ethylbenzene	100-41-4	20.0	18.5	ug/L	93	E624	02/03/16
Bromoform	75-25-2	20.0	20.7	ug/L	103	E624	02/03/16
1,1,2,2-Tetrachloroethane	79-34-5	20.0	19.4	ug/L	97	E624	02/03/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of Type: QC Matrix: Water	LCS ID: BS1W0203 Report Revision No.: 0 Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
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## GC/MS Volatiles

Surrogate	% Recovery	Control Limits	Qualifier
Dibromofluoromethane	98	70-130	
1,2-Dichloroethane-d4	98	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	92	70-130	

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

## CASE NARRATIVE GC/MS SEMI-VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E625: SW3510

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
Benzoic Acid	65-85-0	1.91	9.55	1.91	U	ug/L	E625	02/13/16
Pyridine	110-86-1	1.91	4.77	1.91	U	ug/L	E625	02/13/16
4-Chloroaniline	106-47-8	1.91	4.77	1.91	U	ug/L	E625	02/13/16
2-Nitroaniline	88-74-4	1.91	4.77	1.91	U	ug/L	E625	02/13/16
Dibenzofuran	132-64-9	1.91	4.77	1.91	U	ug/L	E625	02/13/16
3-Nitroaniline	99-09-2	1.91	4.77	1.91	U	ug/L	E625	02/13/16
4-Nitroaniline	100-01-6	1.91	4.77	1.91	U	ug/L	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	1.91	4.77	1.91	U	ug/L	E625	02/13/16
Carbazole	86-74-8	1.91	4.77	1.91	U	ug/L	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	35	21-115	
Phenol-d5	24	5-115	
Nitrobenzene-d5	60	35-114	
2-Fluorobiphenyl	66	43-116	
2,4,6-Tribromophenol	77	5-123	
Terphenyl-d14	92	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: WB1-0202</b>				<b>Lab Sample ID: WB1-0202</b>			
Project Name: Molalla, City of				Date Received: N/A			
Sample Date: N/A				Dilution Factor: 1			
Sample Time: N/A				Report Revision No.: 0			
Type: QC							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
Benzoic Acid	65-85-0	2.00	10.0	2.00	U	ug/L	E625	02/13/16
Pyridine	110-86-1	2.00	5.00	2.00	U	ug/L	E625	02/13/16
4-Chloroaniline	106-47-8	2.00	5.00	2.00	U	ug/L	E625	02/13/16
2-Nitroaniline	88-74-4	2.00	5.00	2.00	U	ug/L	E625	02/13/16
Dibenzofuran	132-64-9	2.00	5.00	2.00	U	ug/L	E625	02/13/16
3-Nitroaniline	99-09-2	2.00	5.00	2.00	U	ug/L	E625	02/13/16
4-Nitroaniline	100-01-6	2.00	5.00	2.00	U	ug/L	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	2.00	5.00	2.00	U	ug/L	E625	02/13/16
Carbazole	86-74-8	2.00	5.00	2.00	U	ug/L	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	52	21-115	
Phenol-d5	37	5-115	
Nitrobenzene-d5	71	35-114	
2-Fluorobiphenyl	60	43-116	
2,4,6-Tribromophenol	70	5-123	
Terphenyl-d14	101	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS1W0202
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
Dibenzofuran	132-64-9	80.0	57.1	ug/L	71	E625	02/13/16
3-Nitroaniline	99-09-2	80.0	59.8	ug/L	75	E625	02/13/16
4-Nitroaniline	100-01-6	80.0	62.7	ug/L	78	E625	02/13/16
Pyridine	110-86-1	80.0	28.1	ug/L	35	E625	02/13/16
Benzoic Acid	65-85-0	80.0	30.8	ug/L	38	E625	02/13/16
4-Chloroaniline	106-47-8	80.0	54.2	ug/L	68	E625	02/13/16
2-Nitroaniline	88-74-4	80.0	62.0	ug/L	78	E625	02/13/16
1,2-Diphenylhydrazine	122-66-7	80.0	59.1	ug/L	74	E625	02/13/16
Carbazole	86-74-8	80.0	62.8	ug/L	78	E625	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
2-Fluorophenol	46	21-115	
Phenol-d5	36	5-115	
Nitrobenzene-d5	74	35-114	
2-Fluorobiphenyl	50	43-116	
2,4,6-Tribromophenol	80	5-123	
Terphenyl-d14	102	33-141	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

## CASE NARRATIVE GC/MS SEMI-VOLATILES ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E625-SIM: SW3510

# CH2M ASL

Client Information				Lab Information			
<b>Client Sample ID: DMS Final Effluent Grab</b>				<b>Lab Sample ID: Q115601</b>			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Dilution Factor: 1			
Sample Time: 08:30				Report Revision No.: 0			
Type: Grab							
Matrix: Water							

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
N-Nitrosodimethylamine	62-75-9	0.0089	0.19	0.0089	U	ug/L	E625-SIMM	02/16/16
Aniline	62-53-3	0.034	0.19	0.034	U	ug/L	E625-SIMM	02/16/16
Phenol	108-95-2	0.012	0.19	0.012	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroethyl)ether	111-44-4	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
2-Chlorophenol	95-57-8	0.029	0.19	0.041	J	ug/L	E625-SIMM	02/16/16
1,3-Dichlorobenzene	541-73-1	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
1,4-Dichlorobenzene	106-46-7	0.030	0.19	0.030	U	ug/L	E625-SIMM	02/16/16
Benzyl alcohol	100-51-6	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
1,2-Dichlorobenzene	95-50-1	0.033	0.19	0.033	U	ug/L	E625-SIMM	02/16/16
2-Methylphenol	95-48-7	0.019	0.19	0.019	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroisopropyl)ether	108-60-1	0.035	0.19	0.035	U	ug/L	E625-SIMM	02/16/16
3-,4-Methylphenol	108-39-4/106	0.013	0.19	0.013	U	ug/L	E625-SIMM	02/16/16
N-Nitroso-di-n-propylamine	621-64-7	0.025	0.19	0.025	U	ug/L	E625-SIMM	02/16/16
Hexachloroethane	67-72-1	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Nitrobenzene	98-95-3	0.048	0.19	0.048	U	ug/L	E625-SIMM	02/16/16
Isophorone	78-59-1	0.032	0.19	0.032	U	ug/L	E625-SIMM	02/16/16
2-Nitrophenol	88-75-5	0.030	0.19	0.030	U	ug/L	E625-SIMM	02/16/16
2,4-Dimethylphenol	105-67-9	0.031	0.19	0.031	U	ug/L	E625-SIMM	02/16/16
bis(2-Chloroethoxy)methane	111-91-1	0.032	0.19	0.032	U	ug/L	E625-SIMM	02/16/16
2,4-Dichlorophenol	120-83-2	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
1,2,4-Trichlorobenzene	120-82-1	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
Naphthalene	91-20-3	0.037	0.19	0.037	U	ug/L	E625-SIMM	02/16/16
Hexachlorobutadiene	87-68-3	0.011	0.19	0.011	U	ug/L	E625-SIMM	02/16/16
4-Chloro-3-methyl phenol	59-50-7	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
2-Methylnaphthalene	91-57-6	0.036	0.19	0.036	U	ug/L	E625-SIMM	02/16/16
1-Methylnaphthalene	90-12-0	0.062	0.19	0.062	U	ug/L	E625-SIMM	02/16/16
Hexachlorocyclopentadiene	77-47-4	0.0062	0.19	0.0062	U	ug/L	E625-SIMM	02/16/16
2,4,6-Trichlorophenol	88-06-2	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
2,4,5-Trichlorophenol	95-95-4	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
2-Chloronaphthalene	91-58-7	0.035	0.19	0.035	U	ug/L	E625-SIMM	02/16/16
Dimethylphthalate	131-11-3	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
Acenaphthylene	208-96-8	0.029	0.19	0.029	U	ug/L	E625-SIMM	02/16/16
2,6-Dinitrotoluene	606-20-2	0.024	0.19	0.024	U	ug/L	E625-SIMM	02/16/16
Acenaphthene	83-32-9	0.034	0.19	0.034	U	ug/L	E625-SIMM	02/16/16
2,4-Dinitrophenol	51-28-5	0.027	0.48	0.027	U	ug/L	E625-SIMM	02/16/16
4-Nitrophenol	100-02-7	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
2,4-Dinitrotoluene	121-14-2	0.015	0.19	0.015	U	ug/L	E625-SIMM	02/16/16
Diethylphthalate	84-66-2	0.021	0.19	0.35		ug/L	E625-SIMM	02/16/16
Fluorene	86-73-7	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
4-Chlorophenyl phenyl ether	7005-72-3	0.028	0.19	0.028	U	ug/L	E625-SIMM	02/16/16
4,6-Dinitro-2-methyl phenol	534-52-1	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
N-Nitrosodiphenylamine	86-30-6	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: DMS Final Effluent Grab</b>	<b>Lab Sample ID: Q115601</b>
Project Name: Molalla, City of	Date Received: 02/01/16
Sample Date: 02/01/16	Dilution Factor: 1
Sample Time: 08:30	Report Revision No.: 0
Type: Grab	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
4-Bromophenyl phenyl ether	101-55-3	0.026	0.19	0.026	U	ug/L	E625-SIMM	02/16/16
Hexachlorobenzene	118-74-1	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
Pentachlorophenol	87-86-5	0.045	0.19	0.045	U	ug/L	E625-SIMM	02/16/16
Phenanthrene	85-01-8	0.036	0.19	0.036	U	ug/L	E625-SIMM	02/16/16
Anthracene	120-12-7	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16
Di-n-butylphthalate	84-74-2	0.023	0.19	0.11	J	ug/L	E625-SIMM	02/16/16
Fluoranthene	206-44-0	0.023	0.19	0.023	U	ug/L	E625-SIMM	02/16/16
Pyrene	129-00-0	0.022	0.19	0.022	U	ug/L	E625-SIMM	02/16/16
Benzidine	92-87-5	0.049	0.48	0.049	U	ug/L	E625-SIMM	02/16/16
Butylbenzylphthalate	85-68-7	0.046	0.19	0.046	U	ug/L	E625-SIMM	02/16/16
Benzo(a)anthracene	56-55-3	0.015	0.19	0.015	U	ug/L	E625-SIMM	02/16/16
3,3'-Dichlorobenzidine	91-94-1	0.027	0.19	0.027	U	ug/L	E625-SIMM	02/16/16
Chrysene	218-01-9	0.022	0.19	0.022	U	ug/L	E625-SIMM	02/16/16
bis(2-Ethylhexyl)phthalate	117-81-7	0.093	0.19	0.33		ug/L	E625-SIMM	02/16/16
Di-n-octylphthalate	117-84-0	0.024	0.19	0.17	J	ug/L	E625-SIMM	02/16/16
Benzo(b)fluoranthene	205-99-2	0.018	0.19	0.018	U	ug/L	E625-SIMM	02/16/16
Benzo(k)fluoranthene	207-08-9	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16
Benzo(a)pyrene	50-32-8	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Indeno(1,2,3-c,d)pyrene	193-39-5	0.021	0.19	0.021	U	ug/L	E625-SIMM	02/16/16
Dibenzo(a,h)anthracene	53-70-3	0.018	0.19	0.018	U	ug/L	E625-SIMM	02/16/16
Benzo(g,h,i)perylene	191-24-2	0.020	0.19	0.020	U	ug/L	E625-SIMM	02/16/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	62	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: WB1-0202</b>	<b>Lab Sample ID: WB1-0202</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
N-Nitrosodimethylamine	62-75-9	0.0093	0.20	0.0093	U	ug/L	E625-SIMM	02/13/16
Aniline	62-53-3	0.036	0.20	0.036	U	ug/L	E625-SIMM	02/13/16
Phenol	108-95-2	0.012	0.20	0.012	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroethyl)ether	111-44-4	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
2-Chlorophenol	95-57-8	0.030	0.20	0.036	J	ug/L	E625-SIMM	02/13/16
1,3-Dichlorobenzene	541-73-1	0.031	0.20	0.031	U	ug/L	E625-SIMM	02/13/16
1,4-Dichlorobenzene	106-46-7	0.031	0.20	0.031	U	ug/L	E625-SIMM	02/13/16
Benzyl alcohol	100-51-6	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
1,2-Dichlorobenzene	95-50-1	0.035	0.20	0.035	U	ug/L	E625-SIMM	02/13/16
2-Methylphenol	95-48-7	0.020	0.20	0.020	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroisopropyl)ether	108-60-1	0.037	0.20	0.037	U	ug/L	E625-SIMM	02/13/16
3-,4-Methylphenol	108-39-4/106	0.014	0.20	0.014	U	ug/L	E625-SIMM	02/13/16
N-Nitroso-di-n-propylamine	621-64-7	0.026	0.20	0.026	U	ug/L	E625-SIMM	02/13/16
Hexachloroethane	67-72-1	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Nitrobenzene	98-95-3	0.050	0.20	0.050	U	ug/L	E625-SIMM	02/13/16
Isophorone	78-59-1	0.034	0.20	0.034	U	ug/L	E625-SIMM	02/13/16
2-Nitrophenol	88-75-5	0.032	0.20	0.032	U	ug/L	E625-SIMM	02/13/16
2,4-Dimethylphenol	105-67-9	0.033	0.20	0.033	U	ug/L	E625-SIMM	02/13/16
bis(2-Chloroethoxy)methane	111-91-1	0.034	0.20	0.034	U	ug/L	E625-SIMM	02/13/16
2,4-Dichlorophenol	120-83-2	0.030	0.20	0.030	U	ug/L	E625-SIMM	02/13/16
1,2,4-Trichlorobenzene	120-82-1	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
Naphthalene	91-20-3	0.039	0.20	0.039	U	ug/L	E625-SIMM	02/13/16
Hexachlorobutadiene	87-68-3	0.012	0.20	0.012	U	ug/L	E625-SIMM	02/13/16
4-Chloro-3-methyl phenol	59-50-7	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
2-Methylnaphthalene	91-57-6	0.038	0.20	0.038	U	ug/L	E625-SIMM	02/13/16
1-Methylnaphthalene	90-12-0	0.065	0.20	0.065	U	ug/L	E625-SIMM	02/13/16
Hexachlorocyclopentadiene	77-47-4	0.0065	0.20	0.0065	U	ug/L	E625-SIMM	02/13/16
2,4,6-Trichlorophenol	88-06-2	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
2,4,5-Trichlorophenol	95-95-4	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
2-Chloronaphthalene	91-58-7	0.036	0.20	0.036	U	ug/L	E625-SIMM	02/13/16
Dimethylphthalate	131-11-3	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
Acenaphthylene	208-96-8	0.030	0.20	0.030	U	ug/L	E625-SIMM	02/13/16
2,6-Dinitrotoluene	606-20-2	0.025	0.20	0.025	U	ug/L	E625-SIMM	02/13/16
Acenaphthene	83-32-9	0.035	0.20	0.035	U	ug/L	E625-SIMM	02/13/16
2,4-Dinitrophenol	51-28-5	0.028	0.50	0.028	U	ug/L	E625-SIMM	02/13/16
4-Nitrophenol	100-02-7	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
2,4-Dinitrotoluene	121-14-2	0.015	0.20	0.015	U	ug/L	E625-SIMM	02/13/16
Diethylphthalate	84-66-2	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Fluorene	86-73-7	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
4-Chlorophenyl phenyl ether	7005-72-3	0.029	0.20	0.029	U	ug/L	E625-SIMM	02/13/16
4,6-Dinitro-2-methyl phenol	534-52-1	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
N-Nitrosodiphenylamine	86-30-6	0.020	0.20	0.020	U	ug/L	E625-SIMM	02/13/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information	Lab Information
<b>Client Sample ID: WB1-0202</b>	<b>Lab Sample ID: WB1-0202</b>
Project Name: Molalla, City of	Date Received: N/A
Sample Date: N/A	Dilution Factor: 1
Sample Time: N/A	Report Revision No.: 0
Type: QC	
Matrix: Water	

Analyte	CAS#	DL	RL	Sample Result	Qualifier	Units	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>								
4-Bromophenyl phenyl ether	101-55-3	0.027	0.20	0.027	U	ug/L	E625-SIMM	02/13/16
Hexachlorobenzene	118-74-1	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
Pentachlorophenol	87-86-5	0.047	0.20	0.047	U	ug/L	E625-SIMM	02/13/16
Phenanthrene	85-01-8	0.038	0.20	0.038	U	ug/L	E625-SIMM	02/13/16
Anthracene	120-12-7	0.021	0.20	0.021	U	ug/L	E625-SIMM	02/13/16
Di-n-butylphthalate	84-74-2	0.024	0.20	0.085	J	ug/L	E625-SIMM	02/13/16
Fluoranthene	206-44-0	0.024	0.20	0.024	U	ug/L	E625-SIMM	02/13/16
Pyrene	129-00-0	0.023	0.20	0.023	U	ug/L	E625-SIMM	02/13/16
Benzidine	92-87-5	0.052	0.50	0.13	J	ug/L	E625-SIMM	02/13/16
Butylbenzylphthalate	85-68-7	0.048	0.20	0.048	U	ug/L	E625-SIMM	02/13/16
Benzo(a)anthracene	56-55-3	0.016	0.20	0.016	U	ug/L	E625-SIMM	02/13/16
3,3'-Dichlorobenzidine	91-94-1	0.028	0.20	0.028	U	ug/L	E625-SIMM	02/13/16
Chrysene	218-01-9	0.023	0.20	0.023	U	ug/L	E625-SIMM	02/13/16
bis(2-Ethylhexyl)phthalate	117-81-7	0.097	0.20	0.097	U	ug/L	E625-SIMM	02/13/16
Di-n-octylphthalate	117-84-0	0.026	0.20	0.026	U	ug/L	E625-SIMM	02/13/16
Benzo(b)fluoranthene	205-99-2	0.019	0.20	0.019	J	ug/L	E625-SIMM	02/13/16
Benzo(k)fluoranthene	207-08-9	0.021	0.20	0.021	U	ug/L	E625-SIMM	02/13/16
Benzo(a)pyrene	50-32-8	0.022	0.20	0.022	U	ug/L	E625-SIMM	02/13/16
Indeno(1,2,3-c,d)pyrene	193-39-5	0.021	0.20	0.078	J	ug/L	E625-SIMM	02/13/16
Dibenzo(a,h)anthracene	53-70-3	0.019	0.20	0.092	J	ug/L	E625-SIMM	02/13/16
Benzo(g,h,i)perylene	191-24-2	0.021	0.20	0.069	J	ug/L	E625-SIMM	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	61	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS2W0202
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
N-Nitrosodimethylamine	62-75-9	2.00	1.05	ug/L	53	E625-SIMM	02/13/16
Aniline	62-53-3	2.00	1.26	ug/L	63	E625-SIMM	02/13/16
Phenol	108-95-2	2.00	0.85	ug/L	43	E625-SIMM	02/13/16
bis(2-Chloroethyl)ether	111-44-4	2.00	1.59	ug/L	79	E625-SIMM	02/13/16
2-Chlorophenol	95-57-8	2.00	1.53	ug/L	76	E625-SIMM	02/13/16
1,3-Dichlorobenzene	541-73-1	2.00	1.06	ug/L	53	E625-SIMM	02/13/16
1,4-Dichlorobenzene	106-46-7	2.00	1.10	ug/L	55	E625-SIMM	02/13/16
1-Methylnaphthalene	90-12-0	2.00	1.41	ug/L	70	E625-SIMM	02/13/16
Benzyl alcohol	100-51-6	2.00	1.55	ug/L	78	E625-SIMM	02/13/16
1,2-Dichlorobenzene	95-50-1	2.00	1.18	ug/L	59	E625-SIMM	02/13/16
2-Methylphenol	95-48-7	2.00	1.43	ug/L	71	E625-SIMM	02/13/16
bis(2-Chloroisopropyl)ether	108-60-1	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
3-,4-Methylphenol	108-39-4/106	2.00	1.37	ug/L	69	E625-SIMM	02/13/16
N-Nitroso-di-n-propylamine	621-64-7	2.00	1.55	ug/L	77	E625-SIMM	02/13/16
Hexachloroethane	67-72-1	2.00	0.82	ug/L	41	E625-SIMM	02/13/16
Nitrobenzene	98-95-3	2.00	1.86	ug/L	93	E625-SIMM	02/13/16
Isophorone	78-59-1	2.00	1.58	ug/L	79	E625-SIMM	02/13/16
2-Nitrophenol	88-75-5	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
2,4-Dimethylphenol	105-67-9	2.00	1.20	ug/L	60	E625-SIMM	02/13/16
bis(2-Chloroethoxy)methane	111-91-1	2.00	1.49	ug/L	74	E625-SIMM	02/13/16
2,4-Dichlorophenol	120-83-2	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
1,2,4-Trichlorobenzene	120-82-1	2.00	1.17	ug/L	58	E625-SIMM	02/13/16
Naphthalene	91-20-3	2.00	1.39	ug/L	69	E625-SIMM	02/13/16
Hexachlorobutadiene	87-68-3	2.00	0.71	ug/L	35	E625-SIMM	02/13/16
4-Chloro-3-methyl phenol	59-50-7	2.00	1.51	ug/L	75	E625-SIMM	02/13/16
2-Methylnaphthalene	91-57-6	2.00	1.38	ug/L	69	E625-SIMM	02/13/16
Hexachlorocyclopentadiene	77-47-4	2.00	0.52	ug/L	26	E625-SIMM	02/13/16
2,4,6-Trichlorophenol	88-06-2	2.00	1.44	ug/L	72	E625-SIMM	02/13/16
2,4,5-Trichlorophenol	95-95-4	2.00	1.46	ug/L	73	E625-SIMM	02/13/16
2-Chloronaphthalene	91-58-7	2.00	1.37	ug/L	68	E625-SIMM	02/13/16
Dimethylphthalate	131-11-3	2.00	1.60	ug/L	80	E625-SIMM	02/13/16
Acenaphthylene	208-96-8	2.00	1.42	ug/L	71	E625-SIMM	02/13/16
2,6-Dinitrotoluene	606-20-2	2.00	1.62	ug/L	81	E625-SIMM	02/13/16
Acenaphthene	83-32-9	2.00	1.40	ug/L	70	E625-SIMM	02/13/16
2,4-Dinitrophenol	51-28-5	2.00	1.52	ug/L	76	E625-SIMM	02/13/16
4-Nitrophenol	100-02-7	2.00	0.83	ug/L	41	E625-SIMM	02/13/16
2,4-Dinitrotoluene	121-14-2	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
Diethylphthalate	84-66-2	2.00	1.64	ug/L	82	E625-SIMM	02/13/16
Fluorene	86-73-7	2.00	1.45	ug/L	73	E625-SIMM	02/13/16
4-Chlorophenyl phenyl ether	7005-72-3	2.00	1.41	ug/L	70	E625-SIMM	02/13/16
4,6-Dinitro-2-methyl phenol	534-52-1	2.00	1.67	ug/L	84	E625-SIMM	02/13/16
N-Nitrosodiphenylamine	86-30-6	2.00	1.51	ug/L	75	E625-SIMM	02/13/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	LCS ID: BS2W0202
Type: QC	Report Revision No.: 0
Matrix: Water	Dilution Factor: 1

Analyte	CAS#	Spike Amount	Sample Result	Units	%Recovery	Analysis Method	Date Analyzed
<b>GC/MS Semi-Volatiles</b>							
4-Bromophenyl phenyl ether	101-55-3	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
Hexachlorobenzene	118-74-1	2.00	1.30	ug/L	65	E625-SIMM	02/13/16
Pentachlorophenol	87-86-5	2.00	1.67	ug/L	83	E625-SIMM	02/13/16
Phenanthrene	85-01-8	2.00	1.48	ug/L	74	E625-SIMM	02/13/16
Anthracene	120-12-7	2.00	1.47	ug/L	74	E625-SIMM	02/13/16
Di-n-butylphthalate	84-74-2	2.00	1.72	ug/L	86	E625-SIMM	02/13/16
Fluoranthene	206-44-0	2.00	1.58	ug/L	79	E625-SIMM	02/13/16
Pyrene	129-00-0	2.00	1.55	ug/L	78	E625-SIMM	02/13/16
Benzidine	92-87-5	2.00	0.42	ug/L	21	E625-SIMM	02/13/16
Butylbenzylphthalate	85-68-7	2.00	1.68	ug/L	84	E625-SIMM	02/13/16
Benzo(a)anthracene	56-55-3	2.00	1.52	ug/L	76	E625-SIMM	02/13/16
3,3'-Dichlorobenzidine	91-94-1	2.00	1.18	ug/L	59	E625-SIMM	02/13/16
Chrysene	218-01-9	2.00	1.53	ug/L	77	E625-SIMM	02/13/16
bis(2-Ethylhexyl)phthalate	117-81-7	2.00	1.68	ug/L	84	E625-SIMM	02/13/16
Di-n-octylphthalate	117-84-0	2.00	1.78	ug/L	89	E625-SIMM	02/13/16
Benzo(b)fluoranthene	205-99-2	2.00	1.73	ug/L	86	E625-SIMM	02/13/16
Benzo(k)fluoranthene	207-08-9	2.00	1.74	ug/L	87	E625-SIMM	02/13/16
Benzo(a)pyrene	50-32-8	2.00	1.65	ug/L	82	E625-SIMM	02/13/16
Indeno(1,2,3-c,d)pyrene	193-39-5	2.00	1.56	ug/L	78	E625-SIMM	02/13/16
Dibenzo(a,h)anthracene	53-70-3	2.00	1.57	ug/L	79	E625-SIMM	02/13/16
Benzo(g,h,i)perylene	191-24-2	2.00	1.52	ug/L	76	E625-SIMM	02/13/16

Surrogate	% Recovery	Control Limits	Qualifier
1-Methylnaphthalene-d10	65	35-125	

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



## CASE NARRATIVE METALS ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E1631E

E200.7: E200.2

E200.8: E200.2

SM2340B

# CH2M ASL

Client Information				Lab Information			
Client Sample ID: DMS Final Effluent Grab				Lab Sample ID: Q115601			
Project Name: Molalla, City of				Date Received: 02/01/16			
Sample Date: 02/01/16				Report Revision No: 0			
Sample Time: 08:30							
Type: Grab							
Matrix: Water							

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Antimony	1	0.031	0.50	0.12	J	ug/L	E200.8	E200.2	02/09/16
Arsenic	1	0.030	0.50	0.23	J	ug/L	E200.8	E200.2	02/09/16
Beryllium	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Cadmium	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Chromium	1	0.10	1.00	0.10	U	ug/L	E200.8	E200.2	02/09/16
Copper	1	0.50	2.00	0.70	J	ug/L	E200.8	E200.2	02/09/16
Hardness, Total as CaCO3	1	0.71	3.31	41.6		mg/L	SM2340B	NONE	02/02/16
Iron	1	10.0	100	65.8	J	ug/L	E200.7	E200.2	02/02/16
Lead	1	0.041	0.50	0.063	J	ug/L	E200.8	E200.2	02/09/16
Mercury	1	0.28	1.00	0.55	J	ng/L	E1631E	METHOD	02/09/16
Nickel	1	0.025	0.50	0.78		ug/L	E200.8	E200.2	02/09/16
Selenium	1	0.069	1.00	0.27	J	ug/L	E200.8	E200.2	02/09/16
Silver	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Thallium	1	0.025	0.20	0.025	U	ug/L	E200.8	E200.2	02/09/16
Zinc	1	2.50	10.0	3.99	J	ug/L	E200.8	E200.2	02/09/16

U=Not detected and reported as less than detection limit

J=Estimated value below reporting limit

E=Estimated value above calibration range

\*=See case narrative

# CH2M ASL

Client Information		Lab Information	
Project Name: Molalla, City of		Method Blank ID: WB1-0208	
Sample Date: N/A		Date Received: N/A	
Sample Time: N/A		Report Revision No: 0	
Type: QC			
Matrix: Water			

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Mercury	1	0.28	1.00	0.28	U	ng/L	E1631E	METHOD	02/09/16

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	Method Blank ID: WB2-0202
Sample Date: N/A	Date Received: N/A
Sample Time: N/A	Report Revision No: 0
Type: QC	
Matrix: Water	

Analyte	Dilution Factor	DL	RL	Result	Qual	Units	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>									
Antimony	1	0.031	0.50	0.032	J	ug/L	E200.8	E200.2	02/09/16
Arsenic	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Beryllium	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Cadmium	1	0.030	0.50	0.030	U	ug/L	E200.8	E200.2	02/09/16
Chromium	1	0.10	1.00	0.10	U	ug/L	E200.8	E200.2	02/09/16
Copper	1	0.50	2.00	0.50	U	ug/L	E200.8	E200.2	02/09/16
Hardness, Total as CaCO3	1	0.71	3.31	0.71	U	mg/L	SM2340B	NONE	02/02/16
Iron	1	10.0	100	10.0	U	ug/L	E200.7	E200.2	02/02/16
Lead	1	0.041	0.50	0.041	U	ug/L	E200.8	E200.2	02/09/16
Nickel	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Selenium	1	0.069	1.00	0.069	U	ug/L	E200.8	E200.2	02/09/16
Silver	1	0.025	0.50	0.025	U	ug/L	E200.8	E200.2	02/09/16
Thallium	1	0.025	0.20	0.025	U	ug/L	E200.8	E200.2	02/09/16
Zinc	1	2.50	10.0	2.50	U	ug/L	E200.8	E200.2	02/09/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of Type: QC Matrix: Water	Blank Spike ID: BS1W0208 Report Revision No: 0 Dilution Factor: 1

Analyte	Spike Amount	Result	Units	%Recovery	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>							
Mercury	5.00	4.30	ng/L	86	E1631E	METHOD	02/09/16

U=Not detected and report as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative

# CH2M ASL

Client Information	Lab Information
Project Name: Molalla, City of	Blank Spike ID: BS2W0202
Type: QC	Report Revision No: 0
Matrix: Water	Dilution Factor: 1

Analyte	Spike Amount	Result	Units	%Recovery	Analysis Method	Prep Method	Date Analyzed
<b>Metals</b>							
Antimony	50.0	47.8	ug/L	96	E200.8	E200.2	02/09/16
Arsenic	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16
Beryllium	50.0	48.5	ug/L	97	E200.8	E200.2	02/09/16
Cadmium	50.0	49.2	ug/L	98	E200.8	E200.2	02/09/16
Chromium	50.0	49.9	ug/L	100	E200.8	E200.2	02/09/16
Copper	50.0	48.2	ug/L	96	E200.8	E200.2	02/09/16
Iron	500	487	ug/L	97	E200.7	E200.2	02/02/16
Lead	50.0	47.0	ug/L	94	E200.8	E200.2	02/09/16
Nickel	50.0	49.4	ug/L	99	E200.8	E200.2	02/09/16
Selenium	50.0	49.1	ug/L	98	E200.8	E200.2	02/09/16
Silver	25.0	23.8	ug/L	95	E200.8	E200.2	02/09/16
Thallium	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16
Zinc	50.0	49.5	ug/L	99	E200.8	E200.2	02/09/16

U=Not detected and report as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

## CASE NARRATIVE GENERAL CHEMISTRY ANALYSIS

**Lab Name:** CH2M ASL

**ASL SDG#:** Q1156

**Project:** Molalla, City of

**Project #:** 921133.OTC

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With the exceptions noted as flags, footnotes, or detailed in the section below; standard operating procedures were followed in the analysis of the samples and no problems were encountered or anomalies observed.

All laboratory quality control samples were within established control limits, with any exceptions noted below, or in the associated QC summary forms.

Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. For diluted samples, the reporting limits are adjusted for the dilution required.

Calculations are performed before rounding to minimize errors in calculated values.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the section below, or in the sample receipt documentation.

**Method(s):**

E350.1

E420.4

**Matrix Spike/Matrix Spike Duplicate(s):**

E350.1: MSD recovery of Ammonia in sample DMS Final Effluent Grab (116%) failed to meet the acceptance criteria of 90-110%.

# CH2M ASL

Client Information		Lab Information	
<b>Project Name:</b> Molalla, City of		<b>Lab Batch ID:</b> Q1156	
Date Received: 02/01/16		Analysis Method: E350.1	
Type: See C.O.C.		Units: mg/L	
Matrix: Water		Report Revision No.: 0	

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Ammonia-N RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	0.020	0.10	6.47		02/02/16
WB1-0202	WB1-0202	1	0.020	0.10	0.020	U	02/02/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative



# CH2M ASL

Client Information				Lab Information			
Project Name: Molalla, City of				Lab Batch ID: Q1156			
Date Received: 02/01/16				Analysis Method: E420.4			
Type: See C.O.C.				Units: ug/L			
Matrix: Water				Report Revision No.: 0			

Client Sample ID	Lab Sample ID	Dilution Factor	DL	Phenolics RL	Result	Qualifier	Date Analyzed
<b>General Chemistry</b>							
DMS Final Effluent Grab	Q115601	1	3.59	10.0	3.59	U	02/16/16
WB1-0216	WB1-0216	1	3.59	10.0	3.59	U	02/16/16

U=Not detected and reported as less than detection limit  
 J=Estimated value below reporting limit  
 E=Estimated value above calibration range  
 \*=See case narrative

# CH2M ASL

Client Information				Lab Information			
Project Name: Molalla, City of Type: QC Matrix: Water				Lab Batch ID: Q1156 Report Revision No.: 0			

LCS ID	Analyte	Spike Amount	Sample Result	Units	% Recovery	Analysis Method	Date Analyzed
<b>General Chemistry</b>							
BS1W0202	Ammonia-N	2.18	2.27	mg/L	104	E350.1	02/02/16
BS1W0216	Phenolics	50.0	53.9	ug/L	108	E420.4	02/16/16

U=Not detected and reported as less than detection limit  
J=Estimated value below reporting limit  
E=Estimated value above calibration range  
\*=See case narrative





SDG ID: Q1156

Date Received: 2/1/2016

Client/Project: City of Molalla

Received By: JVP

Were custody seals intact and on the outside of the cooler?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Shipping Record:	<input checked="" type="checkbox"/> Hand Delivered	<input type="checkbox"/> On File	<input type="checkbox"/> COC
Radiological Screening for DoD	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Packing Material:	<input checked="" type="checkbox"/> Hand Delivered	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice <input type="checkbox"/> Box
Temp OK? (<6C) Therm ID: TH173 Exp. 04/16	8.6 °C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Was a Chain of Custody (CoC) Provided?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was the CoC correctly filled out (If No, document below)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Did sample labels agree with COC? (If No, document below)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Did the CoC list a correct bottle count and the preservative types (No=Correct on CoC)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Were the sample containers in good condition (broken or leaking)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Was enough sample volume provided for analysis? (If No, document below)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Containers supplied by ASL?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Any sample with < 1/2 holding time remaining? If so contact LPM	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Samples have multi-phase? If yes, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
All water VOCs free of air bubbles? No, document on SRER	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
pH of all samples met criteria on receipt? If "No", preserve and document below.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Dissolved/Soluble metals filtered in the field?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Dissolved/Soluble metals have sediment in bottom of container? If so document below.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

**Preservation Adjustment**

Sample ID	Reagent	Reagent Lot Number	Volume Added	Initials/Time	24 hour pH check Initials/Time
LLHg sample -01	HCl	15248A E:6/26/18	1.25mL	JVP/1314	

Did pH of all metals samples preserved upon receipt meet criteria 24 hours after preservation?  Yes  No

**Sample Exception Report** (The following exceptions were noted)

1) Trip Blank not recorded on COC. Logged in as "Trip Blank" (Q115602).  
 2) VOC samples contain air bubbles >6mm.  
 3) Samples arrived unlabeled. Logged in according to Sample Kit Request.

Client was notified on: \_\_\_\_\_ Client contact: \_\_\_\_\_

Resolution to Exception:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_