



# Technical Memorandum

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## Technical Memorandum

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# Table of Contents

List of Tables.....	iii
Executive Summary .....	1
Section 1: Purpose and Background.....	1
Section 2: Sampling – Field Methodology and Analysis.....	2
2.1 Sampling and Analysis Plan .....	2
2.2 Collection System Sampling Site .....	5
2.3 Plant Influent and Effluent Sampling .....	5
2.4 Sludge Sampling.....	5
2.5 Sampling Methodology.....	5
2.6 Sampling Intervals and Schedule.....	5
2.7 Sampling Chain-of-Custody Requirements .....	6
2.8 Sampling – Analysis.....	6
Section 3: Sampling – Results.....	6
3.1 Detection Limits.....	6
3.2 Collection System Sampling.....	7
3.3 Plant Influent Sampling.....	8
3.4 Plant Effluent Sampling.....	9
3.5 Sludge Sampling.....	10
3.6 SIU Sampling .....	11
3.7 Priority Pollutant Scans.....	12
3.8 Summary.....	15
Section 4: Local Limits Analysis .....	20
4.1 Pollutants of Concern.....	20
4.2 Applicable Standards .....	21
4.2.1 Water Quality.....	21
4.2.2 Process Inhibition .....	22
4.2.3 Sludge Quality .....	22
4.2.4 STP NPDES Permit Limits.....	23
4.2.5 STP Plant Design and Assumptions .....	23
4.3 Determine Plant Removal Efficiency.....	24
4.4 Calculate Allowable Headworks Loadings .....	26
4.4.1 Water Quality Criteria Based AHLs .....	26
4.4.2 Process Inhibition Based AHLs .....	27
4.4.3 Sludge Quality Based AHLs.....	27
4.4.4 STP NPDES Permit Limit Based AHLs .....	29
4.5 Determine Maximum Allowable Headworks Loadings.....	29
4.6 Calculate MAILs and Subtract Safety and Growth Factors.....	29



4.7 Determine Tentative Local Limits.....31

    4.7.1 Inorganic Pollutants.....31

    4.7.2 Conventional Pollutants .....32

    4.7.3 Organic Pollutants .....32

    4.7.4 Sulfide .....33

    4.7.5 FOG.....33

    4.7.6 pH .....33

    4.7.7 Other Parameters .....33

4.8 Collection System Concerns .....33

4.9 Industrial Buildout for Local Limits .....34

4.10 Proposed Local Limits.....34

4.11 Implementation .....34

References.....35

Attachment A: Solids Composite Sampling Procedure .....A-1

Attachment B: Analytical Laboratory Data Packages.....B-1

Attachment C: OAR 340-041-0033 Tables 30, 31, and 40 .....C-1

Attachment D: DEQ Local Limits Workbook Output.....D-1

Attachment E: Industrial Buildout Evaluation .....E-1

## List of Tables

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Table E-1. Proposed Local Limits.....1

Table 2.1. Sampling and Analysis Plan .....3

Table 2-2. Sample Schedule .....6

Table 3-1. Collection System Sample Results .....7

Table 3-2. Influent Sample Results .....8

Table 3-3. Effluent sample results.....9

Table 3-4. Biosolids sample results. ....11

Table 3-5. Priority pollutants detected.....12

Table 3-6. Collection System Summary: Villebois Location.....15

Table 3-7. Collection System Summary: Parkway Location.....16

Table 3-8. Influent Summary .....17

Table 3-9. Effluent Summary .....18

Table 3-10. Biosolids Summary.....19

Table 4-1. Water Quality Parameters .....21

Table 4-2. Water Quality Criteria for Selected Constituents<sup>a</sup> .....22



Table 4-3. Sludge Quality Standards per 40 CFR 503.13 .....23

Table 4-4. NPDES Permit Limits .....23

Table 4-5. Plant Design Loads.....24

Table 4-6. Plant Design and Actual Flows and Loads.....24

Table 4-7. Plant Removal Efficiency and Proposed Removal Efficiency.....25

Table 4-8. Water Quality Based AHL .....27

Table 4-9. Sludge Quality Based AHLs .....28

Table 4-10. Inorganic Pollutant MAHLs .....29

Table 4-11. Domestic Loading.....30

Table 4-12. MAILs.....30

Table 4-13. DEQ Calculated Local Limits.....31

Table 4-14. Plant Removal Efficiency and Proposed Removal Efficiency for Local Limits Calculations .....32

Table 4-15. Proposed Local Limits.....34





## Executive Summary

Table E-1 contains the proposed local limits for the City of Wilsonville Sewage Treatment Plant (STP).

Table E-1. Proposed Local Limits	
Pollutant	Proposed Local Limit
	Daily Maximum Concentration (mg/L)
Arsenic	1.84
Cadmium	1.11
Chromium, total	205
Copper	10.6
Cyanide	6.97
Lead	0.810
Mercury	0.407
Nickel	10.1
Silver	2.30
Zinc	3.85
pH (SU)	5.5-10

Local limits are not proposed for conventional pollutants including biochemical oxygen demand (BOD), carbonaceous BOD (CBOD), total suspended solids (TSS), or ammonia. Discharges for these constituents will be managed through high-strength waste surcharges and limitations in individual pretreatment permits. Fats, oils, and greases (FOG) are managed through best management practices (BMPs) such as requirements for oil/water separators or FOG traps.

## Section 1: Purpose and Background

Pretreatment programs regulate industrial facilities discharging wastewater to publicly owned treatment works (POTWs) by limiting the number of toxic pollutants discharged. They also protect the health and safety of workers operating sewage treatment plants and collection systems. The United States Environmental Protection Agency (EPA) has authorized the Oregon Department of Environmental Quality (DEQ) to approve pretreatment programs at the local level and oversee statewide pretreatment activities.

The City of Wilsonville (City) has an ongoing pretreatment program. Recent studies include an outfall mixing zone study and industrial user (IU) survey.

The purpose of this Technical Memorandum (TM) is to:

- Summarize the sampling program to characterize the wastewater discharged to the Wilsonville STP. The program includes sampling for uncontrolled wastewater from the collection system, plant influent and effluent, sludge, and significant industrial users (SIUs) as detailed below:
  - Two sites containing uncontrolled wastewater (a combination of domestic and commercial wastewater which has no SIU wastewater constituents);



- plant influent and effluent characteristics for pollutants not routinely sampled;
- sludge characteristics for pollutants not routinely sampled; and
- SIUs discharging to the STP.
- Document the local limits development process, the decisions made regarding local limits development, and recommend a set of local limits for the STP.
- Analyze future buildout scenarios for industrial growth in the Wilsonville area.

Samples were collected and analyzed per the Sampling and Analysis Plan (SAP), previously submitted to DEQ (Pan, 2021).

The process used to develop these local limits follows the EPA's Local Limits Development Guidance Manual (EPA 833-R-04-002A, July 2004), which will be referred to as the EPA Guidance Manual.

Per the EPA Guidance Manual, proposed local limits are based on the maximum allowable headworks loadings (MAHL), calculated for each pollutant. The proposed local limits were determined by an analysis of actual headworks loading compared to the MAHL, with due consideration given to plant performance, environmental risk, and worker safety. The measured domestic and commercial headworks were subtracted from the MAHL, along with growth and safety factors to determine the maximum allowable industrial loading (MAIL) for each pollutant. Concentration-based local limits were calculated from each MAIL.

## Section 2: Sampling – Field Methodology and Analysis

This section describes the field methodology for sample collection and analytical methods used.

### 2.1 Sampling and Analysis Plan

Potential pollutants of concern (POCs) were identified in the SAP (Pan, 2021). The SAP considered:

- The EPA's 15 national POCs
- POCs with specific effluent limitations or monitoring requirements in the plant's National Pollutant Discharge Elimination System (NPDES) permit
- POCs with the potential to cause loading or operational problems at the plant or in the collection system
- POCs reasonably expected to be discharged by industrial users (IUs) in the system that may pass through or partially pass through the plant and that have applicable water quality standards.

The SAP also included priority pollutant scans to assess the presence of any POCs not identified through the above analysis.

Details of the methodology for identifying potential POCs and determining sample locations and frequencies is summarized in the SAP. The resulting sampling plan is shown in Table 2-1.

Table 2.1. Sampling and Analysis Plan

Constituent	Liquid Streams						STP Biosolids			
	Sample Type	Location				Initial Sample Period	Analytical method	Sample Type	Initial Sample Period (Consecutive days)	Analytical Method
		Influent	Effluent	Background and Commercial: Villebois Location	Background and Commercial: Parkway Location					
<b>Conventional Pollutants</b>										
BOD <sub>5</sub> and cBOD	Composite	✓	✓	✓	✓	7	SM 5210B	None	NA	NA
TKN	Composite	✓	✓	✓	✓	7	SM 4500 NH3	Sludge mass composite	2	EPA 351.2
TSS	Composite	✓	✓	✓	✓	7	SM 2540D	None	NA	NA
Total Phosphorus	Composite	✓	✓	✓	✓	7	EPA 365.3	Sludge mass composite	2	SM 4500-P E
pH	Grab	✓	✓	✓	✓	7	Field Measure	Sludge mass composite	2	SW 9045D
Alkalinity	Composite	✓	✓	✓	✓	7	SM 2320B	Sludge mass composite	2	SM 2320B
Ammonia	Composite	✓	✓	✓	✓	7	SM 4500-NH3 G.	Sludge mass composite	2	EPA 350.1
<b>Inorganic Pollutants</b>										
Aluminum	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Antimony	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Arsenic	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Cadmium	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Chromium VI	Grab	✓	✓	✓	✓	7	SM 3500-CrB	Sludge mass composite	2	SW 7199
Total Chromium	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Copper	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Cyanide	Grab	✓	✓	✓	✓	7	D7284	Sludge mass composite	2	D8273
Iron	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Lead	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Mercury	Composite	✓	✓	✓	✓	7	EPA 1631E	Sludge mass composite	2	SW 7471B
Molybdenum	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Nickel	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Potassium	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Selenium	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Silver	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Thallium	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
Zinc	Composite	✓	✓	✓	✓	7	EPA 200.8	Sludge mass composite	2	SW 6020B
<b>Organic Pollutants</b>										
Priority Organic Pollutant Scan	Composite/Grab	✓	✓	✓	✓	7	EPA 624.1/625.1	Sludge mass composite	2	EPA 624.1/625.1
Sulfide	Grab	✓	✓	✓	✓	7	SM 4500-S2 D.	Sludge mass composite	2	NA



Table 2.1. Sampling and Analysis Plan										
	Liquid Streams						STP Biosolids			
		Location						Initial Sample		
<b>Other parameters</b>										
Hardness	Grab		✓			7	SM 2340C	None	NA	NA
Total Solids	Grab					NA	EPA 1684	Sludge mass composite	2	EPA 1684
Volatile Solids	Grab					NA		Sludge mass composite	2	SM 2540G

## 2.2 Collection System Sampling Site

The City of Wilsonville system is relatively uniform in terms of age of piping and distribution of residential and commercial areas. Two collection system sampling sites were therefore considered adequate to characterize wastewater: Villebois and Parkway. Samples from the collection system are used to assess the loading from uncontrolled sources (domestic users, inflow and infiltration, and commercial users that are not subject to permitting or regulation) and calculate the loading available to IUs. The collection system sampling locations are selected to minimize the contribution from IUs. Collection system samples will be analyzed for conventional, nonconventional, and inorganic pollutants to determine the loading available to IUs.

## 2.3 Plant Influent and Effluent Sampling

Portable ISCO samplers were set up to collect plant influent and effluent composite samples. Samplers were located near the sample locations for NPDES reporting, upstream of the STP's screens and downstream of disinfection, respectively.

## 2.4 Sludge Sampling

Solids at the STP are loaded directly from the plant's solids processing equipment to a truck that hauls solids offsite for land application or hauled to another permitted facility (Coffin Butte Landfill); the solids in the truck bed are effectively the plant's solids stockpile.

Sludge composite procedures are included in Attachment A.

## 2.5 Sampling Methodology

A flow rate measurement to collect flow weighted composite samples was not available at any of the sampling locations. Therefore, samples collected were 24-hour time weighted composite samples.

Clean sample containers were supplied by the laboratory. New sampler tubing was used for each sampler. Sample tubing and the sampler jug were flushed with deionized water once daily after collection of samples.

The staff performing sampling-maintained sheets with observation notes for each sampling event.

All sampling personnel were required to wear clean, non-talc, metal-free gloves at all times. Refrigeration of the samples in an ice-filled cooler was performed immediately after the sample aliquots were poured, and samples were transported to the lab for analysis as soon as possible during business days.

## 2.6 Sampling Intervals and Schedule

For a local limits re-evaluation study, the EPA Guidance Manual suggests between one and two days to sample for organic priority pollutants, and 7-14 days to sample national and local POCs, such as metals. The manual also recommends two days of sludge sampling. Based on the STP's average annual and wet and dry weather flow rates, a seven-day sampling period was selected for most POCs, as documented in the SAP (Pan, 2021). Since the work in this plan is not an initial limits development and since there is existing historical data, the sampling period was split into an initial two-day screening event, followed by a longer five-day event. The intent of the split sampling period was to sample for a full list of priority pollutants during the initial two-day event, then screen pollutants and decide which priority pollutants (if any) merited additional sampling in the five-day event. The sampling schedule is summarized in Table 2-2.

Table 2-2. Sample Schedule					
Date*	Liquid Stream Samples				Solid Stream Samples
	Conventional Pollutant Sample	Nonconventional Pollutant Sample	Inorganic Pollutant Sample	Organic Pollutant Sample	Inorganic Pollutant Sample
7/26/2021	X	X	X	X	X
7/27/2021	X	X	X	X	X
7/28/2021	X	X	X	X	
8/1/2021	X	X	X	X	
8/2/2021	X	X	X	X	
8/3/2021	X	X	X	X	
8/4/2021	X	X	X	X	
8/5/2021	X	X	X	X	
8/6/2021	X	X	X	X	

\*Composite samples were noted the day the composite sample was started, and grab samples were noted on the day the grab sample was collected. See COCs in Attachment B for reference.

## 2.7 Sampling Chain-of-Custody Requirements

Standard chain-of-custody procedures were used to track possession of samples from initial collection to final disposition. Chain-of-custody forms are included with the analytical laboratory reports in Attachment B.

## 2.8 Sampling – Analysis

Samples were analyzed using the methods in the Sampling and Analysis Plan (Pan, 2021), as shown in Table 2-1 above. Analytical methods used in the priority pollutant scans for organic pollutants are summarized in Attachment B including all analytical laboratory reports.

# Section 3: Sampling – Results

The following section summarizes the results of the sampling. Complete sampling results are included as Attachment B.

## 3.1 Detection Limits

The EPA Guidance Manual suggests that in cases where only “a few” samples are below the detection limit, the values below the detection limit may be substituted with values at one-half the detection limit. The EPA Guidance Manual further suggests that if “most” values are below the detection limit, the need for that particular local limit should be reevaluated. In the analysis in this TM, most samples were found to be below the detection limit. However, since most of the potential POCs are national POCs as defined by the EPA, local limits development proceeded for these constituents. Values of one-half the detection limit were used for non-detect results unless otherwise noted.

## 3.2 Collection System Sampling

The following tables show a list of detected constituents. If a constituent was detected, the average was calculated. Non-detections included in the average calculation are reported at half of the method detection limit (MDL):

Average results are summarized in Table 3-1.

Table 3-1. Collection System Sample Results		
Constituent	Average Value (mg/L)	Total Sample Count
1,3-Dichlorobenzene	0.000105	14
1,4-Dichlorobenzene	0.000315	14
2-Butanone (MEK)	0.00525	14
3,4-Methylphenol	0.0578	14
Alkalinity, total (as CaCO <sub>3</sub> )	231	14
Aluminum	0.297	14
Ammonia	42.9	14
Antimony	0.000762	14
Arsenic	0.00102	14
Benzoic acid	0.0831	14
Benzyl butyl phthalate	0.00022	14
Biochemical oxygen demand (BOD)	327.8	14
bis (2-Ethylhexyl) phthalate	0.00564	14
Bromodichloromethane	6.48E-05	14
Bromoform	0.000347	14
Cadmium	9.14E-05	14
Carbonaceous BOD (CBOD)	273	14
Chloroform	0.00201	14
Chromium	0.00167	14
Chromium, Hexavalent	0.00412	14
Copper	0.043	14
Cyanide	0.00551	14
Diethyl phthalate	0.0022	14
Ethylbenzene	8.22E-05	14
Hardness (as Ca and Mg)	65.1	14
Iron	0.86	14
Lead	0.00134	14
Mercury	6.46E-05	14
Molybdenum	0.00214	14
Nickel	0.00394	14
Phenol	0.00675	14

Table 3-1. Collection System Sample Results		
Constituent	Average Value (mg/L)	Total Sample Count
Potassium	22	14
Pyridine	0.00278	14
Silver	0.000289	14
Sulfide	2.56	14
Toluene	0.00051	14
Total Kjeldahl Nitrogen	62.1	14
Total Phosphorus as P	6.39	14
Total solids	608	14
Total Suspended Solids	244	14
Xylenes, m & p	0.000435	14
Zinc	0.171	14

*Averages calculated assuming ND = MDL/2.*

### 3.3 Plant Influent Sampling

The following tables show a list of detected constituents. If a constituent was detected, the average was calculated. Non-detections included in the average calculation are reported at half of the method detection limit (MDL):

Results are summarized in Table 3-2.

Table 3-2. Influent Sample Results		
Constituent	Average Value (mg/L)	Total Sample Count
3,4-Methylphenol	0.0598	7
Alkalinity, total (as CaCO <sub>3</sub> )	214	7
Aluminum	0.294	7
Ammonia	43.0	7
Antimony	0.000817	7
Arsenic	0.00111	7
Benzoic acid	0.133	7
Biochemical oxygen demand (BOD)	292	7
bis (2-Ethylhexyl) phthalate	0.0039	7
Bromoform	0.00019	7
Cadmium	0.00014	7
Carbonaceous BOD (CBOD)	354	7
Chloroethane	0.000173	7
Chloroform	0.00125	7
Chromium	0.00219	7



Table 3-2. Influent Sample Results		
Constituent	Average Value (mg/L)	Total Sample Count
Chromium, Hexavalent	0.00191	7
Copper	0.039	7
Cyanide	0.00683	7
Diethyl phthalate	0.00253	7
Ethylbenzene	0.000255	7
Hardness (as Ca and Mg)	57.1	7
Iron	0.467	7
Lead	0.000907	7
Mercury	4.68E-05	7
Molybdenum	0.00437	7
Nickel	0.00335	7
Phenol	0.00923	7
Potassium	14.9	7
Silver	0.000274	7
Sulfide	18.7	7
Toluene	0.000954	7
Total Kjeldahl Nitrogen	56.5	7
Total Phosphorus as P	5.06	7
Total solids	632	7
Total Suspended Solids	305	7
Xylenes, m & p	0.00058	7
Zinc	0.15	7

*Averages calculated assuming ND = MDL/2.*

### 3.4 Plant Effluent Sampling

The following tables show a list of detected constituents. If a constituent was detected, the average was calculated. Non-detections included in the average calculation are reported at half of the method detection limit (MDL):

Results are summarized in Table 3-3.

Table 3-3. Effluent sample results.		
Constituent	Average Value (mg/L)	Total Sample Count
3,4-Methylphenol	0.00805	7
Alkalinity, total (as CaCO3)	90	7
Aluminum	0.00325	7
Ammonia	13.5	7
Arsenic	0.000548	7



Table 3-3. Effluent sample results.		
Constituent	Average Value (mg/L)	Total Sample Count
Biochemical oxygen demand (BOD)	3.3	7
bis(2-Ethylhexyl) phthalate	0.00196	7
Bromoform	0.00034	7
Carbonaceous BOD (CBOD)	3.93	7
Chromium	0.000229	7
Chromium, Hexavalent	0.00227	7
Copper	0.00177	7
Cyanide	0.00253	7
Diethyl phthalate	0.00107	7
dl-n-Butyl phthalate	0.000112	7
dl-n-Octyl phthalate	0.000215	7
Ethylbenzene	0.000141	7
Hardness (as Ca and Mg)	55.2	7
Iron	0.0555	7
Lead	0.000442	7
Mercury	9.77E-07	7
Molybdenum	0.00233	7
Nickel	0.00163	7
Phenol	0.00127	7
Potassium	14.8	7
Sulfide	0.931	7
Toluene	0.000714	7
Total Kjeldahl Nitrogen	9.27	7
Total Phosphorus as P	4.16	7
Total solids	223	7
Xylenes, m & p	0.000573	7
Zinc	0.111	7

*Averages calculated assuming ND = MDL/2.*

### 3.5 Sludge Sampling

The following tables show a list of detected constituents. If a constituent was detected, the average was calculated. Non-detections included in the average calculation are reported at half of the method detection limit (MDL):

Results are summarized in Table 3-4.

Table 3-4. Biosolids sample results.		
Constituent	Average Value (mg/kg)	Total Sample Count
3,4-Methylphenol	4.28	2
Acetone	1.82	2
Alkalinity, total (as CaCO3)	110	2
Aluminum	2090	2
Ammonia	87.6	2
Antimony	2.23	2
Arsenic	1.3	2
bis(2-Ethylhexyl) phthalate	3.83	2
Cadmium	0.483	2
Chromium	17.2	2
Chromium, Hexavalent	0.0243	2
Copper	219	2
Cyanide	1.06	2
Iron	3530	2
Lead	2.45	2
Mercury	0.0396	2
Molybdenum	9.59	2
Nickel	14	2
Nitrogen	387	4
Phenol	5.8	2
Potassium	5490	2
Selenium	2.09	2
Silver	2.41	2
Sulfide	803	2
Total Phosphorus as P	1820	2
Total solids	99.7 (%)	2
Zinc	232	2

*Averages calculated assuming ND = MDL/2.*

### 3.6 SIU Sampling

There were no SIUs sampled during the LLE sampling event. Historical data for SIUs will be used as applicable provided by the City.

### 3.7 Priority Pollutant Scans

Priority pollutant detections are summarized in Table 3-5. The EPA’s 15 national POCs and pollutants included in the DEQ Local Limits Calculation Spreadsheet are included with the data tables in Section 3.8.



**Table 3-5. Priority pollutants detected.**

Pollutant	Location	Value	Units	Date
1,3-Dichlorobenzene	Collection System	0.00101	mg/L	7/28/21
1,4-Dichlorobenzene	Collection System	0.00108	mg/L	7/28/21
1,4-Dichlorobenzene	Collection System	0.00081	mg/L	7/27/21
1,4-Dichlorobenzene	Collection System	0.00081	mg/L	7/28/21
1,4-Dichlorobenzene	Collection System	0.00119	mg/L	8/1/21
1,4-Dichlorobenzene	Collection System	0.00102	mg/L	8/4/21
1,4-Dichlorobenzene	Collection System	0.00128	mg/L	8/5/21
2,4-Dimethylphenol	Influent	0.00000813	mg/L	8/3/21
Benzo(a)pyrene	Influent	0.00000602	mg/L	8/3/21
Benzo(g,h,i)perylene	Influent	0.00000565	mg/L	8/3/21
Benzyl butyl phthalate	Collection System	0.000722	mg/L	8/1/21
Benzyl butyl phthalate	Collection System	0.00000694	mg/L	8/3/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00715	mg/L	7/26/21
bis(2-Ethylhexyl) phthalate	Collection System	0.012	mg/L	7/27/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00879	mg/L	7/27/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00768	mg/L	7/28/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00532	mg/L	8/1/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00992	mg/L	8/1/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00579	mg/L	8/2/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00503	mg/L	8/2/21
bis(2-Ethylhexyl) phthalate	Collection System	0.0000534	mg/L	8/3/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00000668	mg/L	8/3/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00000726	mg/L	8/4/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00000402	mg/L	8/4/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00729	mg/L	8/5/21
bis(2-Ethylhexyl) phthalate	Collection System	0.00986	mg/L	8/5/21
bis(2-Ethylhexyl) phthalate	Effluent	0.0124	mg/L	7/26/21
bis(2-Ethylhexyl) phthalate	Effluent	0.0011	mg/L	8/1/21
bis(2-Ethylhexyl) phthalate	Influent	0.0118	mg/L	7/26/21
bis(2-Ethylhexyl) phthalate	Influent	0.00486	mg/L	8/1/21
bis(2-Ethylhexyl) phthalate	Influent	0.00729	mg/L	8/2/21
bis(2-Ethylhexyl) phthalate	Influent	0.0000036	mg/L	8/3/21
bis(2-Ethylhexyl) phthalate	Influent	0.00000414	mg/L	8/4/21
bis(2-Ethylhexyl) phthalate	Influent	0.00325	mg/L	8/5/21
Bromodichloromethane	Collection System	0.00055	mg/L	7/27/21
Bromoform	Collection System	0.00112	mg/L	7/26/21

**Table 3-5. Priority pollutants detected.**

Pollutant	Location	Value	Units	Date
Bromoform	Collection System	0.00115	mg/L	7/27/21
Bromoform	Collection System	0.00116	mg/L	7/27/21
Bromoform	Collection System	0.00112	mg/L	7/28/21
Bromoform	Effluent	0.00111	mg/L	7/26/21
Bromoform	Effluent	0.00112	mg/L	7/27/21
Bromoform	Influent	0.00115	mg/L	7/27/21
Chloroethane	Influent	0.0006	mg/L	7/26/21
Chloroform	Collection System	0.00116	mg/L	7/26/21
Chloroform	Collection System	0.00421	mg/L	7/27/21
Chloroform	Collection System	0.00143	mg/L	7/27/21
Chloroform	Collection System	0.00265	mg/L	7/28/21
Chloroform	Collection System	0.00328	mg/L	8/1/21
Chloroform	Collection System	0.00206	mg/L	8/2/21
Chloroform	Collection System	0.00743	mg/L	8/2/21
Chloroform	Collection System	0.00131	mg/L	8/3/21
Chloroform	Collection System	0.0021	mg/L	8/4/21
Chloroform	Collection System	0.00239	mg/L	8/5/21
Chloroform	Influent	0.00197	mg/L	7/27/21
Chloroform	Influent	0.00129	mg/L	8/1/21
Chloroform	Influent	0.00148	mg/L	8/2/21
Chloroform	Influent	0.00121	mg/L	8/3/21
Chloroform	Influent	0.00141	mg/L	8/4/21
Chloroform	Influent	0.00134	mg/L	8/5/21
Dibenz(a,h)anthracene	Influent	0.00000565	mg/L	8/3/21
Diethyl phthalate	Collection System	0.00206	mg/L	7/26/21
Diethyl phthalate	Collection System	0.00306	mg/L	7/27/21
Diethyl phthalate	Collection System	0.00326	mg/L	7/27/21
Diethyl phthalate	Collection System	0.00245	mg/L	7/28/21
Diethyl phthalate	Collection System	0.00587	mg/L	8/1/21
Diethyl phthalate	Collection System	0.00362	mg/L	8/1/21
Diethyl phthalate	Collection System	0.00251	mg/L	8/2/21
Diethyl phthalate	Collection System	0.00000381	mg/L	8/4/21
Diethyl phthalate	Collection System	0.00739	mg/L	8/5/21
Diethyl phthalate	Effluent	0.00725	mg/L	7/26/21
Diethyl phthalate	Influent	0.00684	mg/L	7/26/21
Diethyl phthalate	Influent	0.00493	mg/L	7/27/21



**Table 3-5. Priority pollutants detected.**

Pollutant	Location	Value	Units	Date
Diethyl phthalate	Influent	0.00231	mg/L	8/1/21
Diethyl phthalate	Influent	0.00327	mg/L	8/2/21
Diethyl phthalate	Influent	0.00000391	mg/L	8/3/21
Diethyl phthalate	Influent	0.00000488	mg/L	8/4/21
di-n-Butyl phthalate	Effluent	0.000549	mg/L	8/2/21
di-n-Octyl phthalate	Effluent	0.00138	mg/L	8/1/21
Ethylbenzene	Collection System	0.00083	mg/L	7/26/21
Ethylbenzene	Effluent	0.00084	mg/L	7/26/21
Ethylbenzene	Influent	0.00084	mg/L	7/26/21
Ethylbenzene	Influent	0.00082	mg/L	7/27/21
Indeno(1,2,3-c,d)pyrene	Influent	0.00000726	mg/L	8/3/21
Phenol	Collection System	0.00693	mg/L	7/26/21
Phenol	Collection System	0.0139	mg/L	7/27/21
Phenol	Collection System	0.00706	mg/L	7/27/21
Phenol	Collection System	0.0228	mg/L	7/28/21
Phenol	Collection System	0.0101	mg/L	8/1/21
Phenol	Collection System	0.00733	mg/L	8/1/21
Phenol	Collection System	0.00584	mg/L	8/2/21
Phenol	Collection System	0.00508	mg/L	8/2/21
Phenol	Collection System	0.000012	mg/L	8/3/21
Phenol	Collection System	0.00000777	mg/L	8/3/21
Phenol	Collection System	0.00000657	mg/L	8/4/21
Phenol	Collection System	0.0000059	mg/L	8/4/21
Phenol	Collection System	0.00734	mg/L	8/5/21
Phenol	Collection System	0.0081	mg/L	8/5/21
Phenol	Effluent	0.00847	mg/L	7/26/21
Phenol	Influent	0.00839	mg/L	7/26/21
Phenol	Influent	0.0158	mg/L	7/27/21
Phenol	Influent	0.0161	mg/L	8/1/21
Phenol	Influent	0.0109	mg/L	8/2/21
Phenol	Influent	0.0000148	mg/L	8/3/21
Phenol	Influent	0.0000127	mg/L	8/4/21
Phenol	Influent	0.0134	mg/L	8/5/21
Toluene	Collection System	0.00073	mg/L	7/26/21
Toluene	Collection System	0.00087	mg/L	7/27/21
Toluene	Collection System	0.00078	mg/L	7/27/21



Table 3-5. Priority pollutants detected.				
Pollutant	Location	Value	Units	Date
Toluene	Collection System	0.00322	mg/L	7/28/21
Toluene	Collection System	0.00128	mg/L	8/4/21
Toluene	Effluent	0.00122	mg/L	7/26/21
Toluene	Effluent	0.00118	mg/L	7/27/21
Toluene	Effluent	0.00128	mg/L	8/1/21
Toluene	Effluent	0.00123	mg/L	8/2/21
Toluene	Influent	0.00068	mg/L	7/26/21
Toluene	Influent	0.00131	mg/L	7/27/21
Toluene	Influent	0.00194	mg/L	8/1/21
Toluene	Influent	0.00147	mg/L	8/2/21

### 3.8 Summary

The following tables present all data for the sampling locations, with the exception of priority pollutants.

Table 3-6. Collection System Summary: Villebois Location							
POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Alkalinity, total (as CaCO3)	225	200	186	205	201	207	215
Ammonia	38.3	33.9	31.3	38.3	37	32.5	39.4
Antimony	< 0.0000105	0.000633	0.000761	< 0.0000105	0.000551	< 0.0000105	0.000732
Arsenic	0.000949	0.00101	0.00163	0.00135	0.00079	0.000712	0.000613
Biochemical oxygen demand (BOD)	141.5	263.9	376.6	314.6	299.2	388.4	374
Cadmium	< 0.0000065	< 0.0000065	0.000106	0.000112	< 0.0000065	0.000101	0.000148
Carbonaceous biochemical oxygen demand	140	147	239	124	< 2.0	498	312
Chromium	0.000622	0.000824	0.00142	0.000983	0.00126	0.000911	0.00188
Chromium, Hexavalent	< 0.00065	0.00856	< 0.00065	0.00946	< 0.00065	0.00678	< 0.00065
Copper	0.0166	0.0223	0.0266	0.0235	0.0243	0.023	0.036
Cyanide	< 0.00086	< 0.00086	0.00539	0.00644	0.0065	< 0.00086	0.00679
Hardness (as Ca and Mg)	66.7	61.3	65.9	70.5	69.5	91.9	79.6
Iron	0.0917	0.254	0.25	0.191	0.197	0.17	0.387
Lead	0.000336	0.000422	0.000698	0.000461	0.000532	0.000338	0.0029
Molybdenum	0.00069	0.000798	0.000846	0.000809	0.000847	0.00097	0.00156
Nickel	0.00141	0.00221	0.00388	0.00192	0.002	0.00283	0.00442
Selenium	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022



**Table 3-6. Collection System Summary: Villebois Location**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Silver	0.000188	0.000232	0.000217	0.000173	0.000201	0.000221	0.000311
Sulfide	4.8	6.24	1.44	1.44	1.44	1.28	< 0.0550
Thallium	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015
Total Kjeldahl Nitrogen	48.8	45.2	46.7	48.3	58.4	56	66
Total Phosphorus as P	4.24	4.17	4.17	4.55	4.94	5.52	6.02
Total Suspended Solids	58	65	178	217	336	550	272
Zinc	0.0923	0.135	0.179	0.128	0.133	0.145	0.249

"<" indicated non-detect; value is less than the RL shown.

**Table 3-7. Collection System Summary: Parkway Location**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/28/2021	7/29/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Alkalinity, total (as CaCO3)	267	256	278	207	286	260	245
Ammonia	54.8	48.6	58.7	44.4	45.4	51.3	46.9
Antimony	0.000987	0.000705	0.000857	0.00126	0.000998	0.00153	0.00162
Arsenic	0.000925	0.000805	0.00151	0.00132	0.000855	0.000954	0.000904
Biochemical oxygen demand (BOD)	285.7	329.7	308.6	390.2	388.1	318.4	410.1
Cadmium	< 0.0000065	< 0.0000065	0.000124	< 0.0000065	0.000225	0.000289	0.000136
Carbonaceous biochemical oxygen demand	130	211	226	213	759	426	395
Chromium	0.00119	0.0024	0.0029	0.00142	0.00217	0.00316	0.00227
Chromium, Hexavalent	0.0264	< 0.00065	< 0.00065	< 0.00065	< 0.00065	< 0.00065	< 0.00065
Copper	0.0401	0.0505	0.0613	0.0571	0.0796	0.0773	0.0636
Cyanide	0.00699	< 0.00086	0.00697	0.0057	0.0109	0.0121	0.00594
Hardness (as Ca and Mg)	47	53.3	57.1	51.7	67.4	71.7	57.8
Iron	0.678	1.07	1.9	1.07	1.77	2.74	1.27
Lead	0.000749	0.000955	0.0022	0.0012	0.00286	0.00348	0.00164
Molybdenum	0.00169	0.00151	0.00271	0.0015	0.00684	0.00487	0.00426
Nickel	0.00438	0.00421	0.0051	0.00501	0.00586	0.0063	0.00561
Selenium	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022	< 0.000022
Silver	0.000154	0.000451	0.000198	0.000168	0.000654	0.000515	0.000367
Sulfide	2.4	2.4	1.6	1.6	1.6	1.6	8
Thallium	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015	< 0.0000015





**Table 3-7. Collection System Summary: Parkway Location**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/28/2021	7/29/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Total Kjeldahl Nitrogen	64.7	66.8	76.3	69.4	67.9	79.9	74.4
Total Phosphorus as P	7.25	8.04	8.35	7.9	6.82	8.56	8.96
Total Suspended Solids	106	240	222	136	442	222	376
Zinc	0.116	0.147	0.177	0.159	0.29	0.26	0.181

*"<" indicated non-detect; value is less than the RL shown.*

Parkway may experience influence from an SIU; however, analytical results are comparable to Villebois analytical results. Both locations will be used for calculations of background for local limits.

**Table 3-8. Influent Summary**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Alkalinity, total (as CaCO3)	221	220	200	198	196	250	210
Ammonia	38.3	38.3	39.3	72.4	36.6	38.9	37.5
Antimony	0.000978	0.000605	0.000841	0.000785	0.000862	0.000927	0.000723
Arsenic	0.00112	0.00107	0.00114	0.00166	0.00093	0.000993	0.000853
Biochemical oxygen demand (BOD)	303.2	251.9	236	179.6	247	260.4	566.1
Cadmium	0.000148	0.000117	0.000138	0.000133	0.000145	0.000152	0.000147
Carbonaceous BOD (CBOD)	295	269	256	243	677	370	369
Chromium	0.00576	0.00119	0.00136	0.00204	0.00144	0.00185	0.00172
Chromium, Hexavalent	< 0.000650	0.00946	< 0.000650	< 0.000650	< 0.000650	< 0.000650	< 0.000650
Copper	0.0373	0.0345	0.0429	0.0448	0.0359	0.0397	0.0377
Cyanide	0.0059	0.00641	0.00714	0.00664	0.00674	0.00715	0.00781
Hardness (as Ca and Mg)	55.1	53.5	57.1	59.7	54.8	59.8	59.4
Iron	0.499	0.439	0.416	0.5	0.449	0.5	0.464
Lead	0.000978	0.000836	0.000929	0.000991	0.00088	0.000915	0.000819
Mercury	0.0000509	0.0000808	0.0000299	0.0000305	0.0000279	0.0000747	0.0000328
Molybdenum	0.00374	0.00375	0.00324	0.00397	0.00618	0.00478	0.00492
Nickel	0.00655	0.00242	0.00243	0.0037	0.00259	0.00295	0.00282
Selenium	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220
Silver	0.000269	0.000244	0.000215	0.000293	0.000263	0.000281	0.000356
Sulfide	7.84	3.04	1.44	114	2.88	1.6	< 0.0550
Thallium	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150
Total Kjeldahl Nitrogen	53.9	53.4	58	56.8	49.9	65.2	58.4



**Table 3-8. Influent Summary**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Total Phosphorus as P	5.07	4.8	5.03	4.76	4.84	5.12	5.83
Total Suspended Solids	625	256	246	270	262	300	352

"<" indicated non-detect; value is less than the RL shown.

**Table 3-9. Effluent Summary**

POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021
Alkalinity, total (as CaCO3)	165	178	55	55	62	55	60
Ammonia	27.4	29.6	0.366	36	0.942	0.264	0.169
Antimony	< 0.0000105	< 0.0000105	< 0.0000105	< 0.0000105	< 0.0000105	< 0.0000105	< 0.0000105
Arsenic	0.000476	0.000705	0.000579	0.000734	0.000467	0.000414	0.000458
Biochemical oxygen demand (BOD)	9	6.5	< 2.0	2.5	2.1	< 2.0	2.9
Cadmium	< 0.00000650	< 0.00000650	< 0.00000650	< 0.00000650	< 0.00000650	< 0.00000650	< 0.00000650
Carbonaceous BOD (CBOD)	2.7	2.0	< 2.0	< 2.0	16.5	3.9	2.4
Chromium	0.0002	0.000238	0.000197	0.000244	0.000166	0.000228	0.000333
Chromium, Hexavalent	0.00589	0.00678	< 0.000650	< 0.000650	< 0.000650	< 0.000650	< 0.000650
Copper	0.000976	0.00105	0.00208	0.002	0.00169	0.00215	0.00241
Cyanide	0.00739	0.00605	< 0.000860	< 0.000860	< 0.000860	< 0.000860	< 0.000860
Hardness (as Ca and Mg)	58	57.6	53.9	53.7	53.6	55.1	54.2
Iron	0.0954	0.119	< 0.00154	< 0.00154	0.0534	0.0577	0.0597
Lead	0.000265	0.000243	0.000529	0.000463	0.000445	0.000546	0.000602
Mercury	0.00000139	0.00000204	0.00000069	0.0000005	0.00000094	0.00000086	0.00000042
Molybdenum	0.00206	0.00213	0.00191	0.00175	0.00249	0.00281	0.00314
Nickel	0.00133	0.00139	0.0016	0.00165	0.00163	0.00158	0.00226
Selenium	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220	< 0.0000220
Silver	< 0.00000250	< 0.00000250	< 0.00000250	< 0.00000250	< 0.00000250	< 0.00000250	< 0.00000250
Sulfide	4.8	< 0.0550	1.44	< 0.0550	< 0.0550	< 0.0550	< 0.0550
Thallium	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150	< 0.00000150
Total Kjeldahl Nitrogen	27.6	28.9	1.68	1.52	2.19	1.59	1.44
Total Phosphorus as P	13.8	13.2	0.48	0.316	0.422	0.408	0.46
Total solids	245	227	242	145	261	236	204
Total Suspended Solids	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55
Zinc	0.0755	0.0777	0.12	0.115	0.118	0.134	0.135



Table 3-9. Effluent Summary							
POC	Concentration (mg/L)						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	7/27/2021	7/28/2021	8/2/2021	8/3/2021	8/4/2021	8/5/2021	8/6/2021

"<" indicated non-detect; value is less than the RL shown.

Table 3-10. Biosolids Summary		
POC	Concentration (mg/Kg)	
	Day 1	Day 2
	7/26/2021	7/27/2021
Alkalinity, total (as CaCO3)	< 0	210
Ammonia	27.2	148
Antimony	2.43	2.02
Arsenic	1.08	1.51
Cadmium	0.534	0.432
Chromium	17.1	17.3
Chromium, Hexavalent	0.0377	0.0108
Copper	231	206
Cyanide	1.47	0.651
Iron	3650	3400
Lead	2.71	2.19
Mercury	0.0791	< 0.00000610
Molybdenum	10.2	8.97
Nickel	14.1	13.8
pH	4.83 (pH units)	4.58 (pH units)
Selenium	2.12	2.05
Silver	2.68	2.14
Sulfide	803	802
Thallium	< 0.18	< 0.186
TKN	587	786
Total Phosphorus as P	1470	2170
Total solids	99.7 (mg/L)	99.7 (mg/L)
Zinc	248	216

"<" indicated non-detect; value is less than the RL shown.



## Section 4: Local Limits Analysis

This section describes the calculation of proposed local limits. This section is structured to follow the procedure in the EPA Guidance Manual. This section centers on inorganic POCs. Conventional and organic POCs are addressed in subsections 4.7-4.9.

### 4.1 Pollutants of Concern

Potential POCs were identified in the SAP. These included the 15 national POCs required by the EPA, and a few additional POCs:

#### Effluent Detected POCs

- Alkalinity
- cBOD
- Antimony
- Iron
- Thallium
- Bis(2-ethylhexyl) Phthalate
- Chloroform
- 1,4-Dichlorobenzene
- Diethyl phthalate
- Di-n-butyl phthalate
- Naphthalene
- Nitrophenol, 2
- Phenol
- Toluene
- 2,4,6-Trichlorophenol

#### Site-Specific Criteria POCs

- Phosphorus (total)
- Total Kjeldahl Nitrogen (TKN)
- Total Solids
- pH
- Hexavalent Chromium
- Potassium
- Aluminum
- Explosion/Fume Hazard POCs

A priority pollutant scan was completed during sampling to identify additional potential POCs. No additional specific POCs were identified as a result of the scan. While several detections were observed in the scans, these will be addressed in Section 4.7.3.

### 4.2 Applicable Standards

This subsection summarizes standards applicable to local limits development.

### 4.2.1 Water Quality

Water quality standards are drawn from Tables 30, 31, and 40 in the Toxics Standards Rule (OAR 340-041-0033).

Water quality standards for cadmium, copper, lead, nickel, silver, and zinc are calculated based on hardness. The hardness of the receiving water was not sampled for this study. Hardness-based water quality values are calculated using a receiving water hardness of 23.75 mg/L as CaCO<sub>3</sub>. Dilution factors were taken from the 2020 STP Fact Sheet from Outfall 001. Parameters impacting water quality values, including hardness-based water quality values, are summarized in Table 4-1.

Table 4-1. Water Quality Parameters		
Parameter	Value	Basis
Design Dry Weather Daily Flow, mgd	4.0	2020 STP Fact Sheet
Actual Wet Weather Daily Flow, mgd	2.6	2020 wet weather season flow monitoring
Willamette River 1Q10 flow, cfs	5646	2020 STP Fact Sheet
Model-Predicted Dilution after Mixing	22	2020 STP Fact Sheet
Willamette River 7Q10 flow, cfs	5752	2020 STP Fact Sheet
Model-Predicted Dilution after Mixing	107	2020 STP Fact Sheet
Willamette River 30Q5 flow, cfs	6315	2020 STP Fact Sheet
Model-Predicted Dilution after Mixing	116	2020 STP Fact Sheet
Willamette River harmonic mean flow, cfs	13,966	2020 STP Fact Sheet
Model-Predicted Dilution after Mixing	193	2020 STP Fact Sheet
Willamette River hardness, mg/L as CaCO <sub>3</sub>	23.75	USGS
Hardness at RMZ at 7Q10 Flow, mg/L	24.04	2020 STP Fact Sheet
Hardness at ZID at 1Q10 Flow, mg/L	25.18	2020 STP Fact Sheet

Applicable water quality standards were calculated using DEQ’s Local Limits Workbook spreadsheet tool.

Tables 30, 31, and 40 are included for reference as Attachment C. The Local Limits Workbook output is included as Attachment D. Note that the Local Limits Workbook considers the effect of the mixing zone when assessing the effect on water quality.

Applicable water quality standards are summarized in Table 4-2.

Table 4-2. Water Quality Criteria for Selected Constituents <sup>a</sup>			
Constituent	Freshwater Aquatic Life Total Water Quality Values for Toxic Pollutants, mg/L		Human health criteria for consumption of organisms, mg/L
	Acute	Chronic	
Ammonia <sup>b</sup>	12	1.6	---
Arsenic <sup>c,d</sup>	0.34	0.15	2.1
Cadmium <sup>c</sup>	0.828	0.00009	---



Chromium III	0.583	0.027	---
Chromium VI <sup>c,f</sup>	0.0163	0.0114	---
Copper <sup>c</sup>	0.0048	0.0035	1.3
Cyanide <sup>e</sup>	0.022	0.0052	0.13 <sup>f</sup>
Lead <sup>c</sup>	0.014	0.00052	---
Mercury (total)	0.0024	0.000012	---
Nickel	0.146	0.016	0.14
Selenium <sup>c</sup>	----	0.005	0.12
Silver <sup>c</sup>	0.00035	0.00012	---
Zinc <sup>c</sup>	0.037	0.036	2.1

- a. Adapted from Oregon Administrative Rules (OAR) Chapter 340, Division 41, Tables 30, 31, and 40.
- b. Calculated from the tables specified using an average temperature of 19 degrees Celsius and an average pH of 7.4.
- c. Criterion is expressed in terms of total dissolved concentration in the water column.
- d. Criterion is applied as total inorganic arsenic.
- e. Criterion is expressed as mg free cyanide (CN)/L.
- f. Values for hexavalent chromium were substituted for total chromium in the calculations.

### 4.2.2 Process Inhibition

Local limits based on process inhibition are intended to control pollutants that have the potential to inhibit treatment processes at POTWs. The EPA has developed inhibitory levels for various activated sludge treatment processes and for digesters. The EPA Guidance Manual states that POTWs may not need to calculate allowable headworks loadings (AHLs) to protect against inhibition if they have not experienced inhibition in the past. Because the STP has not experienced process inhibition in the past and does not anticipate new SIUs to discharge at loads that would cause inhibition, this evaluation has assessed activated sludge, but no limits were recommended due to inhibition.

### 4.2.3 Sludge Quality

Sludge quality standards protect the environment when sludge is land applied, incinerated, disposed of in a landfill, or sent for surface disposal. Two sets of standards for land applied biosolids are described in Title 40 of the Code of Federal Regulations (CFR) Part 503.13. The minimum standards are the so-called sludge ceiling concentrations for beneficial use. The slightly more stringent reporting limits ease the reporting burden on the biosolids applicator. This report applies the more stringent standards for AHL development. The two sets of standards are summarized in Table 4-3.

Constituent	Sludge Ceiling level (mg/Kg)	Clean Sludge Level (mg/Kg)
Arsenic	75	41
Cadmium	85	39
Copper	4,300	1500
Lead	840	300
Mercury	57	17
Molybdenum	75	-



Nickel	420	420
Selenium	100	100
Zinc	7,500	2800

#### 4.2.4 STP NPDES Permit Limits

The STP operates under NPDES permit number 101888, issued in 2020. The permit includes explicit limits for biochemical oxygen demand (BOD<sub>5</sub>), carbonaceous BOD (CBOD<sub>5</sub>), and total suspended solids (TSS). It does not include explicit limits for any inorganic pollutants. Applicable effluent limits for conventional pollutants are summarized in Table 4-4.

Table 4-4. NPDES Permit Limits					
Pollutant	Average effluent conditions				
	Average Monthly (mg/L)	Average Weekly (mg/L)	Average Monthly (lb/day)	Average Weekly (lb/day)	Daily maximum (lbs)
May 1 - October 31					
CBOD <sub>5</sub>	10	15	190	280	380
TSS	10	15	190	280	380
November 1 - April 30					
BOD <sub>5</sub>	30	45	560	840	1100
TSS	30	45	560	840	1100

#### 4.2.5 STP Plant Design and Assumptions

The STP design capacity is applicable when evaluating limits for conventional pollutants. STP design loads are summarized in Table 4-5 and design and actual flow rates are summarized in Table 4-6.

Table 4-5. Plant Design Loads	
5-Day biochemical oxygen demand (BOD <sub>5</sub> )	lb/day
Max Monthly Dry Weather	12,900
Max Monthly Wet Weather	12,500
Max Weekly Dry Weather	15,300
Max Weekly Wet Weather	14,450

Table 4-5. Plant Design Loads	
<b>Total suspended solids (TSS)</b>	<b>lb/day</b>
Max Monthly Dry Weather	11,400
Max Monthly Wet Weather	12,500
Max Weekly Dry Weather	14,050
Max Weekly Wet Weather	15,350
<b>Total Kjeldahl Nitrogen (TKN)</b>	<b>lb/day</b>
Max Monthly Dry Weather	1,850
Max Monthly Wet Weather	1,900
Max Weekly Dry Weather	2,150
Max Weekly Wet Weather	2,200
<b>Ammonia</b>	<b>lb/day</b>
Max Monthly Dry Weather	1,300
Max Monthly Wet Weather	1,200
Max Weekly Dry Weather	1,500
Max Weekly Wet Weather	1,400

Table 4-6. Plant Design and Actual Flows and Loads.			
Parameter	Design Value	2015-2021 Averages	Units
Average annual	4.48	2.337	MGD
Average dry weather (May-October)	4.00	NA	MGD
Average wet weather (November-April)	4.72	NA	MGD
Maximum month wet weather (November-April)	6.68	NA	MGD
Maximum day dry weather (May-October)	6.20	NA	MGD
Maximum day wet weather (November-April)	10.6	NA	MGD
Peak hour	16.0	Hourly data not available	MGD
Biosolids flow to disposal	NA	0.00866	MGD
Cake dry solids concentration (percent solids)	NA	29.8	%

### 4.3 Determine Plant Removal Efficiency

This section presents plant removal rates using the procedure in the EPA Guidance Manual, Section 5.1. Removal efficiency is the decimal fraction of the influent loading that is removed from the waste stream across the entire treatment works, or across a particular unit operation within the treatment works. The EPA Guidance Manual recommends the mean removal efficiency (MRE) method where less than 10 paired influent-effluent samples are available.

Where most data values are below the RL, the EPA Guidance Manual recommends evaluating the need for a local limit. However, AHLs should still be developed for the 15 national POCs. This scenario applies to many of the inorganic POCs sampled by the City. In this situation, the EPA Guidance Manual allows for the use of literature values.





Removal efficiency using the MRE method is calculated from sampling data as follows:

$$R_{POTW} = \frac{Avg I_r - Avg E_{POTW}}{Avg I_r}$$

Where:

- $R_{potw}$  = Plant removal efficiency, as decimal
- $Avg I_r$  = Average influent pollution concentration at headworks, mg/L
- $Avg E_{potw}$  = Average effluent pollution concentration, mg/L

Removal efficiencies are summarized in Table 4-7. For selenium, the prevalence of non-detect results in both the influent and effluent samples resulted in a removal rate of zero. For this constituent, use of the literature value in Appendix R of the EPA Guidance Manual is proposed.

Table 4-7. Plant Removal Efficiency and Proposed Removal Efficiency					
Constituent	Average influent concentration (mg/L)	Average effluent concentration (mg/L)	Calculated site-specific removal efficiency (%)	Literature value removal efficiency per EPA Guidance Document, Appendix R	Proposed removal efficiency
Antimony	0.000817	0.00001	98.78%	Not Applicable	Site-specific
Arsenic	0.00111	0.000548	50.63%	45%	Site-specific
Cadmium	0.00014	0.000007	95.00%	67%	Site-specific
Chromium	0.00219	0.000229	89.54%	82%	Site-specific
Copper	0.039	0.00177	95.46%	86%	Site-specific
Cyanide	0.00683	0.00253	62.96%	69%	Site-specific
Iron	0.467	0.0555	88.12%	Not Applicable	Site-specific
Lead	0.000907	0.000442	51.27%	61%	Site-specific
Mercury	4.68E-05	9.77E-07	97.91%	67%	Site-specific
Molybdenum	0.00437	0.00233	46.68%	Not Applicable	Site-specific
Nickel	0.00335	0.00163	51.34%	42%	Site-specific
Selenium	0.00002	0.00002	Not Applicable	75%	Literature
Silver	0.000274	0.000003	98.91%	75%	Site-specific
Thallium	0.000002	0.000002	Not Applicable	Not Applicable	Not Applicable
Zinc	0.15	0.111	26.00%	79%	Site-specific

## 4.4 Calculate Allowable Headworks Loadings

An AHL is the estimated maximum loading of a pollutant from all sources that can be received at a POTW's headworks that should not cause a particular POTW to violate a particular environmental criterion or plant limit. This section calculates AHL using the procedure in Section 5.2 of the EPA Guidance Manual.

### 4.4.1 Water Quality Criteria Based AHLs

Where background water quality concentrations for pollutants are available, water quality based AHLs are calculated using Equation 5.6 from the EPA Guidance Manual:

$$AHL = \frac{8.34[C_{WQ}(Q_{STR} + Q_{POTW}) - C_{STR}Q_{STR}]}{(1 - R_{POTW})}$$

Where:

$AHL$	=	Allowable Headworks Loading
$C_{WQ}$	=	Water quality standard, mg/L
$C_{STR}$	=	Receiving stream background concentration, mg/L
$Q_{POTW}$	=	POTW average flow, MGD
$Q_{STR}$	=	Receiving water flow rate, MGD
$R_{POTW}$	=	Removal efficiency as a decimal rate

Where background water quality concentrations are not available, Equation 5.5 is used:

$$AHL = \frac{8.34C_{WQ}Q_{POTW}}{(1 - R_{POTW})}$$

Where:

$AHL$	=	Allowable Headworks Loading
$C_{WQ}$	=	Water quality standard, mg/L
$Q_{POTW}$	=	POTW average flow, MGD
$R_{POTW}$	=	Removal efficiency as a decimal rate

Equation 5.5 was applied for cyanide, while Equation 5.6 was applied for the remaining potential POCs. A water quality based AHL was not calculated for molybdenum since there is no applicable water quality standard.

Calculations were performed with DEQ's Local Limits Workbook tool and is included as Attachment D. Results are summarized in Table 4-8.

Table 4-8. Water Quality Based AHL	
Constituent	Water quality based AHL, lb/day
Antimony	1298
Arsenic	19.6
Cadmium	4.85
Chromium	532
Copper	28.4
Cyanide	18.2
Iron	17393
Lead	2.13
Mercury	1.06
Molybdenum	Not Applicable
Nickel	76.6
Selenium	15.2
Silver	5.96
Thallium	Not Applicable
Zinc	13.4

#### 4.4.2 Process Inhibition Based AHLs

As noted above, because the STP has not experienced process inhibition in the past, and because the City does not anticipate new SIUs to discharge at loads that would cause inhibition, the City has elected not to develop process inhibition based AHLs for the STP.

#### 4.4.3 Sludge Quality Based AHLs

Sludge quality based AHLs are calculated using EPA Guidance Manual Equation 5.9:

$$AHL = \frac{8.34 C_{SLGSTD} \left(\frac{PS}{100}\right) Q_{SLG} G_{SLG}}{R_{POTW}}$$

Where:

- AHL = Allowable Headworks Loading
- C<sub>SLGSTD</sub> = Water quality standard, mg/L
- PS = Percent solids of sludge to disposal
- Q<sub>SLG</sub> = Sludge flow rate, MGD
- G<sub>SLG</sub> = Sludge specific gravity



$R_{POTW}$  = Removal efficiency as a decimal rate

The EPA Guidance Manual gives an alternate method for calculating AHLs that is based on the percentage of the influent load for each pollutant that is recovered in the plant sludge, using historical data for both influent and sludge pollutant levels. While this method is a more direct calculation, it generally requires matching samples in the influent and sludge, staggered at intervals based on solids retention time. The standard method was used in this evaluation.

AHLs are based on the more stringent “Reporting Limit” sludge quality standards presented in Table 4-3 above. AHLs were calculated using DEQ’s Local Limits Workbook and are included as Attachment D. Sludge quality based AHLs are summarized in Table 4-9.

Table 4-9. Sludge Quality Based AHLs	
Parameter	Sludge quality based AHL, lb/day
Antimony	Not Applicable
Arsenic	4.78
Cadmium	2.89
Chromium	Not Applicable
Copper	145.4
Cyanide	Not Applicable
Iron	Not Applicable
Lead	52.9
Mercury	1.88
Molybdenum	5.19
Nickel	26.4
Selenium	4.30
Silver	Not Applicable
Thallium	Not Applicable
Zinc	931

#### 4.4.4 STP NPDES Permit Limit Based AHLs

The STP NPDES permit does not have numerical limits for inorganic pollutants. Therefore, no evaluation was made based on NPDES criteria.

### 4.5 Determine Maximum Allowable Headworks Loadings

The MAHL is the most restrictive AHL calculated using each of the four methods (water quality based, inhibition based, sludge quality based, and NPDES permit based). MAHLs are summarized in Table 4-10.

Table 4-10. Inorganic Pollutant MAHLs						
Parameter	Water quality based AHL, lb/day	Inhibition based AHL, lb/day	Sludge quality based AHL, lb/day	NPDES permit based AHL, lb/day	MAHL basis	MAHL (lb/day)



Antimony	1298	Not applicable; the STP has not experienced inhibition and has elected not to develop inhibition based AHLs	Not Applicable	Not applicable; none of the inorganic POCs considered have NPDES limits	Pass Through	1298
Arsenic	19.6		4.78		Sludge Quality	4.78
Cadmium	4.85		2.89		Sludge Quality	2.89
Chromium	532		Not Applicable		Pass Through	532
Copper	28.4		145.4		Pass Through	28.4
Cyanide	18.2		Not Applicable		Pass Through	18.2
Iron	17393		Not Applicable		Pass Through	17393
Lead	2.13		52.9		Pass Through	2.13
Mercury	1.06		1.88		Pass Through	1.06
Molybdenum	Not Applicable		5.19		Sludge Quality	5.19
Nickel	76.6		26.4		Sludge Quality	26.4
Selenium	15.2		4.30		Sludge Quality	4.30
Silver	5.96		Not Applicable		Pass Through	5.96
Thallium	Not Applicable		Not Applicable		Not Applicable	-
Zinc	13.4	931	Pass Through	13.4		

Since thallium and selenium were non-detect for all samples, no further calculations are required, and no local limit is recommended.

## 4.6 Calculate MAILs and Subtract Safety and Growth Factors

Maximum allowable industrial loadings (MAILs) are calculated by subtracting the commercial/domestic load for each POC and adjusting for safety and growth factors.

Domestic loadings were calculated using the sampled concentrations from July and August 2021. Uncontrolled domestic loadings were calculated using the plant annual average flow rate of 2.337 MGD. Uncontrolled loadings are summarized in Table 4-11.

Parameter	Average concentration (mg/L)	Uncontrolled Loading (lb/day)
Antimony	0.000762	0.014
Arsenic	0.00102	0.018
Cadmium	0.0000914	0.002
Chromium	0.00167	0.030
Copper	0.043	0.774
Cyanide	0.00551	0.099
Iron	0.860	15.5
Lead	0.00134	0.024
Mercury	6.46E-05	0.001

Molybdenum	0.00214	0.038
Nickel	0.00394	0.071
Silver	0.000289	0.005
Zinc	0.171	3.08
Averages calculated assuming non-detect = 1/2 RL		

In 2020, the average flow of from existing SIUs was 0.15 mgd. To project future industrial flow rates, BC reviewed the Collection System Master Plan (Murray Smith and Associates, 2014), the Basalt Creek Concept Plan (KPFF Consulting, 2014), and the Coffee Creek Urban Renewal Plan (Otak, 2016). Based on these plans, BC estimated a total of 284 acres of industrial development at buildout. Using the Collection System Master Plan flow assumption of 1000 gallons per acre per day for industrial areas, the buildout industrial flow was projected to be 0.28 mgd. This flow was used to allocate MAILs for local limits. The increase to the buildout industrial flow was also applied to the total STP flow for an increased flow of 2.44 mgd.

A 10% safety factor will be applied to the local limits calculated in subsection 4.7.

City of Wilsonville does not currently accept hauled waste.

MAILs are summarized in Table 4-12.

Parameter	MAHL (lb/day)	Uncontrolled Loading (lb/day)	Safety Factor (lb/day)	MAIL (lb/day)
Antimony	1298	0.014	130	1169
Arsenic	4.78	0.018	0.478	4.29
Cadmium	2.89	0.002	0.289	2.60
Chromium	532	0.030	53.2	479
Copper	28.4	0.774	2.84	24.8
Cyanide	18.2	0.099	1.82	16.3
Iron	17393	15.5	1739	15638
Lead	2.13	0.024	0.213	1.89
Mercury	1.06	0.001	0.106	0.951
Molybdenum	5.19	0.038	0.519	4.63
Nickel	26.4	0.071	2.64	23.7
Silver	5.96	0.005	0.596	5.36
Zinc	13.4	3.08	1.34	8.99

## 4.7 Determine Tentative Local Limits

### 4.7.1 Inorganic Pollutants

Local limits are calculated by allocating the MAIL to the industrial flow. The MAILs in Table 4-13 above include safety factors and growth allowances. A uniform allocation approach was used, with allocation following the equation:

$$Local\ Limit = \frac{MAIL}{8.34 * Q_I}$$

Where:

- MAIL = Maximum Allowable Industrial Loading (lb/day)
- Q<sub>I</sub> = Industrial Flow (mgd)
- 8.34 = Conversion factor, lb/Million gallons to mg/L

DEQ Spreadsheet calculated local limits are summarized in Table 4-13.

Table 4-13. DEQ Calculated Local Limits	
Parameter	Calculated local limit (mg/L)
Antimony	500
Arsenic	1.84
Cadmium	1.11
Chromium	205
Copper	10.6
Cyanide	6.97
Iron	6697
Lead	0.810
Mercury	0.407
Molybdenum	1.98
Nickel	10.1
Silver	2.30
Zinc	3.85

Based on percent of MAHL in use, antimony, iron, and molybdenum are not recommended. Percent MAHL in use is less than 5%.

### 4.7.2 Conventional Pollutants

The conventional parameters BOD, cBOD, TSS, TKN, ammonia, total phosphorus, and sulfide are POCs. The wastewater treatment process at the STP is specifically designed to remove these constituents, and removal

rates are tied to operational parameters. Effluent discharges of BOD, cBOD, and TSS parameters are controlled by the STP’s NPDES permit. Influent and effluent concentrations over the monitoring period are summarized in Table 4-14. Measured values during the monitoring period from 7/27/21 to 8/6/21 are averages of the daily values summarized in in Tables 3-8 and 3-9. Note that the plant monitors a number of these parameters at regular intervals as part of its monitoring requirements. Where available, 2020 average influent and effluent are shown as well.

Constituent	Average influent concentration (mg/L)		Average effluent concentration (mg/L)		Calculated site-specific removal efficiency	Proposed removal efficiency
	Measured 7/2721-8/6/21	2020 Average	Measured 7/2721-8/6/21	2020 Average		
Biological oxygen demand (BOD)	292	451	3.3	6	98.87%	Site-specific
Carbonaceous BOD	354	NA	3.93	4	98.89%	Site-specific
Total Suspended Solids (TSS)	305	386	0.6	9	99.80%	Site-specific
Ammonia (as N)	43	NA	13.5	2.3	68.60%	Site-specific
Total Kjeldahl Nitrogen (TKN)	56.5	NA	9.27	NA	83.59%	Site-specific
Total Phosphorus	5.06	NA	4.16	NA	17.79%	Site-specific
Sulfide	18.7	NA	0.931	NA	95.02%	Site-specific

### 4.7.3 Organic Pollutants

Organic pollutants were not found at levels that would cause concern in the priority pollutant screens conducted during sampling. As seen in Table 3-5, multiple organic pollutants were detected in the collection system, influent, effluent and biosolids samples. Further comparison of detections against worker protection standards, water quality standards, and biosolid standards deemed calculations unnecessary due to no exceedance of any regulatory criteria.

It is recommended that the City adjust the need for organic local limits if future users necessitate regulation of organic pollutants.

### 4.7.4 Sulfide

Historically, City of Wilsonville has not experienced issues with sulfide in the collection system or at the STP. There were detections of sulfide at all sampling locations; however, the method MDL is not low enough to appropriately compare to regulatory standards. It is recommended that the City adjust the need for sulfide local limits if future users necessitate regulation of sulfide or sulfide becomes an issue at the STP.

### 4.7.5 FOG

FOG accumulations can cause issues with the wastewater collection system, inhibition, and in the case of petroleum-based FOG, safety issues. Where a limit is required the EPA Guidance Manual suggests 100 mg/L. However, there is no known water quality or sludge standard on which to base a FOG local limit. The City operates a robust source control program for polar FOG. The City intends to continue to manage FOG through this program in lieu of a numerical local limit.





### 4.7.6 pH

City of Wilsonville’s existing City Code limits pH of discharges to a minimum of 5.5 and a maximum of 10, City of Wilsonville has not experienced corrosion in the collection system or plant inhibition as a result of high or low pH in discharges. The City of Wilsonville intends to maintain the existing pH limitations. The City of Wilsonville will address pH for specific users based on permit applications, baseline monitoring reports, and annual monitoring. City of Wilsonville expects slug discharge control plans, accidental spill prevention plans, and metering of batch discharges to be used in addition to permit limits to control corrosion and inhibition due to pH.

### 4.7.7 Other Parameters

Other parameters of note include temperature and flammability. These parameters are addressed in the current version of City of Wilsonville’s City Code.

## 4.8 Collection System Concerns

The City has not experienced systematic clogging in its collection system. The City currently operates a FOG program as described in Section 4.7.5 that is the primary means of enforcing the specific prohibitions on obstructions. The City intends to continue to operate this program. The program includes best management practices (BMPs), requirements for grease traps, and regular inspections of users with the potential to discharge FOG to the collection system.

The City has not experienced systematic corrosion in its collection system. The specific prohibitions section of the City Code includes pH limits as described in Section 4.7.6. The City will evaluate user’s potential to discharge corrosive wastewater through permit applications and baseline monitoring reports and will implement pH controls through permit conditions as described in Section 4.7.6.

At this time, the City does not believe actions beyond the general and specific prohibitions in the City Code are required to address fire and explosions, temperature, or toxic gasses or fumes. The City will evaluate the potential for new users to introduce these hazards and, if necessary, add conditions to control hazards through pretreatment permits.

## 4.9 Industrial Buildout for Local Limits

The City intends to incorporate future buildout scenarios to prepare for increased industrial discharge to the STP. Attachment E addresses the buildout study used to incorporate future areas of growth within City limits. Conservatively, the City has requested to set local limits at full buildout to prepare for increased industrial growth.

## 4.10 Proposed Local Limits

Previous and calculated limits are summarized in Table 4-15.

Table 4-15. Proposed Local Limits.			
Parameter	Previous Limit	Full Industrial Buildout Calculated Limit	Change to Limit
	Daily Max Concentration (mg/L)		
Arsenic	0.09	1.84	Increase Limit
Cadmium	0.05	1.11	Increase Limit
Chromium, total	2.77	205	Increase Limit



Copper	0.54	10.6	Increase Limit
Cyanide	0.59	6.97	Increase Limit
Lead	0.58	0.810	Increase Limit
Mercury	0.015	0.407	Increase Limit
Nickel	0.61	10.1	Increase Limit
Silver	0.11	2.30	Increase Limit
Zinc	1.30	3.85	Increase Limit
TTO	2.13	Not Applicable	Remove Limit
pH	5.5-10.0	5.5-10.0	No Change

As discussed in Section 4.7.3, organic pollutants were not detected in the priority pollutant screen at levels that would cause concern. Consequently, the TTO limit is recommended for removal. The City may revisit this if future users necessitate regulation of organic pollutants.

### 4.11 Implementation

The City’s existing code includes a reference to numerical local limits, published separately from the code. The City intends to publish revised local limits as a result of this study and does not believe revisions to the code are necessary. The City will issue permits to industrial users as the control mechanism for enforcing local limits.

## References

Pan, Mia, *City of Wilsonville: Local Limits Sampling and Analysis Plan*, April 2021.

Code of Federal Regulations, Title 40, Section 503.13, *Pollutant Limits*.

KPFF Consulting, *Basalt Creek Concept Plan*, 2014.

Murray Smith and Associates, *City of Wilsonville Collection System Master Plan*, 2014.

Otak, Inc., *Coffee Creek Urban Renewal Plan*, 2016.

Oregon Administrative Rules, Chapter 340-041-0033, *Toxics Standards Rule*.

United States EPA, *Local Limits Development Guidance*, EPA Publication EPA 833-R-04-022A, July 2004.

## **Attachment A: Solids Composite Sampling Procedure**





# Standard Operating Procedure

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T: 502.244.7005

**Date:** April 2021

**Project No.:** 156295

**Project Title:** City of Wilsonville – Local Limits Evaluation

**Prepared by:** Josh Johnson, Project Manager

## Subject

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This Standard Operating Procedure (SOP) describes procedures for collecting **biosolids composite samples** from the biosolids stockpile for the City of Wilsonville Local Limits Evaluation. This SOP is based on procedures in *Control of Pathogens and Vector Attraction in Sewage Sludge* (EPA 625-R-92-013), *A Plain English Guide to the EPA Part 503 Biosolids Rule* (EPA 832-R-93-003), *POTW Sludge Sampling and Analysis Guidance Document* (EPA 833-B-89-100), and *NEIWPCC Biosolids Sampling Guide* (NEIWPCC 2006).

## Supplies

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- Personal Protective Equipment (PPE)
- Ziploc® bags
- Plastic bucket with lid
- Stainless steel or plastic trowel. Painted or zinc coated / galvanized trowels shall not be used.
- Cooler with ice for storage of subsamples
- Sample cooler with ice for transportation to the lab
- Sample jars
- Permanent markers and pens
- Sample container labels
- Custody seals
- Chain-of-Custody (COC) form
- Field notebook
- Soap
- Scrub brush
- Clean rinse water
- Foil or plastic wrap

## Procedures

---

1. Preparation:
  - a. Confirm the contract lab is prepared to accept samples.
  - b. At least one day before sampling, assemble sampling equipment and confirm all equipment is clean and in good working order.
  - c. On the day of sampling, obtain ice for sample storage and transportation.

2. Collection of subsamples:

- a. Collect a sample of biosolids at one location on the truck stockpile in one of the Ziploc® bags. Fill the bag approximately ¾ of the way full.
- b. Label the bag with the number of the subsample and the time the subsample was collected.
- c. Seal the bag and place in a cooler with ice.
- d. Repeat for a total of six subsamples. Collect subsamples at even intervals around the stockpile:

Subsample	Date	Time Collected
1		
2		
3		
4		
5		
6		

3. Compositing and sampling:

- a. Empty the Ziploc® bags into the bucket and thoroughly mix all material with a stainless steel or plastic trowel. The goal of mixing is to produce a homogenous sample.
- b. Label containers and record sample IDs, dates and times, person collecting, and required tests on the CoC. Note sample IDs and date and time in field log book. Also note the times each subsample was collected.
- c. After labeling, fill each container with portions of the homogenized material from the bucket. To further homogenize samples, fill each container with material from several different locations within the bucket.
- d. After each container is filled, fill and place on ice for transportation to the laboratory. Complete the CoC and deliver samples to the laboratory.

4. Cleaning:

- a. Discard sub-sample bags.
- b. Rinse equipment to remove the majority of solids.
- c. Using a brush and low-phosphate lab detergent, scrub the equipment to remove all residues.
- d. After scrubbing, rinse equipment with clean water.
- e. Allow equipment to air dry. Cover bucket with foil, plastic wrap, or a lid. Wrap other equipment in foil or plastic wrap.

## **Analytical Methods**

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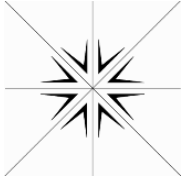
Analytical methods are per the Sampling and Analysis Plan, dated 4/15/2021.

## **Attachment B: Analytical Laboratory Data Packages**

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# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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October 18, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2107216

Dear Mia Pan:

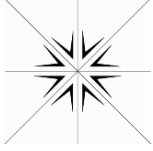
REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director



*Specialty Analytical*  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Case Narrative

WO#: 2107216

Date: 10/18/2021

---

**CLIENT:** City of Wilsonville

**Project:** Wilsonville

---

BOD LCS values failed laboratory acceptance criteria. Results determined indicate the LCS was not spiked with GGA as necessary.

Revision 1.

Report revised to correct 625 units on sample 072621LLBS.

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-001  
**Client Sample ID** 072621LLIG

**Collection Date:** 7/26/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
					E625.1	E625
1,2,4-Trichlorobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
1,2-Dichlorobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
1,2-Diphenylhydrazine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
1,3-Dichlorobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
1,4-Dichlorobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,4,6-Trichlorophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,4-Dichlorophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,4-Dimethylphenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,4-Dinitrophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,4-Dinitrotoluene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2,6-Dinitrotoluene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2-Chloronaphthalene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2-Chlorophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2-Methylphenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
2-Nitrophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
3,3'-Dichlorobenzidine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
3,4-Methylphenol	60.9	0.979		µg/L	1	7/31/2021 12:32:00 PM
4,6-Dinitro-2-methylphenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
4-Bromophenyl phenyl ether	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
4-Chloro-3-methylphenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
4-Chlorophenyl phenyl ether	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
4-Nitrophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Acenaphthene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Acenaphthylene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Aniline	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Anthracene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Azobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benz(a)anthracene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzidine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzo(a)pyrene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzo(b)fluoranthene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzo(g,h,i)perylene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzo(k)fluoranthene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Benzoic Acid	ND	4.90		µg/L	1	7/31/2021 12:32:00 PM
Bis(2-chloroethoxy)methane	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Bis(2-chloroethyl)ether	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Bis(2-chloroisopropyl)ether	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Bis(2-ethylhexyl)phthalate	11.8	0.490		µg/L	1	7/31/2021 12:32:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-001  
**Client Sample ID** 072621LLIG

**Collection Date:** 7/26/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Carbazole	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Chrysene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Dibenz(a,h)anthracene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Diethyl phthalate	6.84	0.490		µg/L	1	7/31/2021 12:32:00 PM
Dimethyl phthalate	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Di-n-butyl phthalate	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Di-n-octyl phthalate	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Fluoranthene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Fluorene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Hexachlorobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Hexachlorobutadiene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Hexachlorocyclopentadiene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Hexachloroethane	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Isophorone	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Naphthalene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Nitrobenzene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
N-Nitrosodimethylamine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
N-Nitrosodi-n-propylamine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
N-Nitrosodiphenylamine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Pentachlorophenol	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Phenanthrene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Phenol	8.39	0.490		µg/L	1	7/31/2021 12:32:00 PM
Pyrene	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Pyridine	ND	0.490		µg/L	1	7/31/2021 12:32:00 PM
Surr: 2,4,6-Tribromophenol	126	33.1 - 129.7		%Rec	1	7/31/2021 12:32:00 PM
Surr: 2-Fluorobiphenyl	92.2	33.1 - 126.2		%Rec	1	7/31/2021 12:32:00 PM
Surr: 2-Fluorophenol	31.8	13.4 - 127.1		%Rec	1	7/31/2021 12:32:00 PM
Surr: 4-Terphenyl-d14	115	41 - 122		%Rec	1	7/31/2021 12:32:00 PM
Surr: Nitrobenzene-d5	73.2	28.9 - 129.9		%Rec	1	7/31/2021 12:32:00 PM
Surr: Phenol-d6	19.4	10.6 - 128.5		%Rec	1	7/31/2021 12:32:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-001  
**Client Sample ID** 072621LLIG

**Collection Date:** 7/26/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>	Analyst: <b>CK</b>	
1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 12:22:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 12:22:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 12:22:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 12:22:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Bromoform	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Chloroethane	0.600	0.500		µg/L	1	7/30/2021 12:22:00 PM
Chloroform	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Ethylbenzene	0.840	0.500		µg/L	1	7/30/2021 12:22:00 PM
m,p-Xylene	ND	1.00		µg/L	1	7/30/2021 12:22:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 12:22:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Toluene	0.680	0.500		µg/L	1	7/30/2021 12:22:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 12:22:00 PM
Surr: 1,2-Dichloroethane-d4	96.1	83.4 - 126		%Rec	1	7/30/2021 12:22:00 PM
Surr: 4-Bromofluorobenzene	94.3	80.9 - 127		%Rec	1	7/30/2021 12:22:00 PM
Surr: Dibromofluoromethane	100	81.1 - 122		%Rec	1	7/30/2021 12:22:00 PM
Surr: Toluene-d8	99.8	80 - 120		%Rec	1	7/30/2021 12:22:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107216  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-001  
**Client Sample ID** 072621LLIG

**Collection Date:** 7/26/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:24:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00590	0.00500		mg/L	1	8/3/2021 2:06:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	7.84	1.00		mg/L	1	7/28/2021 3:05:36 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	625	5.00		mg/L	1	7/30/2021 3:26:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-002  
**Client Sample ID** 072721LLIC

**Collection Date:** 7/27/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	275	10.0		µg/L	1	8/4/2021 4:18:02 PM
Antimony	0.978	0.500		µg/L	1	8/4/2021 4:18:02 PM
Arsenic	1.12	0.100		µg/L	1	8/4/2021 4:18:02 PM
Cadmium	0.148	0.100		µg/L	1	8/4/2021 4:18:02 PM
Chromium	5.76	0.100		µg/L	1	8/4/2021 4:18:02 PM
Copper	37.3	0.500		µg/L	1	8/4/2021 4:18:02 PM
Iron	499	50.0		µg/L	1	8/4/2021 4:18:02 PM
Lead	0.978	0.100		µg/L	1	8/4/2021 4:18:02 PM
Molybdenum	3.74	0.500		µg/L	1	8/4/2021 4:18:02 PM
Nickel	6.55	0.500		µg/L	1	8/4/2021 4:18:02 PM
Potassium	14600	100		µg/L	1	8/4/2021 4:18:02 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:18:02 PM
Silver	0.269	0.100		µg/L	1	8/4/2021 4:18:02 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:18:02 PM
Zinc	173	2.00		µg/L	1	8/4/2021 4:18:02 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	55.1	0.200		mg/L	1	8/4/2021 4:18:02 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	295	2.00		mg/L	1	7/28/2021 7:30:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	303.2	2.0		mg/L	1	7/28/2021 7:30:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	221	10.0		mg/L CaCO3	1	8/3/2021 11:54:06 AM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	7/28/2021 12:27:27 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	5.07	0.200		mg/L	10	8/6/2021 3:34:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	53.9	0.800		mg/L	4	8/11/2021 4:08:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	448	10.0		mg/L	1	7/28/2021 3:03:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-003  
**Client Sample ID** 072621LLEG

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
					E625.1	E625
1,2,4-Trichlorobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
1,2-Dichlorobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
1,2-Diphenylhydrazine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
1,3-Dichlorobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
1,4-Dichlorobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,4,6-Trichlorophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,4-Dichlorophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,4-Dimethylphenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,4-Dinitrophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,4-Dinitrotoluene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2,6-Dinitrotoluene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2-Chloronaphthalene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2-Chlorophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2-Methylphenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
2-Nitrophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
3,3'-Dichlorobenzidine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
3,4-Methylphenol	55.6	0.966		µg/L	1	7/31/2021 1:03:00 PM
4,6-Dinitro-2-methylphenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
4-Bromophenyl phenyl ether	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
4-Chloro-3-methylphenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
4-Chlorophenyl phenyl ether	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
4-Nitrophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Acenaphthene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Acenaphthylene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Aniline	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Anthracene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Azobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benz(a)anthracene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzidine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzo(a)pyrene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzo(b)fluoranthene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzo(g,h,i)perylene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzo(k)fluoranthene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Benzoic Acid	ND	4.83		µg/L	1	7/31/2021 1:03:00 PM
Bis(2-chloroethoxy)methane	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Bis(2-chloroethyl)ether	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Bis(2-chloroisopropyl)ether	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Bis(2-ethylhexyl)phthalate	12.4	0.483		µg/L	1	7/31/2021 1:03:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-003  
**Client Sample ID** 072621LLEG

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Carbazole	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Chrysene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Dibenz(a,h)anthracene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Diethyl phthalate	7.25	0.483		µg/L	1	7/31/2021 1:03:00 PM
Dimethyl phthalate	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Di-n-butyl phthalate	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Di-n-octyl phthalate	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Fluoranthene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Fluorene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Hexachlorobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Hexachlorobutadiene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Hexachlorocyclopentadiene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Hexachloroethane	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Isophorone	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Naphthalene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Nitrobenzene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
N-Nitrosodimethylamine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
N-Nitrosodi-n-propylamine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
N-Nitrosodiphenylamine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Pentachlorophenol	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Phenanthrene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Phenol	8.47	0.483		µg/L	1	7/31/2021 1:03:00 PM
Pyrene	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Pyridine	ND	0.483		µg/L	1	7/31/2021 1:03:00 PM
Surr: 2,4,6-Tribromophenol	115	33.1 - 129.7		%Rec	1	7/31/2021 1:03:00 PM
Surr: 2-Fluorobiphenyl	96.5	33.1 - 126.2		%Rec	1	7/31/2021 1:03:00 PM
Surr: 2-Fluorophenol	31.6	13.4 - 127.1		%Rec	1	7/31/2021 1:03:00 PM
Surr: 4-Terphenyl-d14	119	41 - 122		%Rec	1	7/31/2021 1:03:00 PM
Surr: Nitrobenzene-d5	77.0	28.9 - 129.9		%Rec	1	7/31/2021 1:03:00 PM
Surr: Phenol-d6	18.9	10.6 - 128.5		%Rec	1	7/31/2021 1:03:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-003  
**Client Sample ID** 072621LLEG

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>	Analyst: <b>CK</b>	
1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 12:44:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 12:44:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 12:44:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 12:44:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Bromoform	1.11	0.500		µg/L	1	7/30/2021 12:44:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Chloroform	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Ethylbenzene	0.840	0.500		µg/L	1	7/30/2021 12:44:00 PM
m,p-Xylene	1.95	1.00		µg/L	1	7/30/2021 12:44:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 12:44:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Toluene	1.22	0.500		µg/L	1	7/30/2021 12:44:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 12:44:00 PM
Surr: 1,2-Dichloroethane-d4	105	83.4 - 126		%Rec	1	7/30/2021 12:44:00 PM
Surr: 4-Bromofluorobenzene	101	80.9 - 127		%Rec	1	7/30/2021 12:44:00 PM
Surr: Dibromofluoromethane	104	81.1 - 122		%Rec	1	7/30/2021 12:44:00 PM
Surr: Toluene-d8	99.2	80 - 120		%Rec	1	7/30/2021 12:44:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107216  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-003  
**Client Sample ID** 072621LLEG

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	5.89	5.00		µg/L	1	8/16/2021 1:25:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00739	0.00500		mg/L	1	8/3/2021 12:31:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	4.80	1.00		mg/L	1	7/28/2021 3:25:36 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	245	5.00		mg/L	1	7/30/2021 3:28:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-004  
**Client Sample ID** 072721LLEC

**Collection Date:** 7/27/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	ND	10.0		µg/L	1	8/4/2021 4:04:21 PM
Antimony	ND	0.500		µg/L	1	8/4/2021 4:04:21 PM
Arsenic	0.476	0.100		µg/L	1	8/4/2021 4:04:21 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 4:04:21 PM
Chromium	0.200	0.100		µg/L	1	8/4/2021 4:04:21 PM
Copper	0.976	0.500		µg/L	1	8/4/2021 4:04:21 PM
Iron	95.4	50.0		µg/L	1	8/4/2021 4:04:21 PM
Lead	0.265	0.100		µg/L	1	8/4/2021 4:04:21 PM
Molybdenum	2.06	0.500		µg/L	1	8/4/2021 4:04:21 PM
Nickel	1.33	0.500		µg/L	1	8/4/2021 4:04:21 PM
Potassium	17900	100		µg/L	1	8/4/2021 4:04:21 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:04:21 PM
Silver	ND	0.100		µg/L	1	8/4/2021 4:04:21 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:04:21 PM
Zinc	75.5	2.00		µg/L	1	8/4/2021 4:04:21 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	58.0	0.200		mg/L	1	8/4/2021 4:04:21 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	2.70	2.00		mg/L	1	7/28/2021 7:30:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	9.0	2.0		mg/L	1	7/28/2021 7:30:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	165	10.0		mg/L CaCO3	1	8/3/2021 12:04:06 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	27.4	0.400		mg/L	20	7/28/2021 12:32:27 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	13.8	0.200		mg/L	10	8/6/2021 3:35:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	27.6	0.800		mg/L	4	8/11/2021 4:13:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	7/28/2021 3:04:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-005  
**Client Sample ID** 072621LLBS

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>TOTAL SOLIDS</b>						
				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	99.7	0.00100		%	1	7/28/2021 8:45:42 AM
<b>VOLATILE SOLIDS IN SOLIDS</b>						
				<b>SM2540 G</b>		Analyst: <b>NK</b>
Volatile Solids	85.8	0		wt%	1	8/9/2021 12:50:04 PM
<b>HEXAVALENT CHROMIUM IN SOIL BY IC</b>						
				<b>7199</b>	<b>SW 3060A</b>	Analyst: <b>rsincl</b>
Chromium, Hexavalent	37.7	10.0		µg/Kg-dry	1	8/23/2021 12:05:01 PM
<b>ICP/MS METALS-TOTAL RECOVERABLE</b>						
				<b>SW 6020B</b>	<b>SW3050B</b>	Analyst: <b>JRC</b>
Aluminum	2200000	9620		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Antimony	2430	481		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Arsenic	1080	962		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Cadmium	534	96.2		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Chromium	17100	962		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Copper	231000	4810		µg/Kg-dry	100	8/6/2021 10:51:39 AM
Iron	3650000	96200		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Lead	2710	240		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Molybdenum	10200	481		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Nickel	14100	481		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Potassium	4920000	96200		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Selenium	2120	962		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Silver	2680	96.2		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Thallium	ND	481		µg/Kg-dry	10	8/5/2021 5:38:54 PM
Zinc	248000	962		µg/Kg-dry	10	8/5/2021 5:38:54 PM
<b>TOTAL MERCURY</b>						
				<b>SW 7471B</b>	<b>SW 7471B</b>	Analyst: <b>EG</b>
Mercury	79.1	9.96		µg/Kg-dry	1	7/28/2021 12:56:26 PM
<b>BASE/NEUTRALS/ACIDS</b>						
				<b>E625.1</b>	<b>E625</b>	Analyst: <b>TB</b>
1,2,4-Trichlorobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
1,2-Dichlorobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
1,2-Diphenylhydrazine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
1,3-Dichlorobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
1,4-Dichlorobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,4,6-Trichlorophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,4-Dichlorophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,4-Dimethylphenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,4-Dinitrophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,4-Dinitrotoluene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2,6-Dinitrotoluene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-005  
**Client Sample ID** 072621LLBS

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>TB</b>
2-Chloronaphthalene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2-Chlorophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2-Methylphenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
2-Nitrophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
3,3'-Dichlorobenzidine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
3,4-Methylphenol	5220	3340		µg/Kg-dry	10	8/17/2021 9:37:00 PM
4,6-Dinitro-2-methylphenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
4-Bromophenyl phenyl ether	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
4-Chloro-3-methylphenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
4-Chlorophenyl phenyl ether	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
4-Nitrophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Acenaphthene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Acenaphthylene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Aniline	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Anthracene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Azobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benz(a)anthracene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzidine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzo(a)pyrene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzo(b)fluoranthene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzo(g,h,i)perylene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzo(k)fluoranthene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Benzoic Acid	ND	16700	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Bis(2-chloroethoxy)methane	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Bis(2-chloroethyl)ether	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Bis(2-chloroisopropyl)ether	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Bis(2-ethylhexyl)phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Butyl benzyl phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Carbazole	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Chrysene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Dibenz(a,h)anthracene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Diethyl phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Dimethyl phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Di-n-butyl phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Di-n-octyl phthalate	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Fluoranthene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Fluorene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Hexachlorobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-005  
**Client Sample ID** 072621LLBS

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **TB**

Hexachlorobutadiene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Hexachlorocyclopentadiene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Hexachloroethane	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Indeno(1,2,3-cd)pyrene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Isophorone	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Naphthalene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Nitrobenzene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
N-Nitrosodimethylamine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
N-Nitrosodi-n-propylamine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
N-Nitrosodiphenylamine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Pentachlorophenol	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Phenanthrene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Phenol	6190	1670		µg/Kg-dry	10	8/17/2021 9:37:00 PM
Pyrene	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Pyridine	ND	1670	Q	µg/Kg-dry	10	8/17/2021 9:37:00 PM
Surr: 2,4,6-Tribromophenol	6.00	33.1 - 129.7	SMI	%Rec	10	8/17/2021 9:37:00 PM
Surr: 2-Fluorobiphenyl	-296	33.1 - 126.2	SMI	%Rec	10	8/17/2021 9:37:00 PM
Surr: 2-Fluorophenol	49.0	13.4 - 127.1		%Rec	10	8/17/2021 9:37:00 PM
Surr: 4-Terphenyl-d14	-12.0	41 - 122	SMI	%Rec	10	8/17/2021 9:37:00 PM
Surr: Nitrobenzene-d5	78.0	28.9 - 129.9		%Rec	10	8/17/2021 9:37:00 PM
Surr: Phenol-d6	61.0	10.6 - 128.5		%Rec	10	8/17/2021 9:37:00 PM

**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**E624.1**

**E625**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1,1-Trichloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1,2,2-Tetrachloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1,2-Trichloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1-Dichloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1-Dichloroethene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,1-Dichloropropene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2,3-Trichlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2,3-Trichloropropane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2,4-Trichlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2,4-Trimethylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2-Dibromo-3-chloropropane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2-Dibromoethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2-Dichlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2-Dichloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,2-Dichloropropane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-005  
**Client Sample ID** 072621LLBS

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**E624.1**

**E625**

Analyst: **CK**

1,3,5-Trimethylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,3-Dichlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,3-Dichloropropane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
1,4-Dichlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
2,2-Dichloropropane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
2-Butanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
2-Chlorotoluene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
2-Hexanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
4-Chlorotoluene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
4-Isopropyltoluene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
4-Methyl-2-pentanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Acetone	ND	2510	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Benzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Bromobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Bromochloromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Bromodichloromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Bromoform	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Bromomethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Carbon Disulfide	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Carbon tetrachloride	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Chlorobenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Chloroethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Chloroform	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Chloromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
cis-1,2-Dichloroethene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
cis-1,3-Dichloropropene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Dibromochloromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Dibromomethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Dichlorodifluoromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Ethylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Hexachlorobutadiene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Isopropylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
m,p-Xylene	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Methyl tert-butyl ether	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Methylene Chloride	ND	2510	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Naphthalene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
n-Butylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
n-Propylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-005  
**Client Sample ID** 072621LLBS

**Collection Date:** 7/26/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>						
				<b>E624.1</b>	<b>E625</b>	Analyst: <b>CK</b>
o-Xylene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
sec-Butylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Styrene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
tert-Butylbenzene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Tetrachloroethene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Toluene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
trans-1,2-Dichloroethene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
trans-1,3-Dichloropropene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Trichloroethene	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Trichlorofluoromethane	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Vinyl Chloride	ND	502	Q	µg/Kg-dry	50	7/30/2021 6:26:00 PM
Surr: 1,2-Dichloroethane-d4	101	71.5 - 124		%Rec	50	7/30/2021 6:26:00 PM
Surr: 4-Bromofluorobenzene	101	75.7 - 122		%Rec	50	7/30/2021 6:26:00 PM
Surr: Dibromofluoromethane	104	64.3 - 124		%Rec	50	7/30/2021 6:26:00 PM
Surr: Toluene-d8	96.1	74.9 - 120		%Rec	50	7/30/2021 6:26:00 PM
<b>ALKALINITY IN SOIL</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total	ND	100		mg/Kg-dry	1	8/9/2021 12:47:01 PM
<b>CYANIDE</b>						
				<b>D8273</b>	<b>SW9010A</b>	Analyst: <b>NK</b>
Cyanide, Total	1.47	0.150		mg/Kg-dry	1	8/3/2021 12:26:31 PM
<b>AMMONIA AS N</b>						
				<b>E350.1</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	27.2	1.00		mg/Kg-dry	5	7/28/2021 11:52:23 AM
<b>CORROSIVITY BY PH</b>						
				<b>SW9045D</b>		Analyst: <b>NK</b>
pH	4.83	1.00		pH Units	1	7/27/2021 2:57:15 PM
<b>TOTAL PHOSPHATE AS P</b>						
				<b>SM 4500-P E</b>	<b>T22 STLC</b>	Analyst: <b>JRH</b>
Phosphorus, Total	1470	100		mg/Kg-dry	500	8/19/2021 8:31:04 PM
<b>SULFIDE</b>						
				<b>SW9030</b>		Analyst: <b>NK</b>
Sulfide	803	20.1		mg/Kg-dry	1	7/29/2021 2:55:28 PM
<b>TOTAL KJELDAHL NITROGEN</b>						
				<b>E351.2</b>		Analyst: <b>NK</b>
Nitrogen, Kjeldahl, Total	587	22.1		mg/Kg-dry	10	8/19/2021 4:41:26 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-006  
**Client Sample ID** 072621 Villaboiss G

**Collection Date:** 7/26/2021 3:15:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS						
1,2,4-Trichlorobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
1,2-Dichlorobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
1,2-Diphenylhydrazine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
1,3-Dichlorobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
1,4-Dichlorobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,4,6-Trichlorophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,4-Dichlorophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,4-Dimethylphenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,4-Dinitrophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,4-Dinitrotoluene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2,6-Dinitrotoluene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2-Chloronaphthalene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2-Chlorophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2-Methylphenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
2-Nitrophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
3,3'-Dichlorobenzidine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
3,4-Methylphenol	77.4	0.963		µg/L	1	7/31/2021 9:28:00 AM
4,6-Dinitro-2-methylphenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
4-Bromophenyl phenyl ether	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
4-Chloro-3-methylphenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
4-Chlorophenyl phenyl ether	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
4-Nitrophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Acenaphthene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Acenaphthylene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Aniline	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Anthracene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Azobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benz(a)anthracene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzidine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzo(a)pyrene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzo(b)fluoranthene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzo(g,h,i)perylene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzo(k)fluoranthene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Benzoic Acid	ND	4.82		µg/L	1	7/31/2021 9:28:00 AM
Bis(2-chloroethoxy)methane	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Bis(2-chloroethyl)ether	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Bis(2-chloroisopropyl)ether	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Bis(2-ethylhexyl)phthalate	7.15	0.482		µg/L	1	7/31/2021 9:28:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-006  
**Client Sample ID** 072621 Villaboiss G

**Collection Date:** 7/26/2021 3:15:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Carbazole	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Chrysene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Dibenz(a,h)anthracene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Diethyl phthalate	2.06	0.482		µg/L	1	7/31/2021 9:28:00 AM
Dimethyl phthalate	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Di-n-butyl phthalate	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Di-n-octyl phthalate	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Fluoranthene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Fluorene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Hexachlorobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Hexachlorobutadiene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Hexachlorocyclopentadiene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Hexachloroethane	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Isophorone	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Naphthalene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Nitrobenzene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
N-Nitrosodimethylamine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
N-Nitrosodi-n-propylamine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
N-Nitrosodiphenylamine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Pentachlorophenol	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Phenanthrene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Phenol	6.93	0.482		µg/L	1	7/31/2021 9:28:00 AM
Pyrene	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Pyridine	ND	0.482		µg/L	1	7/31/2021 9:28:00 AM
Surr: 2,4,6-Tribromophenol	112	33.1 - 129.7		%Rec	1	7/31/2021 9:28:00 AM
Surr: 2-Fluorobiphenyl	97.7	33.1 - 126.2		%Rec	1	7/31/2021 9:28:00 AM
Surr: 2-Fluorophenol	55.3	13.4 - 127.1		%Rec	1	7/31/2021 9:28:00 AM
Surr: 4-Terphenyl-d14	115	41 - 122		%Rec	1	7/31/2021 9:28:00 AM
Surr: Nitrobenzene-d5	83.0	28.9 - 129.9		%Rec	1	7/31/2021 9:28:00 AM
Surr: Phenol-d6	32.8	10.6 - 128.5		%Rec	1	7/31/2021 9:28:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-006  
**Client Sample ID** 072621 Villaboiss G

**Collection Date:** 7/26/2021 3:15:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 1:07:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 1:07:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 1:07:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 1:07:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Bromoform	1.12	0.500		µg/L	1	7/30/2021 1:07:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Chloroform	1.16	0.500		µg/L	1	7/30/2021 1:07:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Ethylbenzene	0.830	0.500		µg/L	1	7/30/2021 1:07:00 PM
m,p-Xylene	1.94	1.00		µg/L	1	7/30/2021 1:07:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 1:07:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Toluene	0.730	0.500		µg/L	1	7/30/2021 1:07:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 1:07:00 PM
Surr: 1,2-Dichloroethane-d4	106	83.4 - 126		%Rec	1	7/30/2021 1:07:00 PM
Surr: 4-Bromofluorobenzene	101	80.9 - 127		%Rec	1	7/30/2021 1:07:00 PM
Surr: Dibromofluoromethane	108	81.1 - 122		%Rec	1	7/30/2021 1:07:00 PM
Surr: Toluene-d8	98.2	80 - 120		%Rec	1	7/30/2021 1:07:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107216  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-006  
**Client Sample ID** 072621 Villabois G

**Collection Date:** 7/26/2021 3:15:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:26:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/3/2021 12:36:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	4.80	1.00		mg/L	1	7/28/2021 3:35:36 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	428	5.00		mg/L	1	7/30/2021 3:29:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107216

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107216-007  
**Client Sample ID** 072721 Villabois C

**Collection Date:** 7/27/2021 10:45:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	112	10.0		µg/L	1	8/4/2021 4:21:27 PM
Antimony	ND	0.500		µg/L	1	8/4/2021 4:21:27 PM
Arsenic	0.949	0.100		µg/L	1	8/4/2021 4:21:27 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 4:21:27 PM
Chromium	0.622	0.100		µg/L	1	8/4/2021 4:21:27 PM
Copper	16.6	0.500		µg/L	1	8/4/2021 4:21:27 PM
Iron	91.7	50.0		µg/L	1	8/4/2021 4:21:27 PM
Lead	0.336	0.100		µg/L	1	8/4/2021 4:21:27 PM
Molybdenum	0.690	0.500		µg/L	1	8/4/2021 4:21:27 PM
Nickel	1.41	0.500		µg/L	1	8/4/2021 4:21:27 PM
Potassium	12100	100		µg/L	1	8/4/2021 4:21:27 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:21:27 PM
Silver	0.188	0.100		µg/L	1	8/4/2021 4:21:27 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:21:27 PM
Zinc	92.3	2.00		µg/L	1	8/4/2021 4:21:27 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	66.7	0.200		mg/L	1	8/4/2021 4:21:27 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	140	2.00		mg/L	1	7/28/2021 7:30:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	141.5	2.0		mg/L	1	7/28/2021 7:30:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	225	10.0		mg/L CaCO3	1	8/3/2021 12:14:06 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	7/28/2021 12:37:27 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.24	0.200		mg/L	10	8/6/2021 3:38:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG E</b>		Analyst: <b>NK</b>
TKN as N	48.8	0.800		mg/L	4	8/11/2021 4:28:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	58.0	10.0		mg/L	1	7/28/2021 3:05:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>			Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531067</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	522	10.0	500.0	0	104	90	110					
Antimony	50.9	0.500	50.00	0	102	90	110					
Arsenic	50.4	0.100	50.00	0	101	90	110					
Cadmium	51.8	0.100	50.00	0	104	90	110					
Chromium	52.1	0.100	50.00	0	104	90	110					
Copper	52.4	0.500	50.00	0	105	90	110					
Iron	5500	50.0	5000	0	110	90	110					
Lead	51.1	0.100	50.00	0	102	90	110					
Molybdenum	50.7	0.500	50.00	0	101	90	110					
Nickel	51.7	0.500	50.00	0	103	90	110					
Potassium	5210	100	5000	0	104	90	110					
Selenium	50.5	1.00	50.00	0	101	90	110					
Silver	54.8	0.100	50.00	0	110	90	110					
Thallium	52.6	0.100	50.00	0	105	90	110					
Zinc	50.8	2.00	50.00	0	102	90	110					

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>			Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	495	10.0	500.0	0	99.0	90	110					

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.9	0.500	50.00	0	97.7	90	110				
Arsenic	49.1	0.100	50.00	0	98.1	90	110				
Cadmium	50.5	0.100	50.00	0	101	90	110				
Chromium	50.3	0.100	50.00	0	101	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Iron	5270	50.0	5000	0	105	90	110				
Lead	49.7	0.100	50.00	0	99.4	90	110				
Molybdenum	48.7	0.500	50.00	0	97.4	90	110				
Nickel	50.1	0.500	50.00	0	100	90	110				
Potassium	4950	100	5000	0	99.0	90	110				
Selenium	49.0	1.00	50.00	0	97.9	90	110				
Silver	52.2	0.100	50.00	0	104	90	110				
Thallium	50.4	0.100	50.00	0	101	90	110				
Zinc	50.1	2.00	50.00	0	100	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531074</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	499	10.0	500.0	0	99.9	90	110				
Antimony	48.6	0.500	50.00	0	97.1	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531074</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.0	0.100	50.00	0	98.0	90	110				
Cadmium	50.2	0.100	50.00	0	100	90	110				
Chromium	50.4	0.100	50.00	0	101	90	110				
Copper	50.5	0.500	50.00	0	101	90	110				
Iron	5390	50.0	5000	0	108	90	110				
Lead	49.9	0.100	50.00	0	99.8	90	110				
Molybdenum	49.4	0.500	50.00	0	98.9	90	110				
Nickel	50.2	0.500	50.00	0	100	90	110				
Potassium	5010	100	5000	0	100	90	110				
Selenium	49.0	1.00	50.00	0	98.1	90	110				
Silver	51.6	0.100	50.00	0	103	90	110				
Thallium	50.8	0.100	50.00	0	102	90	110				
Zinc	50.4	2.00	50.00	0	101	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									
Cadmium	ND	0.100									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18300</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	426	10.0	500.0	0	85.1	85	115				
Antimony	49.0	0.500	50.00	0	97.9	85	115				
Arsenic	47.0	0.100	50.00	0	94.1	85	115				
Cadmium	49.8	0.100	50.00	0	99.6	85	115				
Chromium	45.3	0.100	50.00	0	90.7	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>LCS-18300</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	49.3	0.500	50.00	0	98.7	85	115				
Iron	4850	50.0	5000	0	97.1	85	115				
Lead	49.2	0.100	50.00	0	98.4	85	115				
Molybdenum	46.5	0.500	50.00	0	93.0	85	115				
Nickel	48.2	0.500	50.00	0	96.3	85	115				
Potassium	4350	100	5000	0	87.0	85	115				
Selenium	47.1	1.00	50.00	0	94.3	85	115				
Silver	49.6	0.100	50.00	0	99.1	85	115				
Thallium	50.0	0.100	50.00	0	100	85	115				
Zinc	50.3	2.00	50.00	0	101	85	115				

Sample ID: <b>2107216-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531078</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0						0	0	20	
Antimony	ND	0.500						0	0	20	
Arsenic	0.458	0.100						0.4756	3.74	20	
Cadmium	ND	0.100						0	0	20	RRF
Chromium	0.190	0.100						0.2002	5.22	20	
Copper	0.953	0.500						0.9759	2.35	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2107216-004ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: 072721LLEC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531078						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.3	50.0						95.44	2.31	20	
Lead	0.242	0.100						0.2647	8.88	20	
Molybdenum	1.91	0.500						2.057	7.26	20	
Nickel	1.33	0.500						1.334	0.0669	20	
Potassium	18100	100						17950	1.07	20	
Selenium	ND	1.00						0	0	20	RRF
Silver	ND	0.100						0	0	20	RRF
Thallium	ND	0.100						0	0	20	RRF
Zinc	76.7	2.00						75.50	1.64	20	

Sample ID: 2107216-004AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: 072721LLEC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531079						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	466	10.0	500.0	9.736	91.3	70	130				
Antimony	48.9	0.500	50.00	0.3337	97.2	70	130				
Arsenic	49.6	0.100	50.00	0.4756	98.2	70	130				
Cadmium	48.3	0.100	50.00	0	96.7	70	130				
Chromium	48.8	0.100	50.00	0.2002	97.2	70	130				
Copper	48.6	0.500	50.00	0.9759	95.3	70	130				
Iron	5190	50.0	5000	95.44	102	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2107216-004AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: 072721LLEC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531079						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.5	0.100	50.00	0.2647	100	70	130				
Molybdenum	50.8	0.500	50.00	2.057	97.5	70	130				
Nickel	49.4	0.500	50.00	1.334	96.0	70	130				
Potassium	23400	100	5000	17950	109	70	130				
Selenium	48.3	1.00	50.00	0.2753	96.0	70	130				
Silver	45.1	0.100	50.00	0.02800	90.1	70	130				
Thallium	51.6	0.100	50.00	0.06066	103	70	130				
Zinc	125	2.00	50.00	75.50	98.1	70	130				

Sample ID: 2107216-004AMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: 072721LLEC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531080						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	467	10.0	500.0	9.736	91.4	70	130	466.0	0.146	20	
Antimony	49.1	0.500	50.00	0.3337	97.5	70	130	48.94	0.249	20	
Arsenic	49.4	0.100	50.00	0.4756	97.8	70	130	49.58	0.407	20	
Cadmium	48.4	0.100	50.00	0	96.8	70	130	48.34	0.158	20	
Chromium	48.4	0.100	50.00	0.2002	96.5	70	130	48.81	0.767	20	
Copper	48.8	0.500	50.00	0.9759	95.7	70	130	48.62	0.381	20	
Iron	5180	50.0	5000	95.44	102	70	130	5192	0.277	20	
Lead	50.1	0.100	50.00	0.2647	99.7	70	130	50.46	0.734	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531080</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	50.7	0.500	50.00	2.057	97.4	70	130	50.82	0.166	20	
Nickel	49.1	0.500	50.00	1.334	95.4	70	130	49.35	0.600	20	
Potassium	22900	100	5000	17950	99.9	70	130	23390	1.90	20	
Selenium	48.4	1.00	50.00	0.2753	96.3	70	130	48.30	0.292	20	
Silver	45.0	0.100	50.00	0.02800	90.0	70	130	45.06	0.0444	20	
Thallium	51.2	0.100	50.00	0.06066	102	70	130	51.60	0.815	20	
Zinc	125	2.00	50.00	75.50	98.2	70	130	124.5	0.0619	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	10.0	500.0	0	101	90	110				
Antimony	48.0	0.500	50.00	0	96.1	90	110				
Arsenic	49.0	0.100	50.00	0	98.0	90	110				
Cadmium	50.2	0.100	50.00	0	100	90	110				
Chromium	49.8	0.100	50.00	0	99.5	90	110				
Copper	51.0	0.500	50.00	0	102	90	110				
Iron	5340	50.0	5000	0	107	90	110				
Lead	49.3	0.100	50.00	0	98.7	90	110				
Molybdenum	48.7	0.500	50.00	0	97.5	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216  
10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	50.8	0.500	50.00	0	102	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	49.1	1.00	50.00	0	98.1	90	110				
Silver	51.8	0.100	50.00	0	104	90	110				
Thallium	49.9	0.100	50.00	0	99.8	90	110				
Zinc	49.8	2.00	50.00	0	99.5	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>			Prep Date:	RunNo: <b>41345</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531428</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	51400	1000	50000	0	103	90	110					
Antimony	5050	50.0	5000	0	101	90	110					
Arsenic	5020	100	5000	0	100	90	110					
Cadmium	5080	10.0	5000	0	102	90	110					
Chromium	5060	100	5000	0	101	90	110					
Copper	5150	50.0	5000	0	103	90	110				B	
Iron	546000	10000	500000	0	109	90	110					
Lead	5130	25.0	5000	0	103	90	110					
Molybdenum	5300	50.0	5000	0	106	90	110					
Nickel	5120	50.0	5000	0	102	90	110				B	
Potassium	513000	10000	500000	0	103	90	110					
Selenium	4990	100	5000	0	99.7	90	110					
Silver	5370	10.0	5000	0	107	90	110					
Thallium	5240	50.0	5000	0	105	90	110					
Zinc	5080	100	5000	0	102	90	110				B	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>			Prep Date:	RunNo: <b>41345</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531432</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	46900	1000	50000	0	93.8	90	110					

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>		Prep Date:	RunNo: <b>41345</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531432</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	4700	50.0	5000	0	94.0	90	110				
Arsenic	4740	100	5000	0	94.7	90	110				
Cadmium	4850	10.0	5000	0	97.1	90	110				
Chromium	4810	100	5000	0	96.2	90	110				
Copper	4900	50.0	5000	0	97.9	90	110				B
Iron	511000	10000	500000	0	102	90	110				
Lead	4880	25.0	5000	0	97.5	90	110				
Molybdenum	5000	50.0	5000	0	99.9	90	110				
Nickel	4850	50.0	5000	0	97.1	90	110				B
Potassium	461000	10000	500000	0	92.1	90	110				
Selenium	4720	100	5000	0	94.5	90	110				
Silver	5160	10.0	5000	0	103	90	110				
Thallium	4950	50.0	5000	0	99.0	90	110				
Zinc	4880	100	5000	0	97.5	90	110				B

Sample ID: <b>MB-18315</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>		Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>					
Client ID: <b>PBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531433</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	1000									
Antimony	ND	50.0									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>MB-18315</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531433</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Cadmium	ND	10.0									
Chromium	ND	100									
Copper	89.7	50.0									
Iron	ND	10000									
Lead	ND	25.0									
Molybdenum	ND	50.0									
Nickel	50.9	50.0									
Potassium	ND	10000									
Selenium	ND	100									
Silver	ND	10.0									
Thallium	ND	50.0									
Zinc	192	100									

Sample ID: <b>LCS-18315</b>	SampType: <b>LCS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531434</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	48700	10000	50000	0	97.3	80	120				
Antimony	4440	500	5000	0	88.7	74.1	113				
Arsenic	4570	1000	5000	0	91.4	73.4	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>LCS-18315</b>		SampType: <b>LCS</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg</b>		Prep Date: <b>8/5/2021</b>		RunNo: <b>41345</b>	
Client ID: <b>LCSS</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B SW3050B</b>				Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531434</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4860	100	5000	0	97.2	80	120				
Chromium	4860	1000	5000	0	97.2	80	120				
Copper	5500	500	5000	0	110	80	120				
Iron	518000	100000	500000	0	104	80.3	122				
Lead	4860	250	5000	0	97.1	80	120				
Molybdenum	4760	500	5000	0	95.2	79.8	145				
Nickel	5020	500	5000	0	100	80	120				
Potassium	537000	100000	500000	0	107	80	120				
Selenium	4580	1000	5000	0	91.7	79.5	119				
Silver	5050	100	5000	0	101	70	130				
Thallium	4850	500	5000	0	97.1	66	135				
Zinc	5160	1000	5000	0	103	69	129				

Sample ID: <b>2107216-005ADUP</b>		SampType: <b>DUP</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg-dry</b>		Prep Date: <b>8/5/2021</b>		RunNo: <b>41345</b>	
Client ID: <b>072621LLBS</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B SW3050B</b>				Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531438</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2260000	9520						2203000	2.52	20	
Antimony	2420	476						2432	0.348	20	
Arsenic	1200	952						1081	10.8	20	
Cadmium	523	95.2						533.5	2.03	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: 2107216-005ADUP	SampType: DUP	TestCode: 6020_S	Units: µg/Kg-dry	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: 072621LLBS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20300	952						17130	16.9	20	
Iron	3780000	95200						3654000	3.35	20	
Lead	2960	238						2713	8.85	20	
Molybdenum	10400	476						10230	2.11	20	
Nickel	16100	476						14140	13.1	20	
Potassium	5160000	95200						4924000	4.60	20	
Selenium	2270	952						2125	6.61	20	
Silver	2920	95.2						2680	8.53	20	
Thallium	ND	476						0	0	20	
Zinc	252000	952						248400	1.48	20	

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 6020_S	Units: µg/Kg-dry	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: 072621LLBS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531439						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2340000	9930	49630	2203000	276	70	130				SMC
Antimony	5930	496	4963	2432	70.6	70	130				
Arsenic	5710	993	4963	1081	93.2	70	130				
Cadmium	5290	99.3	4963	533.5	95.7	70	130				
Chromium	25800	993	4963	17130	175	70	130				SMC
Iron	4340000	99300	496300	3654000	138	70	130				SMC

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531439</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5920	248	4963	2713	64.6	70	130				SMI
Molybdenum	15200	496	4963	10230	100	70	130				
Nickel	20100	496	4963	14140	120	70	130				
Potassium	5610000	99300	496300	4924000	139	70	130				SMC
Selenium	6480	993	4963	2125	87.8	70	130				
Silver	7730	99.3	4963	2680	102	70	130				
Thallium	3380	496	4963	0	68.0	70	130				SMI
Zinc	270000	993	4963	248400	437	70	130				SMC

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531440</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2350000	10000	50150	2203000	303	70	130	2339000	0.650	20	SMC
Antimony	6000	501	5015	2432	71.1	70	130	5935	1.05	20	
Arsenic	5800	1000	5015	1081	94.0	70	130	5706	1.57	20	
Cadmium	5330	100	5015	533.5	95.6	70	130	5286	0.768	20	
Chromium	24300	1000	5015	17130	142	70	130	25820	6.16	20	SMC
Iron	4310000	100000	501500	3654000	131	70	130	4337000	0.598	20	SMC
Lead	6070	251	5015	2713	66.9	70	130	5918	2.54	20	SMI
Molybdenum	15100	501	5015	10230	97.5	70	130	15190	0.510	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531440</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	22200	501	5015	14140	160	70	130	20080	9.81	20	SMC
Potassium	5680000	100000	501500	4924000	151	70	130	5615000	1.19	20	SMC
Selenium	6460	1000	5015	2125	86.5	70	130	6482	0.266	20	
Silver	7480	100	5015	2680	95.7	70	130	7731	3.31	20	
Thallium	3450	501	5015	0	68.9	70	130	3376	2.28	20	SMI
Zinc	259000	1000	5015	248400	213	70	130	270100	4.16	20	SMC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	4970	50.0	5000	0	99.3	90	110				B
Selenium	4930	100	5000	0	98.5	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	4990	50.0	5000	0	99.7	90	110				B
Selenium	4840	100	5000	0	96.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531534</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	232000	4760						230600	0.513	20	

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531535</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	234000	4960	4963	230600	68.7	70	130				S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531536</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	240000	5010	5015	230600	184	70	130	234100	2.46	20	S

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531539</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	4980	50.0	5000	0	99.6	90	110				B
Selenium	4860	100	5000	0	97.1	90	110				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	50.0									
Selenium	ND	100									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	10.0	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	10.0	40.00	0	115	80	120				
1,1,2,2-Tetrachloroethane	39.0	10.0	40.00	0	97.6	80	120				
1,1,2-Trichloroethane	39.3	10.0	40.00	0	98.2	80	120				
1,1-Dichloroethane	45.4	10.0	40.00	0	113	80	120				
1,1-Dichloroethene	45.6	10.0	40.00	0	114	80	120				
1,1-Dichloropropene	46.2	10.0	40.00	0	115	80	120				
1,2,3-Trichlorobenzene	41.2	10.0	40.00	0	103	80	120				
1,2,3-Trichloropropane	40.3	10.0	40.00	0	101	80	120				
1,2,4-Trichlorobenzene	39.9	10.0	40.00	0	99.8	80	120				
1,2,4-Trimethylbenzene	41.4	10.0	40.00	0	104	80	120				
1,2-Dibromo-3-chloropropane	40.0	10.0	40.00	0	100	80	120				
1,2-Dibromoethane	39.6	10.0	40.00	0	99.1	80	120				
1,2-Dichlorobenzene	40.5	10.0	40.00	0	101	80	120				
1,2-Dichloroethane	44.1	10.0	40.00	0	110	80	120				
1,2-Dichloropropane	46.0	10.0	40.00	0	115	80	120				
1,3,5-Trimethylbenzene	41.2	10.0	40.00	0	103	80	120				
1,3-Dichlorobenzene	40.6	10.0	40.00	0	102	80	120				
1,3-Dichloropropane	39.7	10.0	40.00	0	99.3	80	120				
1,4-Dichlorobenzene	40.4	10.0	40.00	0	101	80	120				
2,2-Dichloropropane	49.4	10.0	40.00	0	124	80	120				SSC
2-Butanone	90.3	20.0	80.00	0	113	80	120				
2-Chlorotoluene	42.6	10.0	40.00	0	106	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Hexanone	80.4	20.0	80.00	0	100	80	120				
4-Chlorotoluene	39.6	10.0	40.00	0	98.9	80	120				
4-Isopropyltoluene	42.3	10.0	40.00	0	106	80	120				
4-Methyl-2-pentanone	80.5	20.0	80.00	0	101	80	120				
Acetone	87.0	50.0	80.00	0	109	80	120				
Benzene	41.5	10.0	40.00	0	104	80	120				
Bromobenzene	40.1	10.0	40.00	0	100	80	120				
Bromochloromethane	45.5	10.0	40.00	0	114	80	120				
Bromodichloromethane	46.2	10.0	40.00	0	115	80	120				
Bromoform	38.3	10.0	40.00	0	95.7	80	120				
Bromomethane	49.3	10.0	40.00	0	123	80	120				SSC
Carbon Disulfide	47.4	10.0	40.00	0	119	80	120				
Carbon tetrachloride	46.8	10.0	40.00	0	117	80	120				
Chlorobenzene	40.3	10.0	40.00	0	101	80	120				
Chloroethane	47.3	10.0	40.00	0	118	80	120				
Chloroform	45.4	10.0	40.00	0	114	80	120				
Chloromethane	41.4	10.0	40.00	0	104	80	120				
cis-1,2-Dichloroethene	46.2	10.0	40.00	0	116	80	120				
cis-1,3-Dichloropropene	47.6	10.0	40.00	0	119	80	120				
Dibromochloromethane	40.3	10.0	40.00	0	101	80	120				
Dibromomethane	46.0	10.0	40.00	0	115	80	120				
Dichlorodifluoromethane	43.8	10.0	40.00	0	110	80	120				
Ethylbenzene	40.4	10.0	40.00	0	101	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	42.3	10.0	40.00	0	106	80	120				
Isopropylbenzene	40.8	10.0	40.00	0	102	80	120				
m,p-Xylene	77.4	20.0	80.00	0	96.7	80	120				
Methyl tert-butyl ether	45.0	10.0	40.00	0	112	80	120				
Methylene Chloride	ND	50.0	40.00	0	94.6	80	120				
Naphthalene	39.8	10.0	40.00	0	99.5	80	120				
n-Butylbenzene	42.5	10.0	40.00	0	106	80	120				
n-Propylbenzene	38.2	10.0	40.00	0	95.5	80	120				
o-Xylene	41.7	10.0	40.00	0	104	80	120				
sec-Butylbenzene	42.5	10.0	40.00	0	106	80	120				
Styrene	41.4	10.0	40.00	0	103	80	120				
tert-Butylbenzene	41.8	10.0	40.00	0	105	80	120				
Tetrachloroethene	40.2	10.0	40.00	0	100	80	120				
Toluene	42.3	10.0	40.00	0	106	80	120				
trans-1,2-Dichloroethene	46.1	10.0	40.00	0	115	80	120				
trans-1,3-Dichloropropene	41.6	10.0	40.00	0	104	80	120				
Trichloroethene	46.8	10.0	40.00	0	117	80	120				
Trichlorofluoromethane	46.2	10.0	40.00	0	116	80	120				
Vinyl Chloride	46.2	10.0	40.00	0	115	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon Disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene Chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl Chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	71.5	124				
Surr: 4-Bromofluorobenzene	101		100.0		101	75.7	122				
Surr: Dibromofluoromethane	101		100.0		101	64.3	124				
Surr: Toluene-d8	98.4		100.0		98.4	74.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	39.7	10.0	40.00	0	99.3	70	130				
1,1,1-Trichloroethane	46.0	10.0	40.00	0	115	70	130				
1,1,2,2-Tetrachloroethane	39.0	10.0	40.00	0	97.6	70	130				
1,1,2-Trichloroethane	39.3	10.0	40.00	0	98.2	70	130				
1,1-Dichloroethane	45.4	10.0	40.00	0	113	70	130				
1,1-Dichloroethene	45.6	10.0	40.00	0	114	72.4	131				
1,1-Dichloropropene	46.2	10.0	40.00	0	115	70	130				
1,2,3-Trichlorobenzene	41.2	10.0	40.00	0	103	70	130				
1,2,3-Trichloropropane	40.3	10.0	40.00	0	101	70	130				
1,2,4-Trichlorobenzene	39.9	10.0	40.00	0	99.8	70	130				
1,2,4-Trimethylbenzene	41.4	10.0	40.00	0	104	70	130				
1,2-Dibromo-3-chloropropane	40.0	10.0	40.00	0	100	70	130				
1,2-Dibromoethane	39.6	10.0	40.00	0	99.1	70	130				
1,2-Dichlorobenzene	40.5	10.0	40.00	0	101	70	130				
1,2-Dichloroethane	44.1	10.0	40.00	0	110	70	130				
1,2-Dichloropropane	46.0	10.0	40.00	0	115	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	41.2	10.0	40.00	0	103	70	130				
1,3-Dichlorobenzene	40.6	10.0	40.00	0	102	70	130				
1,3-Dichloropropane	39.7	10.0	40.00	0	99.3	70	130				
1,4-Dichlorobenzene	40.4	10.0	40.00	0	101	70	130				
2,2-Dichloropropane	49.4	10.0	40.00	0	124	70	130				
2-Butanone	90.3	20.0	80.00	0	113	70	130				
2-Chlorotoluene	42.6	10.0	40.00	0	106	70	130				
2-Hexanone	80.4	20.0	80.00	0	100	70	130				
4-Chlorotoluene	39.6	10.0	40.00	0	98.9	70	130				
4-Isopropyltoluene	42.3	10.0	40.00	0	106	70	130				
4-Methyl-2-pentanone	80.5	20.0	80.00	0	101	70	130				
Acetone	87.0	50.0	80.00	0	109	70	130				
Benzene	41.5	10.0	40.00	0	104	74.3	136				
Bromobenzene	40.1	10.0	40.00	0	100	70	130				
Bromochloromethane	45.5	10.0	40.00	0	114	70	130				
Bromodichloromethane	46.2	10.0	40.00	0	115	70	130				
Bromoform	38.3	10.0	40.00	0	95.7	70	130				
Bromomethane	49.3	10.0	40.00	0	123	70	130				
Carbon Disulfide	47.4	10.0	40.00	0	119	70	130				
Carbon tetrachloride	46.8	10.0	40.00	0	117	70	130				
Chlorobenzene	40.3	10.0	40.00	0	101	75.9	121				
Chloroethane	47.3	10.0	40.00	0	118	70	130				
Chloroform	45.4	10.0	40.00	0	114	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	41.4	10.0	40.00	0	104	70	130				
cis-1,2-Dichloroethene	46.2	10.0	40.00	0	116	70	130				
cis-1,3-Dichloropropene	47.6	10.0	40.00	0	119	70	130				
Dibromochloromethane	40.3	10.0	40.00	0	101	70	130				
Dibromomethane	46.0	10.0	40.00	0	115	70	130				
Dichlorodifluoromethane	43.8	10.0	40.00	0	110	70	130				
Ethylbenzene	40.4	10.0	40.00	0	101	70	130				
Hexachlorobutadiene	42.3	10.0	40.00	0	106	70	130				
Isopropylbenzene	40.8	10.0	40.00	0	102	70	130				
m,p-Xylene	77.4	20.0	80.00	0	96.7	70	130				
Methyl tert-butyl ether	45.0	10.0	40.00	0	112	70	130				
Methylene Chloride	ND	50.0	40.00	0	94.6	70	130				
Naphthalene	39.8	10.0	40.00	0	99.5	70	130				
n-Butylbenzene	42.5	10.0	40.00	0	106	70	130				
n-Propylbenzene	38.2	10.0	40.00	0	95.5	70	130				
o-Xylene	41.7	10.0	40.00	0	104	70	130				
sec-Butylbenzene	42.5	10.0	40.00	0	106	70	130				
Styrene	41.4	10.0	40.00	0	103	70	130				
tert-Butylbenzene	41.8	10.0	40.00	0	105	70	130				
Tetrachloroethene	40.2	10.0	40.00	0	100	70	130				
Toluene	42.3	10.0	40.00	0	106	75.1	123				
trans-1,2-Dichloroethene	46.1	10.0	40.00	0	115	70	130				
trans-1,3-Dichloropropene	41.6	10.0	40.00	0	104	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	46.8	10.0	40.00	0	117	77.8	129				
Trichlorofluoromethane	46.2	10.0	40.00	0	116	70	130				
Vinyl Chloride	46.2	10.0	40.00	0	115	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: 072621LLIG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530466							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.4	0.500	40.00	0	98.6	70	130				
1,1,1-Trichloroethane	44.3	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	39.1	0.500	40.00	0	97.8	46	157				
1,1,2-Trichloroethane	38.7	0.500	40.00	0	96.8	52	150				
1,1-Dichloroethane	44.2	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
1,2-Dichloroethane	41.5	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	43.7	0.500	40.00	0	109	0.01	210				
1,3-Dichlorobenzene	36.1	0.500	40.00	0	90.4	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	0	91.6	18	190				
2-Butanone	99.7	5.00	80.00	0	125	50	150				
2-Chloroethyl vinyl ether	43.7	10.0	40.00	0	109	0.01	305				
4-Methyl-2-pentanone	85.2	5.00	80.00	0	107	50	150				
Acrylonitrile	44.7	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	44.1	0.500	40.00	0	110	35	155				
Bromoform	38.2	0.500	40.00	0	95.5	45	169				
Bromomethane	40.9	0.500	40.00	0	102	0.01	242				
Carbon tetrachloride	45.8	0.500	40.00	0	114	70	140				
Chlorobenzene	39.9	0.500	40.00	0	99.8	37	160				
Chloroethane	62.4	0.500	40.00	0.6000	155	14	230				
Chloroform	46.0	0.500	40.00	0	115	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41272				
Client ID: 072621LLIG	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021	SeqNo: 530466				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	45.0	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	45.0	0.500	40.00	0	113	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.3	0.500	40.00	0.8400	96.1	37	162				
m,p-Xylene	75.4	1.00	80.00	0	94.3	50	150				
Methylene chloride	29.0	20.0	40.00	0	72.6	0.01	221				
o-Xylene	40.2	0.500	40.00	0	101	50	150				
Styrene	40.1	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	43.5	0.500	40.00	0.6800	107	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	41.9	0.500	40.00	0	105	17	183				
Trichloroethene	43.8	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	45.3	0.500	40.00	0	113	17	181				
Vinyl chloride	35.6	0.500	40.00	0	89.1	0.01	251				

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41272				
Client ID: 072621LLEG	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021	SeqNo: 530467				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: 072621LLEG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530467							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	40.0	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.4	52	150				
1,1-Dichloroethane	42.0	0.500	40.00	0	105	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	40.4	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.5	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	40.9	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.8	0.500	40.00	0	102	18	190				
2-Butanone	88.3	5.00	80.00	0	110	50	150				
2-Chloroethyl vinyl ether	42.5	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	50	150				
Acrylonitrile	43.3	2.00	40.00	0	108	20	150				
Benzene	38.0	0.500	40.00	0	95.0	37	151				
Bromodichloromethane	42.7	0.500	40.00	0	107	35	155				
Bromoform	39.3	0.500	40.00	1.110	95.5	45	169				
Bromomethane	28.7	0.500	40.00	0	71.8	0.01	242				
Carbon tetrachloride	43.5	0.500	40.00	0	109	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	51.9	0.500	40.00	0	130	14	230				
Chloroform	41.7	0.500	40.00	0	104	51	138				
Chloromethane	35.5	0.500	40.00	0	88.7	0.01	273				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: 072621LLEG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530467							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	44.2	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	40.8	0.500	40.00	0	102	53	149				
Ethylbenzene	40.9	0.500	40.00	0.8400	100	37	162				
m,p-Xylene	79.0	1.00	80.00	1.950	96.4	50	150				
Methylene chloride	27.2	20.0	40.00	0	68.1	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.0	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.3	64	148				
Toluene	43.4	0.500	40.00	1.220	105	47	150				
trans-1,2-Dichloroethene	42.5	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	107	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	17	181				
Vinyl chloride	29.4	0.500	40.00	0	73.5	0.01	251				

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: 072621 Villaboiss G	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530468							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	42.7	0.500	40.00	0	107	52	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: 072621 Villabois G	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530468							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	101	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.0	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	37.1	0.500	40.00	0	92.8	18	190				
1,2-Dichloroethane	40.6	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	37.0	0.500	40.00	0	92.4	59	156				
1,4-Dichlorobenzene	37.2	0.500	40.00	0	93.1	18	190				
2-Butanone	89.4	5.00	80.00	1.330	110	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	38.9	0.500	40.00	0	97.3	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	38.2	0.500	40.00	1.120	92.7	45	169				
Bromomethane	34.4	0.500	40.00	0	86.1	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	39.8	0.500	40.00	0	99.6	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	1.160	105	51	138				
Chloromethane	35.4	0.500	40.00	0	88.5	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: 072621 Villaboies G	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530468					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.5	0.500	40.00	0.8300	96.8	37	162				
m,p-Xylene	74.8	1.00	80.00	1.940	91.1	50	150				
Methylene chloride	27.6	20.0	40.00	0	69.1	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				
Styrene	40.2	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	42.6	0.500	40.00	0.7300	105	47	150				
trans-1,2-Dichloroethene	43.6	0.500	40.00	0	109	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	43.0	0.500	40.00	0	108	71	157				
Trichlorofluoromethane	42.7	0.500	40.00	0	107	17	181				
Vinyl chloride	32.6	0.500	40.00	0	81.5	0.01	251				

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: LCSW	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530469					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	46	157				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	59	155				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	0.01	234				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	49	155				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	0.01	210				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
2-Butanone	90.3	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	305				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	30	150				
Benzene	41.5	0.500	40.00	0	104	37	151				
Bromodichloromethane	46.2	0.500	40.00	0	115	35	155				
Bromoform	38.3	0.500	40.00	0	95.7	45	169				
Bromomethane	49.3	0.500	40.00	0	123	0.01	242				
Carbon tetrachloride	46.8	0.500	40.00	0	117	70	140				
Chlorobenzene	40.3	0.500	40.00	0	101	37	160				
Chloroethane	47.3	0.500	40.00	0	118	14	230				
Chloroform	45.4	0.500	40.00	0	114	51	138				
Chloromethane	41.4	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	77.4	1.00	80.00	0	96.7	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.6	0.01	221				
o-Xylene	41.7	0.500	40.00	0	104	50	150				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	42.3	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	17	183				
Trichloroethene	46.8	0.500	40.00	0	117	71	157				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	17	181				
Vinyl chloride	46.2	0.500	40.00	0	115	0.01	251				

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41298</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41298</b>				
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	0.860	0.500									
m,p-Xylene	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	0.730	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

Sample ID: <b>2107227-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530723</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.3	0.500	40.00	0	98.2	70	130				
1,1,1-Trichloroethane	52.1	0.500	40.00	0	130	52	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530723							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	38.9	0.500	40.00	0	97.3	52	150				
1,1-Dichloroethane	52.1	0.500	40.00	0	130	59	155				
1,1-Dichloroethene	52.9	0.500	40.00	0	132	47.8	165				
1,2-Dichlorobenzene	36.6	0.500	40.00	0	91.4	18	190				
1,2-Dichloroethane	48.9	0.500	40.00	0	122	49	155				
1,2-Dichloropropane	52.1	0.500	40.00	0	130	0.01	210				
1,3-Dichlorobenzene	36.7	0.500	40.00	0	91.7	59	156				
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.2	18	190				
2-Butanone	112	5.00	80.00	4.390	135	50	150				
2-Chloroethyl vinyl ether	52.1	10.0	40.00	0	130	0.01	305				
4-Methyl-2-pentanone	85.0	5.00	80.00	0	106	50	150				
Acrylonitrile	53.6	2.00	40.00	0	134	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	52.1	0.500	40.00	0	130	35	155				
Bromoform	37.8	0.500	40.00	1.150	91.7	45	169				
Bromomethane	39.8	0.500	40.00	0	99.6	0.01	242				
Carbon tetrachloride	53.2	0.500	40.00	0	133	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.7	37	160				
Chloroethane	54.0	0.500	40.00	0	135	14	230				
Chloroform	54.0	0.500	40.00	1.970	130	51	138				
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	53.5	0.500	40.00	0	134	0.01	227				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530723		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	39.8	0.500	40.00	0	99.5	53	149				
Ethylbenzene	39.1	0.500	40.00	0.8200	95.8	37	162				
m,p-Xylene	74.1	1.00	80.00	1.960	90.2	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.5	0.01	221				
o-Xylene	39.8	0.500	40.00	0	99.6	50	150				
Styrene	39.6	0.500	40.00	0	99.1	70	130				
Tetrachloroethene	35.9	0.500	40.00	0	89.8	64	148				
Toluene	43.0	0.500	40.00	1.310	104	47	150				
trans-1,2-Dichloroethene	53.0	0.500	40.00	0	132	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	52.2	0.500	40.00	0	131	71	157				
Trichlorofluoromethane	52.5	0.500	40.00	0	131	17	181				
Vinyl chloride	47.1	0.500	40.00	0	118	0.01	251				

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530724		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.7	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	41.1	0.500	40.00	0	103	46	157				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530724							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	40.0	0.500	40.00	0	99.9	52	150				
1,1-Dichloroethane	43.5	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	40.7	0.500	40.00	0	102	18	190				
1,2-Dichloroethane	41.4	0.500	40.00	0	103	49	155				
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	41.1	0.500	40.00	0	103	59	156				
1,4-Dichlorobenzene	41.1	0.500	40.00	0	103	18	190				
2-Butanone	91.0	5.00	80.00	0	114	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	46.1	2.00	40.00	0	115	20	150				
Benzene	39.2	0.500	40.00	0	98.0	37	151				
Bromodichloromethane	43.3	0.500	40.00	0	108	35	155				
Bromoform	39.6	0.500	40.00	1.120	96.1	45	169				
Bromomethane	26.8	0.500	40.00	0	67.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	112	70	140				
Chlorobenzene	41.1	0.500	40.00	0	103	37	160				
Chloroethane	46.2	0.500	40.00	0	116	14	230				
Chloroform	42.7	0.500	40.00	0	107	51	138				
Chloromethane	32.0	0.500	40.00	0	80.0	0.01	273				
cis-1,3-Dichloropropene	44.8	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	41.3	0.500	40.00	0	103	53	149				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530724							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	41.2	0.500	40.00	0	103	37	162				
m,p-Xylene	79.7	1.00	80.00	1.950	97.2	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.0	0.01	221				
o-Xylene	42.4	0.500	40.00	0	106	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.8	0.500	40.00	0	97.1	64	148				
Toluene	43.6	0.500	40.00	1.180	106	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.2	0.500	40.00	0	108	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	42.8	0.500	40.00	0	107	17	181				
Vinyl chloride	29.2	0.500	40.00	0	73.1	0.01	251				

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530725							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.0	0.500	40.00	0	97.4	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	46	157				
1,1,2-Trichloroethane	37.8	0.500	40.00	0	94.5	52	150				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530725					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.8	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	37.3	0.500	40.00	0	93.3	18	190				
1,2-Dichloroethane	47.6	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	42.2	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	37.7	0.500	40.00	0	94.3	59	156				
1,4-Dichlorobenzene	38.5	0.500	40.00	0.8100	94.3	18	190				
2-Butanone	86.8	5.00	80.00	0	108	50	150				
2-Chloroethyl vinyl ether	42.2	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	1.520	105	50	150				
Acrylonitrile	41.5	2.00	40.00	0	104	20	150				
Benzene	54.9	0.500	40.00	0	137	37	151				
Bromodichloromethane	42.3	0.500	40.00	0.5500	104	35	155				
Bromoform	37.3	0.500	40.00	1.150	90.3	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.8	37	160				
Chloroethane	39.6	0.500	40.00	0	99.1	14	230				
Chloroform	44.2	0.500	40.00	4.210	99.9	51	138				
Chloromethane	30.6	0.500	40.00	0	76.4	0.01	273				
cis-1,3-Dichloropropene	43.0	0.500	40.00	0	108	0.01	227				
Dibromochloromethane	39.1	0.500	40.00	0	97.9	53	149				
Ethylbenzene	39.4	0.500	40.00	0	98.5	37	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530725					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	75.3	1.00	80.00	1.960	91.6	50	150				
Methylene chloride	25.5	20.0	40.00	0	63.6	0.01	221				
o-Xylene	40.4	0.500	40.00	0	101	50	150				
Styrene	40.0	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.6	0.500	40.00	0	91.6	64	148				
Toluene	42.5	0.500	40.00	0.8700	104	47	150				
trans-1,2-Dichloroethene	41.7	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	41.1	0.500	40.00	0	103	17	183				
Trichloroethene	42.5	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	103	17	181				
Vinyl chloride	32.1	0.500	40.00	0	80.2	0.01	251				

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530726					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	37.9	0.500	40.00	0	94.7	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	46	157				
1,1,2-Trichloroethane	38.0	0.500	40.00	0	94.9	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530726							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.4	18	190				
1,2-Dichloroethane	39.0	0.500	40.00	0	97.4	49	155				
1,2-Dichloropropane	41.7	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.0	59	156				
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	88.6	5.00	80.00	2.360	108	50	150				
2-Chloroethyl vinyl ether	41.7	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	83.7	5.00	80.00	0	105	50	150				
Acrylonitrile	44.1	2.00	40.00	0	110	20	150				
Benzene	37.8	0.500	40.00	0	94.6	37	151				
Bromodichloromethane	41.7	0.500	40.00	0	104	35	155				
Bromoform	37.4	0.500	40.00	1.160	90.6	45	169				
Bromomethane	31.3	0.500	40.00	0	78.3	0.01	242				
Carbon tetrachloride	41.3	0.500	40.00	0	103	70	140				
Chlorobenzene	38.5	0.500	40.00	0	96.4	37	160				
Chloroethane	38.9	0.500	40.00	0	97.2	14	230				
Chloroform	42.0	0.500	40.00	1.430	101	51	138				
Chloromethane	32.0	0.500	40.00	0	79.9	0.01	273				
cis-1,3-Dichloropropene	42.9	0.500	40.00	0	107	0.01	227				
Dibromochloromethane	39.0	0.500	40.00	0	97.5	53	149				
Ethylbenzene	37.8	0.500	40.00	0	94.6	37	162				
m,p-Xylene	71.3	1.00	80.00	1.940	86.7	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530726							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	25.6	20.0	40.00	0	64.0	0.01	221				
o-Xylene	38.7	0.500	40.00	0	96.8	50	150				
Styrene	38.6	0.500	40.00	0	96.6	70	130				
Tetrachloroethene	34.5	0.500	40.00	0	86.2	64	148				
Toluene	41.4	0.500	40.00	0.7800	102	47	150				
trans-1,2-Dichloroethene	42.3	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	41.2	0.500	40.00	0	103	17	183				
Trichloroethene	41.8	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	39.9	0.500	40.00	0	99.7	17	181				
Vinyl chloride	27.2	0.500	40.00	0	68.1	0.01	251				

Sample ID: CCV1	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531041							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	80	120				
1,1,1-Trichloroethane	44.2	0.500	40.00	0	111	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	60.5	139.5				
1,1,2-Trichloroethane	39.5	0.500	40.00	0	98.7	71	129				
1,1-Dichloroethane	44.7	0.500	40.00	0	112	72.5	127.5				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	50.5	149.5				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41325</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/4/2021</b>			SeqNo: <b>531041</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	40.3	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	41.8	0.500	40.00	0	105	68	132				
1,2-Dichloropropane	43.9	0.500	40.00	0	110	34	166				
1,3-Dichlorobenzene	41.0	0.500	40.00	0	103	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	91.9	5.00	80.00	0	115	60	140				
2-Chloroethyl vinyl ether	43.9	10.0	40.00	0	110	0.01	224				
4-Methyl-2-pentanone	83.5	5.00	80.00	0	104	60	140				
Acrylonitrile	45.5	2.00	40.00	0	114	50	150				
Benzene	40.6	0.500	40.00	0	101	64	136				
Bromodichloromethane	43.7	0.500	40.00	0	109	65.5	134.5				
Bromoform	38.6	0.500	40.00	0	96.6	71	129				
Bromomethane	38.9	0.500	40.00	0	97.3	14	186				
Carbon tetrachloride	44.5	0.500	40.00	0	111	73	127				
Chlorobenzene	40.8	0.500	40.00	0	102	66	134				
Chloroethane	43.5	0.500	40.00	0	109	38	162				
Chloroform	44.0	0.500	40.00	0	110	67.5	132.5				
Chloromethane	32.6	0.500	40.00	0	81.4	0.01	204				
cis-1,3-Dichloropropene	45.9	0.500	40.00	0	115	24	176				
Dibromochloromethane	40.1	0.500	40.00	0	100	67.5	132.5				
Ethylbenzene	41.1	0.500	40.00	0	103	59	141				
m,p-Xylene	77.2	1.00	80.00	0	96.5	80	120				
Methylene chloride	43.5	20.0	40.00	0	109	60.5	139.5				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.2	0.500	40.00	0	105	80	120				
Styrene	41.8	0.500	40.00	0	104	80	120				
Tetrachloroethene	39.2	0.500	40.00	0	98.1	73.5	126.5				
Toluene	42.6	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	45.1	0.500	40.00	0	113	69.5	130.5				
trans-1,3-Dichloropropene	42.7	0.500	40.00	0	107	50	150				
Trichloroethene	45.1	0.500	40.00	0	113	66.5	133.5				
Trichlorofluoromethane	43.2	0.500	40.00	0	108	48	152				
Vinyl chloride	26.4	0.500	40.00	0	66.0	4	196				
Surr: 1,2-Dichloroethane-d4	97.4		100.0		97.4	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	93.0		100.0		93.0	80	120				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	1.09	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	0.820	0.500									
m,p-Xylene	1.94	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	100		100.0		100	83.4	126				
Surr: 4-Bromofluorobenzene	99.8		100.0		99.8	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	93.1		100.0		93.1	80	120				

Sample ID: <b>2107246-002EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531046</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.8	0.500	40.00	0	99.4	70	130				
1,1,1-Trichloroethane	45.8	0.500	40.00	0	114	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	97.0	46	157				
1,1,2-Trichloroethane	38.8	0.500	40.00	0	97.0	52	150				
1,1-Dichloroethane	45.8	0.500	40.00	0	114	59	155				
1,1-Dichloroethene	45.2	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	18	190				
1,2-Dichloroethane	42.9	0.500	40.00	0	107	49	155				
1,2-Dichloropropane	45.2	0.500	40.00	0	113	0.01	210				
1,3-Dichlorobenzene	37.4	0.500	40.00	0	93.5	59	156				
1,4-Dichlorobenzene	38.3	0.500	40.00	0.8100	93.7	18	190				
2-Butanone	99.5	5.00	80.00	0	124	50	150				
2-Chloroethyl vinyl ether	45.2	10.0	40.00	0	113	0.01	305				
4-Methyl-2-pentanone	84.2	5.00	80.00	0	105	50	150				
Acrylonitrile	45.7	2.00	40.00	0	114	20	150				
Benzene	41.9	0.500	40.00	0	105	37	151				
Bromodichloromethane	45.5	0.500	40.00	0	114	35	155				
Bromoform	38.0	0.500	40.00	1.120	92.1	45	169				
Bromomethane	32.3	0.500	40.00	0	80.8	0.01	242				
Carbon tetrachloride	46.7	0.500	40.00	0	117	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	43.8	0.500	40.00	0	109	14	230				
Chloroform	47.8	0.500	40.00	2.650	113	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	35.1	0.500	40.00	0	87.8	0.01	273				
cis-1,3-Dichloropropene	46.8	0.500	40.00	0	117	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	76.8	1.00	80.00	0	96.0	50	150				
Methylene chloride	30.1	20.0	40.00	0	75.4	0.01	221				
o-Xylene	41.2	0.500	40.00	0	103	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.4	64	148				
Toluene	45.2	0.500	40.00	3.220	105	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	42.4	0.500	40.00	0	106	17	183				
Trichloroethene	45.8	0.500	40.00	0	114	71	157				
Trichlorofluoromethane	44.8	0.500	40.00	0	112	17	181				
Vinyl chloride	32.8	0.500	40.00	0	82.0	0.01	251				
Surr: 1,2-Dichloroethane-d4	98.3		100.0		98.3	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	94.3		100.0		94.3	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	16.7									
1,2-Dichlorobenzene	ND	16.7									
1,2-Diphenylhydrazine	ND	16.7									
1,3-Dichlorobenzene	ND	16.7									
1,4-Dichlorobenzene	ND	16.7									
2,4,6-Trichlorophenol	ND	16.7									
2,4-Dichlorophenol	ND	16.7									
2,4-Dimethylphenol	ND	16.7									
2,4-Dinitrophenol	ND	16.7									
2,4-Dinitrotoluene	ND	16.7									
2,6-Dinitrotoluene	ND	16.7									
2-Chloronaphthalene	ND	16.7									
2-Chlorophenol	ND	16.7									
2-Methylphenol	ND	16.7									
2-Nitrophenol	ND	16.7									
3,3'-Dichlorobenzidine	ND	16.7									
3,4-Methylphenol	ND	33.3									
4,6-Dinitro-2-methylphenol	ND	16.7									
4-Bromophenyl phenyl ether	ND	16.7									
4-Chloro-3-methylphenol	ND	16.7									
4-Chlorophenyl phenyl ether	ND	16.7									
4-Nitrophenol	ND	16.7									
Acenaphthene	ND	16.7									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	16.7									
Aniline	ND	16.7									
Anthracene	ND	16.7									
Azobenzene	ND	16.7									
Benz(a)anthracene	ND	16.7									
Benzidine	ND	16.7									
Benzo(a)pyrene	ND	16.7									
Benzo(b)fluoranthene	ND	16.7									
Benzo(g,h,i)perylene	ND	16.7									
Benzo(k)fluoranthene	ND	16.7									
Benzoic Acid	ND	16.7									
Bis(2-chloroethoxy)methane	ND	16.7									
Bis(2-chloroethyl)ether	ND	16.7									
Bis(2-chloroisopropyl)ether	ND	16.7									
Bis(2-ethylhexyl)phthalate	ND	16.7									
Butyl benzyl phthalate	ND	16.7									
Carbazole	ND	16.7									
Chrysene	ND	16.7									
Dibenz(a,h)anthracene	ND	16.7									
Diethyl phthalate	ND	16.7									
Dimethyl phthalate	ND	16.7									
Di-n-butyl phthalate	ND	16.7									
Di-n-octyl phthalate	ND	16.7									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	16.7									
Fluorene	ND	16.7									
Hexachlorobenzene	ND	16.7									
Hexachlorobutadiene	ND	16.7									
Hexachlorocyclopentadiene	ND	16.7									
Hexachloroethane	ND	16.7									
Indeno(1,2,3-cd)pyrene	ND	16.7									
Isophorone	ND	16.7									
Naphthalene	ND	16.7									
Nitrobenzene	ND	16.7									
N-Nitrosodimethylamine	ND	16.7									
N-Nitrosodi-n-propylamine	ND	16.7									
N-Nitrosodiphenylamine	ND	16.7									
Pentachlorophenol	ND	16.7									
Phenanthrene	ND	16.7									
Phenol	ND	16.7									
Pyrene	ND	16.7									
Pyridine	ND	16.7									
Surr: 2,4,6-Tribromophenol	2970		3333		89.1	33.1	129.7				
Surr: 2-Fluorobiphenyl	2440		3333		73.3	33.1	126.2				
Surr: 2-Fluorophenol	2330		3333		70.0	13.4	127.1				
Surr: 4-Terphenyl-d14	2570		3333		77.0	41	122				
Surr: Nitrobenzene-d5	2660		3333		79.8	28.9	129.9				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	2410		3333		72.4	10.6	128.5				

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1040	16.7	1333	0	77.8	44	142				
1,2-Dichlorobenzene	1030	16.7	1333	0	77.4	32	129				
1,2-Diphenylhydrazine	1330	16.7	1333	0	99.5	40	140				
1,3-Dichlorobenzene	1040	16.7	1333	0	77.8	0.01	172				
1,4-Dichlorobenzene	1040	16.7	1333	0	77.7	20	124				
2,4,6-Trichlorophenol	1170	16.7	1333	0	88.0	37	144				
2,4-Dichlorophenol	1090	16.7	1333	0	81.5	39	135				
2,4-Dimethylphenol	1040	16.7	1333	0	77.7	32	119				
2,4-Dinitrophenol	1070	16.7	1333	0	80.5	0.01	191				
2,4-Dinitrotoluene	1420	16.7	1333	0	106	39	139				
2,6-Dinitrotoluene	1460	16.7	1333	0	109	30	158				
2-Chloronaphthalene	1060	16.7	1333	0	79.3	30	118				
2-Chlorophenol	1060	16.7	1333	0	79.3	23	134				
2-Methylphenol	1080	16.7	1333	0	80.8	30	120				
2-Nitrophenol	1110	16.7	1333	0	83.1	29	182				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	1260	16.7	1333	0	94.6	0.01	262				
3,4-Methylphenol	1100	33.3	1333	0	82.6	30	120				
4,6-Dinitro-2-methylphenol	1220	16.7	1333	0	91.5	0.01	181				
4-Bromophenyl phenyl ether	1340	16.7	1333	0	101	33	127				
4-Chloro-3-methylphenol	1240	16.7	1333	0	93.1	22	147				
4-Chlorophenyl phenyl ether	1240	16.7	1333	0	92.8	25	158				
4-Nitrophenol	1020	16.7	1333	0	76.4	0.01	132				
Acenaphthene	1120	16.7	1333	0	83.9	37	145				
Acenaphthylene	1280	16.7	1333	0	95.8	33	145				
Aniline	838	16.7	1333	0	62.9	16	134				
Anthracene	1320	16.7	1333	0	99.3	27	133				
Azobenzene	1330	16.7	1333	0	99.5	70	130				
Benz(a)anthracene	1240	16.7	1333	0	92.7	33	143				
Benzdine	149	16.7	1333	0	11.2	0.1	140				
Benzo(a)pyrene	1330	16.7	1333	0	99.5	17	163				
Benzo(b)fluoranthene	1380	16.7	1333	0	103	24	159				
Benzo(g,h,i)perylene	1380	16.7	1333	0	103	0.01	219				
Benzo(k)fluoranthene	1330	16.7	1333	0	99.6	11	162				
Benzoic Acid	ND	167	1333	0	0	0	250				
Bis(2-chloroethoxy)methane	1040	16.7	1333	0	78.4	33	184				
Bis(2-chloroethyl)ether	1040	16.7	1333	0	77.8	12	158				
Bis(2-chloroisopropyl)ether	1010	16.7	1333	0	75.6	20	140				
Bis(2-ethylhexyl)phthalate	1270	16.7	1333	0	95.0	8	158				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	1280	16.7	1333	0	96.1	0.01	152				
Carbazole	1380	16.7	1333	0	103	23	131				
Chrysene	1210	16.7	1333	0	90.8	17	168				
Dibenz(a,h)anthracene	1440	16.7	1333	0	108	0.01	224				
Diethyl phthalate	1220	16.7	1333	0	91.3	0.01	114				
Dimethyl phthalate	1250	16.7	1333	0	93.8	0.01	112				
Di-n-butyl phthalate	1360	16.7	1333	0	102	1	118				
Di-n-octyl phthalate	1230	16.7	1333	0	92.2	4	146				
Fluoranthene	1410	16.7	1333	0	106	26	137				
Fluorene	1160	16.7	1333	0	86.9	19	121				
Hexachlorobenzene	1350	16.7	1333	0	102	0.01	152				
Hexachlorobutadiene	1060	16.7	1333	0	79.3	24	116				
Hexachlorocyclopentadiene	1190	16.7	1333	0	89.1	10	110				
Hexachloroethane	1040	16.7	1333	0	77.7	40	143				
Indeno(1,2,3-cd)pyrene	1400	16.7	1333	0	105	0.01	171				
Isophorone	1100	16.7	1333	0	82.4	21	196				
Naphthalene	1180	16.7	1333	0	88.2	35	133				
Nitrobenzene	1080	16.7	1333	0	80.9	14	150				
N-Nitrosodimethylamine	1080	16.7	1333	0	81.2	0.01	250				
N-Nitrosodi-n-propylamine	1080	16.7	1333	0	81.3	0.01	230				
N-Nitrosodiphenylamine	1210	16.7	1333	0	90.6	0.01	133				
Pentachlorophenol	1320	16.7	1333	0	99.3	24	176				
Phenanthrene	1330	16.7	1333	0	99.4	5	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	1060	16.7	1333	0	79.5	12	112				
Pyrene	1350	16.7	1333	0	101	12	115				
Pyridine	253	16.7	1333	0	19.0	13	158				

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1090	16.7	1333	0	82.1	44	142	1037	5.38	20	
1,2-Dichlorobenzene	1200	16.7	1333	0	90.0	32	129	1031	15.1	20	
1,2-Diphenylhydrazine	1570	16.7	1333	0	118	40	140	1327	17.1	20	
1,3-Dichlorobenzene	1190	16.7	1333	0	89.1	0.01	172	1038	13.5	20	
1,4-Dichlorobenzene	1190	16.7	1333	0	89.5	20	124	1036	14.1	20	
2,4,6-Trichlorophenol	1180	16.7	1333	0	88.2	37	144	1174	0.142	20	
2,4-Dichlorophenol	1160	16.7	1333	0	87.0	39	135	1086	6.56	20	
2,4-Dimethylphenol	1090	16.7	1333	0	81.6	32	119	1036	4.93	20	
2,4-Dinitrophenol	1140	16.7	1333	0	85.3	0.01	191	1073	5.82	20	
2,4-Dinitrotoluene	1510	16.7	1333	0	113	39	139	1417	6.31	20	
2,6-Dinitrotoluene	1520	16.7	1333	0	114	30	158	1459	3.77	20	
2-Chloronaphthalene	1200	16.7	1333	0	90.1	30	118	1057	12.8	20	
2-Chlorophenol	1230	16.7	1333	0	92.0	23	134	1058	14.7	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	1230	16.7	1333	0	91.9	30	120	1077	12.9	20	
2-Nitrophenol	1180	16.7	1333	0	88.4	29	182	1107	6.18	20	
3,3'-Dichlorobenzidine	1280	16.7	1333	0	96.1	0.01	262	1261	1.60	20	
3,4-Methylphenol	1240	33.3	1333	0	93.3	30	120	1102	12.1	20	
4,6-Dinitro-2-methylphenol	1310	16.7	1333	0	98.5	0.01	181	1220	7.34	20	
4-Bromophenyl phenyl ether	1320	16.7	1333	0	98.7	33	127	1341	1.86	20	
4-Chloro-3-methylphenol	1310	16.7	1333	0	98.0	22	147	1241	5.18	20	
4-Chlorophenyl phenyl ether	1310	16.7	1333	0	98.4	25	158	1237	5.91	20	
4-Nitrophenol	1240	16.7	1333	0	92.8	0.01	132	1018	19.4	20	
Acenaphthene	1240	16.7	1333	0	92.9	37	145	1118	10.3	20	
Acenaphthylene	1550	16.7	1333	0	116	33	145	1277	19.3	20	
Aniline	972	16.7	1333	0	72.9	16	134	838.3	14.8	20	
Anthracene	1570	16.7	1333	0	118	27	133	1324	17.1	20	
Azobenzene	1570	16.7	1333	0	118	70	130	1327	17.1	0	
Benz(a)anthracene	1350	16.7	1333	0	101	33	143	1236	8.55	20	
Benzidine	279	16.7	1333	0	21.0	0.1	140	149.3	60.7	20	R
Benzo(a)pyrene	1410	16.7	1333	0	106	17	163	1327	6.33	20	
Benzo(b)fluoranthene	1420	16.7	1333	0	106	24	159	1375	2.94	20	
Benzo(g,h,i)perylene	1410	16.7	1333	0	106	0.01	219	1379	2.29	20	
Benzo(k)fluoranthene	1390	16.7	1333	0	104	11	162	1328	4.66	20	
Benzoic Acid	ND	167	1333	0	9.00	0	250	0	0	20	R
Bis(2-chloroethoxy)methane	1120	16.7	1333	0	84.1	33	184	1045	7.11	20	
Bis(2-chloroethyl)ether	1220	16.7	1333	0	91.3	12	158	1037	16.1	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	1220	16.7	1333	0	91.3	20	140	1008	18.8	20	
Bis(2-ethylhexyl)phthalate	1430	16.7	1333	0	107	8	158	1266	12.0	20	
Butyl benzyl phthalate	1390	16.7	1333	0	104	0.01	152	1281	8.09	20	
Carbazole	1580	16.7	1333	0	118	23	131	1375	13.7	20	
Chrysene	1360	16.7	1333	0	102	17	168	1211	11.3	20	
Dibenz(a,h)anthracene	1450	16.7	1333	0	109	0.01	224	1438	0.647	20	
Diethyl phthalate	1320	16.7	1333	0	99.3	0.01	114	1217	8.39	20	
Dimethyl phthalate	1360	16.7	1333	0	102	0.01	112	1250	8.33	20	
Di-n-butyl phthalate	1660	16.7	1333	0	125	1	118	1360	20.0	20	RSSC
Di-n-octyl phthalate	1430	16.7	1333	0	108	4	146	1229	15.4	20	
Fluoranthene	1670	16.7	1333	0	126	26	137	1407	17.3	20	
Fluorene	1320	16.7	1333	0	99.0	19	121	1158	13.1	20	
Hexachlorobenzene	1280	16.7	1333	0	96.2	0.01	152	1354	5.44	20	
Hexachlorobutadiene	1090	16.7	1333	0	82.1	24	116	1057	3.44	20	
Hexachlorocyclopentadiene	1220	16.7	1333	0	91.6	10	110	1188	2.74	20	
Hexachloroethane	1210	16.7	1333	0	90.9	40	143	1036	15.7	20	
Indeno(1,2,3-cd)pyrene	1440	16.7	1333	0	108	0.01	171	1404	2.51	20	
Isophorone	1170	16.7	1333	0	87.6	21	196	1098	6.15	20	
Naphthalene	1360	16.7	1333	0	102	21	133	1176	14.7	20	
Nitrobenzene	1160	16.7	1333	0	87.2	35	180	1079	7.49	20	
N-Nitrosodimethylamine	1080	16.7	1333	0	81.3	0.01	230	1082	0.154	20	
N-Nitrosodi-n-propylamine	1220	16.7	1333	0	91.7	0.01	250	1083	12.1	20	
N-Nitrosodiphenylamine	1340	16.7	1333	0	100	0.01	250	1207	10.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	1350	16.7	1333	0	101	14	176	1324	1.85	20	
Phenanthrene	1550	16.7	1333	0	116	24	120	1325	15.8	20	
Phenol	1220	16.7	1333	0	91.3	5	112	1059	13.8	20	
Pyrene	1650	16.7	1333	0	124	12	115	1345	20.1	20	RSSC
Pyridine	342	16.7	1333	0	25.7	13	158	253.0	30.0	20	R

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: 072621LLBS	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1670	13380	0	7.00	44	142				SMI
1,2-Dichlorobenzene	ND	1670	13380	0	0	32	129				SMI
1,2-Diphenylhydrazine	ND	1670	13380	0	0	40	140				SMI
1,3-Dichlorobenzene	ND	1670	13380	0	0	0.01	172				SMI
1,4-Dichlorobenzene	ND	1670	13380	0	0	20	124				SMI
2,4,6-Trichlorophenol	1710	1670	13380	0	12.8	37	144				SMI
2,4-Dichlorophenol	ND	1670	13380	0	7.50	39	135				SMI
2,4-Dimethylphenol	ND	1670	13380	0	12.3	32	119				SMI
2,4-Dinitrophenol	ND	1670	13380	0	7.75	0.01	191				
2,4-Dinitrotoluene	ND	1670	13380	0	9.25	39	139				SMI
2,6-Dinitrotoluene	ND	1670	13380	0	0	30	158				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: 072621LLBS	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	1670	13380	0	8.50	30	118				SMI
2-Chlorophenol	ND	1670	13380	0	7.50	23	134				SMI
2-Methylphenol	ND	1670	13380	0	9.25	30	120				SMI
2-Nitrophenol	ND	1670	13380	0	6.50	29	182				SMI
3,3'-Dichlorobenzidine	ND	1670	13380	0	10.3	0.01	262				
3,4-Methylphenol	5620	3340	13380	5218	3.00	30	120				SMI
4,6-Dinitro-2-methylphenol	3910	1670	13380	0	29.3	0.01	181				
4-Bromophenyl phenyl ether	ND	1670	13380	0	8.00	33	127				SMI
4-Chloro-3-methylphenol	ND	1670	13380	0	0	22	147				SMI
4-Chlorophenyl phenyl ether	ND	1670	13380	0	8.00	25	158				SMI
4-Nitrophenol	5490	1670	13380	0	41.0	0.01	132				
Acenaphthene	ND	1670	13380	0	8.25	37	145				SMI
Acenaphthylene	ND	1670	13380	0	0	33	145				SMI
Aniline	ND	1670	13380	0	0	16	134				SMI
Anthracene	ND	1670	13380	0	0	27	133				SMI
Azobenzene	ND	1670	13380	0	0	70	130				SMI
Benz(a)anthracene	ND	1670	13380	0	11.0	33	143				SMI
Benzidine	2140	1670	13380	0	16.0	0.1	140				
Benzo(a)pyrene	ND	1670	13380	0	11.0	17	163				SMI
Benzo(b)fluoranthene	1810	1670	13380	0	13.5	24	159				SMI
Benzo(g,h,i)perylene	ND	1670	13380	0	10.0	0.01	219				
Benzo(k)fluoranthene	ND	1670	13380	0	12.3	11	162				
Benzoic Acid	ND	16700	13380	0	31.5	0	250				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: 072621LLBS	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	ND	1670	13380	0	7.50	33	184				SMI
Bis(2-chloroethyl)ether	ND	1670	13380	0	0	12	158				SMI
Bis(2-chloroisopropyl)ether	1970	1670	13380	0	14.8	20	140				SMI
Bis(2-ethylhexyl)phthalate	5890	1670	13380	0	44.0	8	158				
Butyl benzyl phthalate	ND	1670	13380	0	12.0	0.01	152				
Carbazole	ND	1670	13380	0	0	23	131				SMI
Chrysene	ND	1670	13380	0	11.8	17	168				SMI
Dibenz(a,h)anthracene	ND	1670	13380	0	10.3	0.01	224				
Diethyl phthalate	ND	1670	13380	0	8.25	0.01	114				
Dimethyl phthalate	ND	1670	13380	0	8.25	0.01	112				
Di-n-butyl phthalate	ND	1670	13380	0	0	1	118				SMI
Di-n-octyl phthalate	2110	1670	13380	0	15.8	4	146				
Fluoranthene	ND	1670	13380	0	0	26	137				SMI
Fluorene	ND	1670	13380	0	8.50	19	121				SMI
Hexachlorobenzene	ND	1670	13380	0	8.50	0.01	152				
Hexachlorobutadiene	ND	1670	13380	0	6.50	24	116				SMI
Hexachlorocyclopentadiene	ND	1670	13380	0	0	10	110				SMI
Hexachloroethane	ND	1670	13380	0	0	40	143				SMI
Indeno(1,2,3-cd)pyrene	ND	1670	13380	0	10.3	0.01	171				
Isophorone	ND	1670	13380	0	7.75	21	196				SMI
Naphthalene	ND	1670	13380	0	0	21	133				SMI
Nitrobenzene	ND	1670	13380	0	7.00	35	180				SMI
N-Nitrosodimethylamine	ND	1670	13380	0	0	0.01	230				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533347</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	ND	1670	13380	0	0	0.01	250				SMI
N-Nitrosodiphenylamine	ND	1670	13380	0	8.25	0.01	250				
Pentachlorophenol	5490	1670	13380	0	41.0	14	176				
Phenanthrene	ND	1670	13380	0	0	24	120				SMI
Phenol	6560	1670	13380	6188	2.75	5	112				SMI
Pyrene	ND	1670	13380	0	0	12	115				SMI
Pyridine	ND	1670	13380	0	0	13	158				SMI

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	623	16.7	666.7	0	93.5	80	120				
1,2-Dichlorobenzene	703	16.7	666.7	0	106	80	120				
1,2-Diphenylhydrazine	757	16.7	666.7	0	114	80	120				
1,3-Dichlorobenzene	704	16.7	666.7	0	106	80	120				
1,4-Dichlorobenzene	694	16.7	666.7	0	104	80	120				
2,4,6-Trichlorophenol	594	16.7	666.7	0	89.0	80	120				
2,4-Dichlorophenol	643	16.7	666.7	0	96.5	80	120				
2,4-Dimethylphenol	644	16.7	666.7	0	96.6	80	120				
2,4-Dinitrophenol	640	16.7	666.7	0	96.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	714	16.7	666.7	0	107	80	120				
2,6-Dinitrotoluene	711	16.7	666.7	0	107	80	120				
2-Chloronaphthalene	660	16.7	666.7	0	99.0	80	120				
2-Chlorophenol	718	16.7	666.7	0	108	80	120				
2-Methylphenol	701	16.7	666.7	0	105	80	120				
2-Nitrophenol	658	16.7	666.7	0	98.8	80	120				
3,3'-Dichlorobenzidine	675	16.7	666.7	0	101	80	120				
3,4-Methylphenol	700	33.3	666.7	0	105	80	120				
4-Bromophenyl phenyl ether	635	16.7	666.7	0	95.2	80	120				
4-Chloro-3-methylphenol	661	16.7	666.7	0	99.2	80	120				
4-Chlorophenyl phenyl ether	641	16.7	666.7	0	96.2	80	120				
4-Nitrophenol	642	16.7	666.7	0	96.2	80	120				
Acenaphthene	644	16.7	666.7	0	96.7	80	120				
Acenaphthylene	813	16.7	666.7	0	122	80	120				SSC
Aniline	706	16.7	666.7	0	106	80	120				
Anthracene	808	16.7	666.7	0	121	80	120				SSC
Azobenzene	757	16.7	666.7	0	114	80	120				
Benz(a)anthracene	665	16.7	666.7	0	99.7	80	120				
Benzidine	682	16.7	666.7	0	102	80	120				
Benzo(a)pyrene	681	16.7	666.7	0	102	80	120				
Benzo(b)fluoranthene	667	16.7	666.7	0	100	80	120				
Benzo(g,h,i)perylene	651	16.7	666.7	0	97.7	80	120				
Benzo(k)fluoranthene	652	16.7	666.7	0	97.8	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzoic Acid	204	167	666.7	0	30.6	80	120				SSC
Bis(2-chloroethoxy)methane	635	16.7	666.7	0	95.3	80	120				
Bis(2-chloroethyl)ether	712	16.7	666.7	0	107	80	120				
Bis(2-chloroisopropyl)ether	690	16.7	666.7	0	104	80	120				
Bis(2-ethylhexyl)phthalate	754	16.7	666.7	0	113	80	120				
Butyl benzyl phthalate	714	16.7	666.7	0	107	80	120				
Carbazole	792	16.7	666.7	0	119	80	120				
Chrysene	665	16.7	666.7	0	99.8	80	120				
Dibenz(a,h)anthracene	668	16.7	666.7	0	100	80	120				
Diethyl phthalate	692	16.7	666.7	0	104	80	120				
Dimethyl phthalate	666	16.7	666.7	0	99.8	80	120				
Di-n-butyl phthalate	863	16.7	666.7	0	129	80	120				SSC
Di-n-octyl phthalate	781	16.7	666.7	0	117	80	120				
Fluoranthene	812	16.7	666.7	0	122	80	120				SSC
Fluorene	660	16.7	666.7	0	99.0	80	120				
Hexachlorobenzene	606	16.7	666.7	0	90.9	80	120				
Hexachlorobutadiene	630	16.7	666.7	0	94.5	80	120				
Hexachlorocyclopentadiene	166	16.7	666.7	0	24.8	80	120				SSC
Hexachloroethane	661	16.7	666.7	0	99.2	80	120				
Indeno(1,2,3-cd)pyrene	661	16.7	666.7	0	99.1	80	120				
Isophorone	644	16.7	666.7	0	96.7	80	120				
Naphthalene	768	16.7	666.7	0	115	80	120				
Nitrobenzene	660	16.7	666.7	0	99.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodimethylamine	643	16.7	666.7	0	96.4	80	120				
N-Nitrosodi-n-propylamine	643	16.7	666.7	0	96.5	80	120				
N-Nitrosodiphenylamine	663	16.7	666.7	0	99.4	80	120				
Pentachlorophenol	307	16.7	666.7	0	46.1	80	120				SSC
Phenanthrene	789	16.7	666.7	0	118	80	120				
Phenol	653	16.7	666.7	0	97.9	80	120				
Pyrene	847	16.7	666.7	0	127	80	120				SSC
Pyridine	705	16.7	666.7	0	106	80	120				

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	625	16.7	666.7	0	93.8	80	120				
1,2-Dichlorobenzene	714	16.7	666.7	0	107	80	120				
1,2-Diphenylhydrazine	743	16.7	666.7	0	112	80	120				
1,3-Dichlorobenzene	715	16.7	666.7	0	107	80	120				
1,4-Dichlorobenzene	710	16.7	666.7	0	106	80	120				
2,4,6-Trichlorophenol	607	16.7	666.7	0	91.0	80	120				
2,4-Dichlorophenol	637	16.7	666.7	0	95.5	80	120				
2,4-Dimethylphenol	625	16.7	666.7	0	93.8	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrophenol	627	16.7	666.7	0	94.0	80	120				
2,4-Dinitrotoluene	703	16.7	666.7	0	105	80	120				
2,6-Dinitrotoluene	692	16.7	666.7	0	104	80	120				
2-Chloronaphthalene	650	16.7	666.7	0	97.5	80	120				
2-Chlorophenol	678	16.7	666.7	0	102	80	120				
2-Methylphenol	708	16.7	666.7	0	106	80	120				
2-Nitrophenol	662	16.7	666.7	0	99.4	80	120				
3,3'-Dichlorobenzidine	659	16.7	666.7	0	98.8	80	120				
3,4-Methylphenol	698	33.3	666.7	0	105	80	120				
4-Bromophenyl phenyl ether	628	16.7	666.7	0	94.2	80	120				
4-Chloro-3-methylphenol	661	16.7	666.7	0	99.2	80	120				
4-Chlorophenyl phenyl ether	646	16.7	666.7	0	96.9	80	120				
4-Nitrophenol	648	16.7	666.7	0	97.3	80	120				
Acenaphthene	638	16.7	666.7	0	95.8	80	120				
Acenaphthylene	802	16.7	666.7	0	120	80	120				SSC
Aniline	692	16.7	666.7	0	104	80	120				
Anthracene	807	16.7	666.7	0	121	80	120				SSC
Azobenzene	743	16.7	666.7	0	112	80	120				
Benz(a)anthracene	654	16.7	666.7	0	98.0	80	120				
Benzidine	620	16.7	666.7	0	93.0	80	120				
Benzo(a)pyrene	670	16.7	666.7	0	100	80	120				
Benzo(b)fluoranthene	648	16.7	666.7	0	97.3	80	120				
Benzo(g,h,i)perylene	652	16.7	666.7	0	97.9	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	670	16.7	666.7	0	101	80	120				
Benzoic Acid	577	167	666.7	0	86.6	80	120				
Bis(2-chloroethoxy)methane	636	16.7	666.7	0	95.4	80	120				
Bis(2-chloroethyl)ether	700	16.7	666.7	0	105	80	120				
Bis(2-chloroisopropyl)ether	691	16.7	666.7	0	104	80	120				
Bis(2-ethylhexyl)phthalate	695	16.7	666.7	0	104	80	120				
Butyl benzyl phthalate	668	16.7	666.7	0	100	80	120				
Carbazole	789	16.7	666.7	0	118	80	120				
Chrysene	665	16.7	666.7	0	99.8	80	120				
Dibenz(a,h)anthracene	658	16.7	666.7	0	98.7	80	120				
Diethyl phthalate	662	16.7	666.7	0	99.3	80	120				
Dimethyl phthalate	654	16.7	666.7	0	98.2	80	120				
Di-n-butyl phthalate	846	16.7	666.7	0	127	80	120				SSC
Di-n-octyl phthalate	710	16.7	666.7	0	106	80	120				
Fluoranthene	837	16.7	666.7	0	126	80	120				SSC
Fluorene	662	16.7	666.7	0	99.3	80	120				
Hexachlorobenzene	595	16.7	666.7	0	89.2	80	120				
Hexachlorobutadiene	623	16.7	666.7	0	93.4	80	120				
Hexachlorocyclopentadiene	635	16.7	666.7	0	95.2	80	120				
Hexachloroethane	704	16.7	666.7	0	106	80	120				
Indeno(1,2,3-cd)pyrene	661	16.7	666.7	0	99.2	80	120				
Isophorone	639	16.7	666.7	0	95.9	80	120				
Naphthalene	774	16.7	666.7	0	116	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	646	16.7	666.7	0	97.0	80	120				
N-Nitrosodimethylamine	647	16.7	666.7	0	97.1	80	120				
N-Nitrosodi-n-propylamine	691	16.7	666.7	0	104	80	120				
N-Nitrosodiphenylamine	667	16.7	666.7	0	100	80	120				
Pentachlorophenol	624	16.7	666.7	0	93.6	80	120				
Phenanthrene	793	16.7	666.7	0	119	80	120				
Phenol	682	16.7	666.7	0	102	80	120				
Pyrene	822	16.7	666.7	0	123	80	120				SSC
Pyridine	656	16.7	666.7	0	98.4	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41398</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532452</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Dichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Diphenylhydrazine	20.0	0.500	20.00	0	100	80	120				
1,3-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,4-Dichlorobenzene	20.0	0.500	20.00	0	99.8	80	120				
2,4,6-Trichlorophenol	19.2	0.500	20.00	0	95.9	80	120				
2,4-Dichlorophenol	19.4	0.500	20.00	0	97.0	80	120				
2,4-Dimethylphenol	19.8	0.500	20.00	0	99.0	80	120				
2,4-Dinitrophenol	20.1	0.500	20.00	0	101	80	120				
2,4-Dinitrotoluene	20.0	0.500	20.00	0	99.9	80	120				
2,6-Dinitrotoluene	19.9	0.500	20.00	0	99.4	80	120				
2-Chloronaphthalene	20.0	0.500	20.00	0	100	80	120				
2-Chlorophenol	20.0	0.500	20.00	0	99.8	80	120				
2-Methylphenol	20.1	0.500	20.00	0	101	80	120				
2-Nitrophenol	20.0	0.500	20.00	0	100	80	120				
3,3'-Dichlorobenzidine	19.6	0.500	20.00	0	97.9	80	120				
3,4-Methylphenol	20.1	1.00	20.00	0	100	80	120				
4-Bromophenyl phenyl ether	20.1	0.500	20.00	0	101	80	120				
4-Chloro-3-methylphenol	19.8	0.500	20.00	0	99.1	80	120				
4-Chlorophenyl phenyl ether	18.4	0.500	20.00	0	92.1	80	120				
4-Nitrophenol	19.4	0.500	20.00	0	96.8	80	120				
Acenaphthene	20.0	0.500	20.00	0	99.9	80	120				
Acenaphthylene	19.9	0.500	20.00	0	99.7	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41398</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532452</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	20.2	0.500	20.00	0	101	80	120				
Anthracene	20.0	0.500	20.00	0	100	80	120				
Azobenzene	20.0	0.500	20.00	0	100	80	120				
Benz(a)anthracene	20.1	0.500	20.00	0	100	80	120				
Benzidine	18.9	0.500	20.00	0	94.4	80	120				
Benzo(a)pyrene	20.0	0.500	20.00	0	100	80	120				
Benzo(b)fluoranthene	19.6	0.500	20.00	0	97.8	80	120				
Benzo(g,h,i)perylene	19.6	0.500	20.00	0	98.1	80	120				
Benzo(k)fluoranthene	19.9	0.500	20.00	0	99.7	80	120				
Benzoic Acid	21.1	5.00	20.00	0	105	80	120				
Bis(2-chloroethoxy)methane	19.9	0.500	20.00	0	99.4	80	120				
Bis(2-chloroethyl)ether	19.9	0.500	20.00	0	99.4	80	120				
Bis(2-chloroisopropyl)ether	16.6	0.500	20.00	0	82.8	80	120				
Bis(2-ethylhexyl)phthalate	17.4	0.500	20.00	0	87.1	80	120				
Butyl benzyl phthalate	20.0	0.500	20.00	0	100	80	120				
Carbazole	19.9	0.500	20.00	0	99.7	80	120				
Chrysene	20.1	0.500	20.00	0	101	80	120				
Dibenz(a,h)anthracene	19.5	0.500	20.00	0	97.5	80	120				
Diethyl phthalate	20.0	0.500	20.00	0	99.9	80	120				
Dimethyl phthalate	19.8	0.500	20.00	0	99.2	80	120				
Di-n-butyl phthalate	20.2	0.500	20.00	0	101	80	120				
Di-n-octyl phthalate	19.7	0.500	20.00	0	98.6	80	120				
Fluoranthene	20.2	0.500	20.00	0	101	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41398</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532452</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobenzene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobutadiene	19.7	0.500	20.00	0	98.4	80	120				
Hexachlorocyclopentadiene	19.0	0.500	20.00	0	95.0	80	120				
Hexachloroethane	19.6	0.500	20.00	0	98.2	80	120				
Indeno(1,2,3-cd)pyrene	19.6	0.500	20.00	0	98.1	80	120				
Isophorone	19.9	0.500	20.00	0	99.6	80	120				
Naphthalene	19.9	0.500	20.00	0	99.4	80	120				
Nitrobenzene	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodimethylamine	19.7	0.500	20.00	0	98.7	80	120				
N-Nitrosodi-n-propylamine	19.7	0.500	20.00	0	98.4	80	120				
N-Nitrosodiphenylamine	20.0	0.500	20.00	0	100	80	120				
Pentachlorophenol	19.5	0.500	20.00	0	97.3	80	120				
Phenanthrene	20.0	0.500	20.00	0	100	80	120				
Phenol	20.7	0.500	20.00	0	104	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	19.3	0.500	20.00	0	96.5	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107209-001BMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: BatchQC	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532479						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	29.9	0.579	46.30	0	64.6	44	142				
1,2-Dichlorobenzene	25.7	0.579	46.30	0	55.6	32	129				
1,2-Diphenylhydrazine	38.6	0.579	46.30	0	83.4	40	140				
1,3-Dichlorobenzene	25.2	0.579	46.30	0	54.4	0.01	172				
1,4-Dichlorobenzene	26.4	0.579	46.30	0	56.9	20	124				
2,4,6-Trichlorophenol	43.2	0.579	46.30	0	93.2	37	144				
2,4-Dichlorophenol	35.4	0.579	46.30	0	76.5	39	135				
2,4-Dimethylphenol	15.4	0.579	46.30	0	33.2	32	119				
2,4-Dinitrophenol	25.5	0.579	46.30	0	55.2	0.01	191				
2,4-Dinitrotoluene	46.5	0.579	46.30	0	101	39	139				
2,6-Dinitrotoluene	48.6	0.579	46.30	0	105	30	158				
2-Chloronaphthalene	34.1	0.579	46.30	0	73.6	30	118				
2-Chlorophenol	31.4	0.579	46.30	0	67.8	23	134				
2-Methylphenol	25.0	0.579	46.30	0	54.0	30	120				
2-Nitrophenol	37.8	0.579	46.30	0	81.6	29	182				
3,3'-Dichlorobenzidine	41.3	0.579	46.30	0	89.1	0.01	262				
3,4-Methylphenol	22.0	1.16	46.30	0	47.4	30	120				
4-Chloro-3-methylphenol	33.0	0.579	46.30	0	71.4	22	147				
4-Nitrophenol	33.2	0.579	46.30	0	71.6	0.01	132				
Acenaphthene	38.6	0.579	46.30	0	83.4	37	145				
Acenaphthylene	34.8	0.579	46.30	0	75.2	33	145				
Aniline	21.1	0.579	46.30	0	45.5	16	134				
Anthracene	42.8	0.579	46.30	0	92.4	27	133				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107209-001BMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: BatchQC	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532479						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Azobenzene	38.6	0.579	46.30	0	83.4	70	130				
Benz(a)anthracene	43.5	0.579	46.30	0	93.9	33	143				
Benidine	4.16	0.579	46.30	0	8.98	0.1	140				
Benzo(a)pyrene	38.3	0.579	46.30	0	82.8	17	163				
Benzo(b)fluoranthene	42.5	0.579	46.30	0	91.9	24	159				
Benzo(g,h,i)perylene	41.8	0.579	46.30	0	90.2	0.01	219				
Benzo(k)fluoranthene	39.8	0.579	46.30	0	86.0	11	162				
Benzoic Acid	ND	5.79	46.30	0	10.4	0	250				
Bis(2-chloroethyl)ether	30.7	0.579	46.30	0	66.2	12	158				
Butyl benzyl phthalate	48.9	0.579	46.30	0	106	0.01	152				
Carbazole	43.5	0.579	46.30	0	93.9	23	131				
Chrysene	44.5	0.579	46.30	0	96.1	17	168				
Dibenz(a,h)anthracene	44.1	0.579	46.30	0	95.3	0.01	224				
Diethyl phthalate	43.3	0.579	46.30	0	93.6	0.01	114				
Dimethyl phthalate	42.5	0.579	46.30	0	91.8	0.01	112				
Di-n-butyl phthalate	44.7	0.579	46.30	0	96.6	1	118				
Di-n-octyl phthalate	49.8	0.579	46.30	0	108	4	146				
Fluoranthene	45.8	0.579	46.30	0	99.0	26	137				
Fluorene	40.7	0.579	46.30	0	87.9	19	121				
Hexachlorobenzene	45.8	0.579	46.30	0	98.8	0.01	152				
Hexachlorobutadiene	27.4	0.579	46.30	0	59.2	24	116				
Hexachlorocyclopentadiene	45.2	0.579	46.30	0	97.7	10	110				
Hexachloroethane	23.9	0.579	46.30	0	51.6	40	143				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107209-001BMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: BatchQC	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532479						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	43.4	0.579	46.30	0	93.7	0.01	171				
Isophorone	32.4	0.579	46.30	0	70.1	21	196				
Naphthalene	31.4	0.579	46.30	0	67.8	21	133				
Nitrobenzene	34.7	0.579	46.30	0	74.8	35	180				
N-Nitrosodimethylamine	19.8	0.579	46.30	0	42.8	0.01	230				
N-Nitrosodiphenylamine	42.6	0.579	46.30	0	92.0	0.01	250				
Pentachlorophenol	54.8	0.579	46.30	0	118	14	176				
Phenanthrene	45.0	0.579	46.30	0	97.2	24	120				
Phenol	12.3	0.579	46.30	0	26.6	5	112				
Pyrene	43.0	0.579	46.30	0	92.8	12	115				
Pyridine	8.30	0.579	46.30	0	17.9	13	158				

Sample ID: 2107216-001CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41398						
Client ID: 072621LLIG	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	33.4	0.518	41.41	0	80.6	44	142				
1,2-Dichlorobenzene	22.1	0.518	41.41	0	53.4	32	129				
1,2-Diphenylhydrazine	38.8	0.518	41.41	0	93.7	40	140				
1,3-Dichlorobenzene	21.3	0.518	41.41	0	51.4	0.01	172				
1,4-Dichlorobenzene	22.9	0.518	41.41	0	55.3	20	124				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107216-001CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41398						
Client ID: 072621LLIG	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4,6-Trichlorophenol	47.0	0.518	41.41	0	113	37	144				
2,4-Dichlorophenol	40.3	0.518	41.41	0	97.3	39	135				
2,4-Dimethylphenol	33.3	0.518	41.41	0	80.3	32	119				
2,4-Dinitrophenol	183	0.518	41.41	0	441	0.01	191				ES
2,4-Dinitrotoluene	44.1	0.518	41.41	0	107	39	139				
2,6-Dinitrotoluene	46.0	0.518	41.41	0	111	30	158				
2-Chloronaphthalene	38.9	0.518	41.41	0	94.0	30	118				
2-Chlorophenol	24.5	0.518	41.41	0	59.3	23	134				
2-Methylphenol	20.7	0.518	41.41	0	49.9	30	120				
2-Nitrophenol	39.1	0.518	41.41	0	94.3	29	182				
3,3'-Dichlorobenzidine	32.9	0.518	41.41	0	79.4	0.01	262				
3,4-Methylphenol	8.75	1.04	41.41	60.91	-126	30	120				S
4-Chloro-3-methylphenol	36.6	0.518	41.41	0	88.5	22	147				
4-Nitrophenol	12.3	0.518	41.41	0	29.8	0.01	132				
Acenaphthene	40.8	0.518	41.41	0	98.5	37	145				
Acenaphthylene	39.3	0.518	41.41	0	94.9	33	145				
Aniline	22.7	0.518	41.41	0	54.9	16	134				
Anthracene	41.7	0.518	41.41	0	101	27	133				
Azobenzene	38.8	0.518	41.41	0	93.7	70	130				
Benz(a)anthracene	40.3	0.518	41.41	0	97.3	33	143				
Benzidine	7.03	0.518	41.41	0	17.0	0.1	140				
Benzo(a)pyrene	37.0	0.518	41.41	0	89.4	17	163				
Benzo(b)fluoranthene	37.5	0.518	41.41	0	90.6	24	159				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107216-001CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41398						
Client ID: 072621LLIG	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	37.6	0.518	41.41	0	90.9	0.01	219				
Benzo(k)fluoranthene	34.6	0.518	41.41	0	83.6	11	162				
Benzoic Acid	7.06	5.18	41.41	0	17.0	0	250				
Bis(2-chloroethyl)ether	26.2	0.518	41.41	0	63.3	12	158				
Butyl benzyl phthalate	46.8	0.518	41.41	0	113	0.01	152				
Carbazole	40.8	0.518	41.41	0	98.6	23	131				
Chrysene	41.1	0.518	41.41	0	99.2	17	168				
Dibenz(a,h)anthracene	39.1	0.518	41.41	0	94.5	0.01	224				
Diethyl phthalate	42.4	0.518	41.41	6.836	85.9	0.01	114				
Dimethyl phthalate	41.9	0.518	41.41	0	101	0.01	112				
Di-n-butyl phthalate	42.1	0.518	41.41	0	102	1	118				
Di-n-octyl phthalate	48.9	0.518	41.41	0	118	4	146				
Fluoranthene	41.3	0.518	41.41	0	99.7	26	137				
Fluorene	41.3	0.518	41.41	0	99.8	19	121				
Hexachlorobenzene	41.2	0.518	41.41	0	99.5	0.01	152				
Hexachlorobutadiene	32.7	0.518	41.41	0	79.0	24	116				
Hexachlorocyclopentadiene	39.9	0.518	41.41	0	96.3	10	110				
Hexachloroethane	21.5	0.518	41.41	0	52.0	40	143				
Indeno(1,2,3-cd)pyrene	38.7	0.518	41.41	0	93.4	0.01	171				
Isophorone	36.6	0.518	41.41	0	88.3	21	196				
Naphthalene	34.4	0.518	41.41	0	83.1	21	133				
Nitrobenzene	36.8	0.518	41.41	0	88.8	35	180				
N-Nitrosodimethylamine	15.6	0.518	41.41	0	37.6	0.01	230				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107216-001CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41398						
Client ID: 072621LLIG	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	42.5	0.518	41.41	0	103	0.01	250				
Pentachlorophenol	81.2	0.518	41.41	0	196	14	176				S
Phenanthrene	41.1	0.518	41.41	0	99.2	24	120				
Phenol	4.47	0.518	41.41	8.394	-9.47	5	112				S
Pyrene	38.1	0.518	41.41	0	91.9	12	115				
Pyridine	13.8	0.518	41.41	0	33.4	13	158				

Sample ID: CAL20	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41398						
Client ID: CCV	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/30/2021	SeqNo: 532481						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.7	0.500	20.00	0	104	80	120				
1,2-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,2-Diphenylhydrazine	20.6	0.500	20.00	0	103	80	120				
1,3-Dichlorobenzene	20.6	0.500	20.00	0	103	80	120				
1,4-Dichlorobenzene	19.1	0.500	20.00	0	95.6	80	120				
2,4,6-Trichlorophenol	19.4	0.500	20.00	0	97.2	80	120				
2,4-Dichlorophenol	21.2	0.500	20.00	0	106	80	120				
2,4-Dimethylphenol	20.2	0.500	20.00	0	101	80	120				
2,4-Dinitrophenol	16.2	0.500	20.00	0	81.0	80	120				
2,4-Dinitrotoluene	21.2	0.500	20.00	0	106	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41398</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532481</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	20.8	0.500	20.00	0	104	80	120				
2-Chloronaphthalene	20.6	0.500	20.00	0	103	80	120				
2-Chlorophenol	19.8	0.500	20.00	0	98.9	80	120				
2-Methylphenol	19.8	0.500	20.00	0	99.2	80	120				
2-Nitrophenol	20.3	0.500	20.00	0	101	80	120				
3,3'-Dichlorobenzidine	20.9	0.500	20.00	0	105	80	120				
3,4-Methylphenol	20.2	1.00	20.00	0	101	80	120				
4-Bromophenyl phenyl ether	16.7	0.500	20.00	0	83.6	80	120				
4-Chloro-3-methylphenol	20.4	0.500	20.00	0	102	80	120				
4-Chlorophenyl phenyl ether	22.3	0.500	20.00	0	112	80	120				
4-Nitrophenol	20.5	0.500	20.00	0	103	80	120				
Acenaphthene	20.6	0.500	20.00	0	103	80	120				
Acenaphthylene	20.7	0.500	20.00	0	104	80	120				
Aniline	21.1	0.500	20.00	0	106	80	120				
Anthracene	20.6	0.500	20.00	0	103	80	120				
Azobenzene	20.6	0.500	20.00	0	103	80	120				
Benz(a)anthracene	20.7	0.500	20.00	0	103	80	120				
Benzidine	19.5	0.500	20.00	0	97.4	80	120				
Benzo(a)pyrene	20.9	0.500	20.00	0	105	80	120				
Benzo(b)fluoranthene	20.9	0.500	20.00	0	104	80	120				
Benzo(g,h,i)perylene	21.0	0.500	20.00	0	105	80	120				
Benzo(k)fluoranthene	20.6	0.500	20.00	0	103	80	120				
Benzoic Acid	17.7	5.00	20.00	0	88.6	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: CAL20	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41398						
Client ID: CCV	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/30/2021	SeqNo: 532481						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	21.4	0.500	20.00	0	107	80	120				
Bis(2-chloroethyl)ether	20.8	0.500	20.00	0	104	80	120				
Bis(2-chloroisopropyl)ether	19.8	0.500	20.00	0	99.2	80	120				
Bis(2-ethylhexyl)phthalate	19.2	0.500	20.00	0	95.9	80	120				
Butyl benzyl phthalate	20.9	0.500	20.00	0	105	80	120				
Carbazole	20.8	0.500	20.00	0	104	80	120				
Chrysene	20.6	0.500	20.00	0	103	80	120				
Dibenz(a,h)anthracene	20.8	0.500	20.00	0	104	80	120				
Diethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Dimethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-butyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-octyl phthalate	20.7	0.500	20.00	0	104	80	120				
Fluoranthene	20.7	0.500	20.00	0	103	80	120				
Fluorene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobenzene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobutadiene	20.8	0.500	20.00	0	104	80	120				
Hexachlorocyclopentadiene	19.7	0.500	20.00	0	98.7	80	120				
Hexachloroethane	19.8	0.500	20.00	0	99.0	80	120				
Indeno(1,2,3-cd)pyrene	21.0	0.500	20.00	0	105	80	120				
Isophorone	20.9	0.500	20.00	0	105	80	120				
Naphthalene	20.6	0.500	20.00	0	103	80	120				
Nitrobenzene	21.0	0.500	20.00	0	105	80	120				
N-Nitrosodimethylamine	21.6	0.500	20.00	0	108	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41398</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532481</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	20.0	0.500	20.00	0	100	80	120				
N-Nitrosodiphenylamine	20.6	0.500	20.00	0	103	80	120				
Pentachlorophenol	19.1	0.500	20.00	0	95.7	80	120				
Phenanthrene	20.6	0.500	20.00	0	103	80	120				
Phenol	21.4	0.500	20.00	0	107	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	21.0	0.500	20.00	0	105	80	120				

Sample ID: <b>MB-18271</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/27/2021</b>	RunNo: <b>41398</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532483</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18271</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/27/2021</b>	RunNo: <b>41398</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532483</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18271</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/27/2021</b>	RunNo: <b>41398</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532483</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18271</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/27/2021</b>	RunNo: <b>41398</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532483</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	65.8		100.0		65.8	33.1	129.7				
Surr: 2-Fluorobiphenyl	79.0		100.0		79.0	33.1	126.2				
Surr: 2-Fluorophenol	36.6		100.0		36.6	13.4	127.1				
Surr: 4-Terphenyl-d14	120		100.0		120	41	122				
Surr: Nitrobenzene-d5	78.4		100.0		78.4	28.9	129.9				
Surr: Phenol-d6	20.6		100.0		20.6	10.6	128.5				

Sample ID: <b>LCS-18271</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/27/2021</b>	RunNo: <b>41398</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18271</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532486</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	32.2	0.500	40.00	0	80.4	44	142				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS-18271	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSW	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532486						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	29.2	0.500	40.00	0	73.0	32	129				
1,2-Diphenylhydrazine	38.1	0.500	40.00	0	95.2	40	140				
1,3-Dichlorobenzene	29.2	0.500	40.00	0	73.0	0.01	172				
1,4-Dichlorobenzene	30.4	0.500	40.00	0	76.0	20	124				
2,4,6-Trichlorophenol	45.9	0.500	40.00	0	115	37	144				
2,4-Dichlorophenol	37.9	0.500	40.00	0	94.8	39	135				
2,4-Dimethylphenol	31.2	0.500	40.00	0	78.1	32	119				
2,4-Dinitrophenol	33.8	0.500	40.00	0	84.5	0.01	191				
2,4-Dinitrotoluene	43.7	0.500	40.00	0	109	39	139				
2,6-Dinitrotoluene	52.8	0.500	40.00	0	132	30	158				
2-Chloronaphthalene	37.0	0.500	40.00	0	92.5	30	118				
2-Chlorophenol	32.1	0.500	40.00	0	80.2	23	134				
2-Methylphenol	28.1	0.500	40.00	0	70.2	30	120				
2-Nitrophenol	37.9	0.500	40.00	0	94.8	29	182				
3,3'-Dichlorobenzidine	43.4	0.500	40.00	0	108	0.01	262				
3,4-Methylphenol	24.5	1.00	40.00	0	61.4	30	120				
4,6-Dinitro-2-methylphenol	31.1	0.500	40.00	0	77.8	0.01	181				
4-Bromophenyl phenyl ether	30.2	0.500	40.00	0	75.5	33	127				
4-Chloro-3-methylphenol	34.2	0.500	40.00	0	85.6	22	147				
4-Chlorophenyl phenyl ether	32.2	0.500	40.00	0	80.6	25	158				
4-Nitrophenol	18.4	0.500	40.00	0	45.9	0.01	132				
Acenaphthene	39.8	0.500	40.00	0	99.4	37	145				
Acenaphthylene	37.2	0.500	40.00	0	93.0	33	145				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS-18271	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSW	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532486						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	29.8	0.500	40.00	0	74.5	16	134				
Anthracene	41.5	0.500	40.00	0	104	27	133				
Azobenzene	38.1	0.500	40.00	0	95.2	70	130				
Benz(a)anthracene	40.9	0.500	40.00	0	102	33	143				
Benzidine	24.3	0.500	40.00	0	60.8	0.1	140				
Benzo(a)pyrene	38.0	0.500	40.00	0	94.9	17	163				
Benzo(b)fluoranthene	39.8	0.500	40.00	0	99.6	24	159				
Benzo(g,h,i)perylene	39.0	0.500	40.00	0	97.6	0.01	219				
Benzo(k)fluoranthene	36.5	0.500	40.00	0	91.2	11	162				
Benzoic Acid	6.34	5.00	40.00	0	15.8	0	250				
Bis(2-chloroethoxy)methane	30.1	0.500	40.00	0	75.3	33	184				
Bis(2-chloroethyl)ether	33.6	0.500	40.00	0	84.1	12	158				
Bis(2-chloroisopropyl)ether	28.8	0.500	40.00	0	72.0	20	140				
Bis(2-ethylhexyl)phthalate	29.9	0.500	40.00	0	74.7	8	158				
Butyl benzyl phthalate	45.6	0.500	40.00	0	114	0.01	152				
Carbazole	40.6	0.500	40.00	0	102	23	131				
Chrysene	41.0	0.500	40.00	0	102	17	168				
Dibenz(a,h)anthracene	41.0	0.500	40.00	0	103	0.01	224				
Diethyl phthalate	41.4	0.500	40.00	0	104	0.01	114				
Dimethyl phthalate	41.5	0.500	40.00	0	104	0.01	112				
Di-n-butyl phthalate	41.6	0.500	40.00	0	104	1	118				
Di-n-octyl phthalate	45.8	0.500	40.00	0	115	4	146				
Fluoranthene	43.2	0.500	40.00	0	108	26	137				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS-18271	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSW	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532486						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	40.1	0.500	40.00	0	100	19	121				
Hexachlorobenzene	42.6	0.500	40.00	0	106	0.01	152				
Hexachlorobutadiene	31.0	0.500	40.00	0	77.5	24	116				
Hexachlorocyclopentadiene	45.1	0.500	40.00	0	113	10	150				
Hexachloroethane	28.4	0.500	40.00	0	71.0	40	143				
Indeno(1,2,3-cd)pyrene	40.4	0.500	40.00	0	101	0.01	171				
Isophorone	34.6	0.500	40.00	0	86.4	21	196				
Naphthalene	32.8	0.500	40.00	0	82.0	35	133				
Nitrobenzene	35.2	0.500	40.00	0	88.1	14	150				
N-Nitrosodimethylamine	21.5	0.500	40.00	0	53.8	0.01	250				
N-Nitrosodi-n-propylamine	30.6	0.500	40.00	0	76.4	0.01	230				
N-Nitrosodiphenylamine	43.1	0.500	40.00	0	108	0.01	133				
Pentachlorophenol	46.6	0.500	40.00	0	116	24	176				
Phenanthrene	41.4	0.500	40.00	0	104	5	120				
Phenol	14.0	0.500	40.00	0	35.1	12	112				
Pyrene	40.2	0.500	40.00	0	100	12	115				
Pyridine	14.4	0.500	40.00	0	36.1	13	158				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18271	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSS02	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532487						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	28.3	0.500	40.00	0	70.8	44	142	32.16	12.8	20	
1,2-Dichlorobenzene	34.1	0.500	40.00	0	85.4	32	129	29.22	15.5	20	
1,2-Diphenylhydrazine	34.0	0.500	40.00	0	85.0	40	140	38.07	11.4	20	
1,3-Dichlorobenzene	33.7	0.500	40.00	0	84.2	0.01	172	29.18	14.3	20	
1,4-Dichlorobenzene	34.2	0.500	40.00	0	85.6	20	124	30.41	11.8	20	
2,4,6-Trichlorophenol	25.1	0.500	40.00	0	62.8	37	144	45.89	58.5	20	R
2,4-Dichlorophenol	31.5	0.500	40.00	0	78.7	39	135	37.92	18.5	20	
2,4-Dimethylphenol	27.8	0.500	40.00	0	69.6	32	119	31.23	11.5	20	
2,4-Dinitrophenol	33.1	0.500	40.00	0	82.8	0.01	191	33.79	1.94	20	
2,4-Dinitrotoluene	41.2	0.500	40.00	0	103	39	139	43.68	5.94	20	
2,6-Dinitrotoluene	30.0	0.500	40.00	0	75.0	30	158	52.81	55.0	20	R
2-Chloronaphthalene	32.6	0.500	40.00	0	81.5	30	118	37.01	12.6	20	
2-Chlorophenol	22.1	0.500	40.00	0	55.3	23	134	32.07	36.8	20	R
2-Methylphenol	30.0	0.500	40.00	0	75.1	30	120	28.07	6.81	20	
2-Nitrophenol	31.3	0.500	40.00	0	78.4	29	182	37.93	19.0	20	
3,3'-Dichlorobenzidine	40.6	0.500	40.00	0	101	0.01	262	43.40	6.69	20	
3,4-Methylphenol	29.3	1.00	40.00	0	73.2	30	120	24.54	17.6	20	
4,6-Dinitro-2-methylphenol	31.7	0.500	40.00	0	79.2	0.01	181	31.14	1.78	20	
4-Bromophenyl phenyl ether	31.1	0.500	40.00	0	77.8	33	127	30.21	3.03	20	
4-Chloro-3-methylphenol	29.2	0.500	40.00	0	73.0	22	147	34.24	15.9	20	
4-Chlorophenyl phenyl ether	29.7	0.500	40.00	0	74.2	25	158	32.23	8.20	20	
4-Nitrophenol	26.1	0.500	40.00	0	65.3	0.01	132	18.35	34.9	20	R
Acenaphthene	33.4	0.500	40.00	0	83.4	37	145	39.77	17.5	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18271	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSS02	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532487						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	32.9	0.500	40.00	0	82.2	33	145	37.22	12.4	20	
Aniline	33.0	0.500	40.00	0	82.5	16	134	29.79	10.2	20	
Anthracene	39.2	0.500	40.00	0	98.0	27	133	41.53	5.82	20	
Azobenzene	34.0	0.500	40.00	0	85.0	70	130	38.07	11.4	0	
Benz(a)anthracene	39.4	0.500	40.00	0	98.4	33	143	40.92	3.91	20	
Benzidine	16.8	0.500	40.00	0	42.0	0.1	140	24.31	36.5	20	R
Benzo(a)pyrene	37.3	0.500	40.00	0	93.3	17	163	37.95	1.70	20	
Benzo(b)fluoranthene	38.2	0.500	40.00	0	95.6	24	159	39.82	4.05	20	
Benzo(g,h,i)perylene	37.3	0.500	40.00	0	93.3	0.01	219	39.05	4.58	20	
Benzo(k)fluoranthene	36.8	0.500	40.00	0	92.0	11	162	36.48	0.873	20	
Benzoic Acid	5.20	5.00	40.00	0	13.0	0	250	6.340	19.8	20	
Bis(2-chloroethoxy)methane	30.3	0.500	40.00	0	75.6	33	184	30.12	0.464	20	
Bis(2-chloroethyl)ether	37.5	0.500	40.00	0	93.8	12	158	33.65	10.9	20	
Bis(2-chloroisopropyl)ether	29.9	0.500	40.00	0	74.7	20	140	28.79	3.75	20	
Bis(2-ethylhexyl)phthalate	31.1	0.500	40.00	0	77.8	8	158	29.87	4.16	20	
Butyl benzyl phthalate	44.2	0.500	40.00	0	111	0.01	152	45.61	3.05	20	
Carbazole	39.2	0.500	40.00	0	98.1	23	131	40.60	3.38	20	
Chrysene	39.6	0.500	40.00	0	98.9	17	168	40.97	3.50	20	
Dibenz(a,h)anthracene	39.1	0.500	40.00	0	97.8	0.01	224	41.04	4.79	20	
Diethyl phthalate	40.2	0.500	40.00	0	100	0.01	114	41.43	3.11	20	
Dimethyl phthalate	37.6	0.500	40.00	0	94.0	0.01	112	41.54	9.96	20	
Di-n-butyl phthalate	40.9	0.500	40.00	0	102	1	118	41.63	1.70	20	
Di-n-octyl phthalate	44.5	0.500	40.00	0	111	4	146	45.83	3.03	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18271	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: LCSS02	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532487						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	41.5	0.500	40.00	0	104	26	137	43.16	3.85	20	
Fluorene	34.6	0.500	40.00	0	86.5	19	121	40.09	14.8	20	
Hexachlorobenzene	37.4	0.500	40.00	0	93.4	0.01	152	42.56	13.0	20	
Hexachlorobutadiene	27.7	0.500	40.00	0	69.3	24	116	30.99	11.1	20	
Hexachlorocyclopentadiene	27.8	0.500	40.00	0	69.4	10	110	45.07	47.5	20	R
Hexachloroethane	32.4	0.500	40.00	0	81.0	40	143	28.39	13.2	20	
Indeno(1,2,3-cd)pyrene	38.6	0.500	40.00	0	96.6	0.01	171	40.38	4.38	20	
Isophorone	32.1	0.500	40.00	0	80.2	21	196	34.57	7.50	20	
Naphthalene	29.6	0.500	40.00	0	73.9	21	133	32.82	10.5	20	
Nitrobenzene	31.0	0.500	40.00	0	77.6	35	180	35.23	12.7	20	
N-Nitrosodimethylamine	15.8	0.500	40.00	0	39.4	0.01	230	21.53	31.0	20	R
N-Nitrosodi-n-propylamine	30.2	0.500	40.00	0	75.6	0.01	250	30.56	1.02	20	
N-Nitrosodiphenylamine	37.2	0.500	40.00	0	92.9	0.01	250	43.07	14.7	20	
Pentachlorophenol	43.7	0.500	40.00	0	109	14	176	46.55	6.36	20	
Phenanthrene	38.2	0.500	40.00	0	95.4	24	120	41.43	8.19	20	
Phenol	16.3	0.500	40.00	0	40.8	5	112	14.04	14.9	20	
Pyrene	39.0	0.500	40.00	0	97.5	12	115	40.19	3.06	20	
Pyridine	11.0	0.500	40.00	0	27.6	13	158	14.43	26.7	20	R

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>CCV1-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530890</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	255	10.0	250.0	0	102	90	110				

Sample ID: <b>MB-R41311</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530891</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>LCS-R41311</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530892</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	251	10.0	250.0	0	100	87.5	111				

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	243	10.0	100.0	147.0	96.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107151-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530896</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	250	10.0	100.0	147.0	103	80	120	243.0	2.84	20	

Sample ID: <b>CCV2-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530901</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	215	10.0	200.0	0	108	90	110				

Sample ID: <b>2107227-004CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	178.0	97.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-004CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530905</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	280	10.0	100.0	178.0	102	80	120	275.0	1.80	20	

Sample ID: <b>CCV3-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	210	10.0	200.0	0	105	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_S

Sample ID: <b>LCS-R41388</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531947</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	202	10.0	200.0	0	101	80	120				

Sample ID: <b>MB-R41388</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531948</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	ND	10.0									

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531950</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	114	100						78.39	37.0	20	RRF

Sample ID: <b>CCV-R41388</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531952</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	205	10.0	200.0	0	103	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_S

Sample ID: <b>CCV-R41388</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531952</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41291</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41291</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41291</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>530631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41291</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41291</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41291</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>530632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	166	2.00	171.0	0	97.0	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41290</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41290</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41290</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>530623</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41290</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41290</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41290</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>530624</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0	198.0	0	0	84	116				SCN

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>ICV-R41307</b>	SampType: <b>ICV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530866</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0547	0.00500	0.05000	0	109	90	110				

Sample ID: <b>MB-R41307</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530868</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	ND	0.00500									

Sample ID: <b>LCS-R41307</b>	SampType: <b>LCS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530869</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0906	0.00500	0.1000	0	90.6	80	120				

Sample ID: <b>CCV1-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0982	0.00500	0.1000	0	98.2	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>CCV1-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530872</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.858	0.150	1.502	1.472	-40.8	80	120				SRP

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530873</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.658	0.150	1.502	1.472	-54.2	80	120	0.8584	26.5	20	RSRP

Sample ID: <b>CCV-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530878</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.100	0.00500	0.1000	0	100	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530879</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	3.24	0.150	1.502	1.472	118	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41306</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530837</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0547	0.00500	0.05000	0	109	90	110				

Sample ID: <b>MB-R41306</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530839</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41306</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530840</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0906	0.00500	0.1000	0	90.6	80	120				

Sample ID: <b>2107216-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>072621LLIG</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0506	0.00500	0.05000	0.005898	89.5	67.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>072621LLIG</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>072621LLIG</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530842</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0490	0.00500	0.05000	0.005898	86.2	67.9	120	0.05065	3.35	20	

Sample ID: <b>CCV2-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530857</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0969	0.00500	0.1000	0	96.9	90	110				

Sample ID: <b>2107264-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530858</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0574	0.00500	0.05000	0.01904	76.7	67.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107264-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530859</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0577	0.00500	0.05000	0.01904	77.3	67.9	120	0.05739	0.540	20	

Sample ID: <b>CCV3-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530861</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0986	0.00500	0.1000	0	98.6	90	110				

Sample ID: <b>CCV4-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530864</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0979	0.00500	0.1000	0	97.9	90	110				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** Cr6\_S\_IC

Sample ID: <b>LCS-18405</b>	SampType: <b>LCS</b>	TestCode: <b>CR6_S_IC</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533850</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	475	10.0	400.0	0	119	80	120				

Sample ID: <b>LCSD-18405</b>	SampType: <b>LCSD</b>	TestCode: <b>CR6_S_IC</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533851</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	470	10.0	400.0	0	117	80	120	475.2	1.19	20	

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533853</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	39.3	10.0						37.73	4.17	20	

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533854</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	111	10.0	802.7	37.73	9.10	75	125				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** Cr6\_S\_IC

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533854</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533855</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	111	10.0	802.7	37.73	9.15	75	125	110.8	0.362	20	SMI

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41458</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532907</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41458</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	90	110				

Sample ID: <b>2107226-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532911</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	75	125				

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	43.4	5.00	50.00	0	86.7	75	125	50.49	15.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107207-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532914</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	4.105	85.6	75	125				

Sample ID: <b>2107207-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532915</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	4.105	89.2	75	125	46.92	3.73	20	

Sample ID: <b>CCV1-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532917</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107219-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532922</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	51.4	5.00	50.00	4.105	94.6	75	125				

Sample ID: <b>2107219-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532923</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	53.2	5.00	50.00	4.105	98.1	75	125	51.38	3.41	20	

Sample ID: <b>CCV2-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532928</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	49.6	5.00	50.00	0	99.2	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531596</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.3	0.200	33.08	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531597</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	32.8	0.200	33.08	0	99.3	90	110				

Sample ID: <b>MB-18305</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531598</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	29.4	0.200	33.08	0	89.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531601</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	58.7	0.200						58.00	1.22	20	

Sample ID: <b>2107216-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531602</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	91.2	0.200	33.08	58.00	100	80	120				

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531603</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	89.6	0.200	33.08	58.00	95.5	80	120	91.24	1.81	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531612</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.3	0.200	33.08	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HG\_CTS

Sample ID: <b>LCS-R41228</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41228</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529809</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	413	10.0	400.0	0	103	80	120				

Sample ID: <b>LCSD-R41228</b>	SampType: <b>LCSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41228</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529810</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	429	10.0	400.0	0	107	80	120	412.6	3.90	20	

Sample ID: <b>MB-R41228</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41228</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529811</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	10.0									

Sample ID: <b>2107214-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41228</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529814</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	9.72						0	0	20	RRF

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HG\_CTS

Sample ID: <b>2107214-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41228</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529814</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107214-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41228</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529815</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	146	9.47	378.6	0.7990	38.4	75	125				SMI

Sample ID: <b>2107214-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41228</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529816</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	89.7	9.86	394.5	0.7990	22.5	75	125	146.3	48.0	20	RSMI

Sample ID: <b>CCV-R41228</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41228</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18267</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529818</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	427	10.0	400.0	0	107	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>ICV-R41236</b>	SampType: <b>ICV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529953</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.503	0.0200	0.5000	0	101	90	110				

Sample ID: <b>ICB-R41236</b>	SampType: <b>ICB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529954</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41236</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529955</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41236</b>	SampType: <b>LCS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529956</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.995	0.0200	1.000	0	99.5	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>LCS-R41236</b>	SampType: <b>LCS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529956</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41236</b>	SampType: <b>CCV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529957</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.985	0.0200	1.000	0	98.5	90	110				

Sample ID: <b>CCB1-R41236</b>	SampType: <b>CCB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529958</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529960</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	46.7	1.00	10.03	27.19	194	80	120				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529961</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	39.9	1.00	10.03	27.19	127	80	120	46.66	15.5	20	SMI

Sample ID: <b>CCV2-R41236</b>	SampType: <b>CCV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529962</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.977	0.0200	1.000	0	97.7	90	110				

Sample ID: <b>CCB2-R41236</b>	SampType: <b>CCB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41236</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41236</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529963</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41235</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529931</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.503	0.0200	0.5000	0	101	90	110				

Sample ID: <b>ICB-R41235</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529932</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41235</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529933</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41235</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529934</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.995	0.0200	1.000	0	99.5	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41235</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529934</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41235</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529938</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.985	0.0200	1.000	0	98.5	90	110				

Sample ID: <b>2107218-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529940</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.08	0.0200	1.000	0.08600	99.7	68.7	124				

Sample ID: <b>2107218-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529941</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.09	0.0200	1.000	0.08600	101	68.7	124	1.083	1.01	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41235</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529942</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.973	0.0200	1.000	0	97.3	90	110				

Sample ID: <b>CCV3-R41235</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41235</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41235</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529947</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.974	0.0200	1.000	0	97.4	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** PH\_S

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PH_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>41219</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41219</b>	TestNo: <b>SW9045D</b>	Analysis Date: <b>7/27/2021</b>	SeqNo: <b>529752</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.00	1.00						4.830	3.46	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL\_S

Sample ID: <b>MB-R41502</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>PBS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533425</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: <b>LCS-R41502</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>LCSS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533426</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	0.955	0.0200	1.000	0	95.5 90 110

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>072621LLBS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533429</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	4020	100	2505	1467	102 80 120

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>072621LLBS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533430</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	3960	100	2505	1467	99.7 80 120 4019 1.36 20

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL\_S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533430</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV-R41502</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533432</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.950	0.0200	1.000	0	95.0	90	110				

Sample ID: <b>CCB-R41502</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533433</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_S

Sample ID: <b>MB-R41260</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530304</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	2.00									

Sample ID: <b>LCS-R41260</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530305</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	114	2.00	100.0	0	114	80	120				

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530307</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	1610	20.1						802.7	66.7	20	RMI

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41238</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41238</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41238</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529977</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41238</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41238</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41238</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529978</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2107216-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41238</b>						
Client ID: <b>072621LLIG</b>	Batch ID: <b>R41238</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529980</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	8.00	1.00						7.840	2.02	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>072721LLEC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SOLID

Sample ID: <b>ICV-R41510</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533508</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	5.36	0.220	5.000	0	107	90	110				

Sample ID: <b>MB-R41510</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533510</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	0.220									

Sample ID: <b>LCS-R41510</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533511</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	5.40	0.220	5.000	0	108	80	120				

Sample ID: <b>CCV1-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533512</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.2	0.220	10.00	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SOLID

Sample ID: <b>CCV1-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107227-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533515</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	847	22.1	501.3	786.1	12.2	75	125				SMC

Sample ID: <b>2107227-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	850	22.1	501.3	786.1	12.8	75	125	847.2	0.378	20	SMC

Sample ID: <b>CCV2-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.1	0.220	10.00	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41301</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530760</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41301</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530761</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1120	5.00	1000	0	112	80	120				

Sample ID: <b>2107216-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>072621LLIG</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530763</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	624	5.00						625.0	0.160	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41234</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529919</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41234</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529920</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	92.0	10.0	100.0	0	92.0	80	105				

Sample ID: <b>2107224-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529926</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	457	10.0						446.7	2.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107216

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** VS\_S

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>VS_S</b>	Units: <b>wt%</b>	Prep Date:	RunNo: <b>41429</b>						
Client ID: <b>072621LLBS</b>	Batch ID: <b>R41429</b>	TestNo: <b>SM2540 G</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532455</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Volatile Solids	85.8	0						85.84	0.0105	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2107216

RcptNo: 1

Date and Time Received 7/27/2021 1:10:00 PM

Received by: Julie Clay

Completed by

Reviewed by:

Completed Date: 7/27/2021 1:29:44 PM

Reviewed Date: 7/28/2021 12:40:32 PM

Carrier name: SA

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No  Not Present
- Are matrices correctly identified on Chain of custody? Yes  No
- Is it clear what analyses were requested? Yes  No
- Custody seals intact on sample bottles? Yes  No  Not Present
- Samples in proper container/bottle? Yes  No
- Were correct preservatives used and noted? Yes  No  NA
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- Were container labels complete (ID, Pres, Date)? Yes  No
- All samples received within holding time? Yes  No
- Was an attempt made to cool the samples? Yes  No  NA
- All samples received at a temp. of > 0° C to 6.0° C? Yes  No  NA
- Response when temperature is outside of range:  
Preservative added to bottles:
- Sample Temp. taken and recorded upon receipt? Yes  No  To 3.9°C
- Water - Were bubbles absent in VOC vials? Yes  No  No Vials
- Water - Was there Chlorine Present? Yes  No  NA
- Water - pH acceptable upon receipt? Yes  No  NA
- Are Samples considered acceptable? Yes  No
- Custody Seals present? Yes  No
- Traffic Report or Packing Lists present? Yes  No
- Airbill or Sticker? Air Bill  Sticker  Not Present
- Airbill No:
- Sample Tags Present? Yes  No
- Sample Tags Listed on COC? Yes  No
- Tag Numbers:
- Sample Condition? Intact  Broken  Leaking

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be





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## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: Wilsonville**

**Work Order Number: 2107469**

August 24, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 3 sample(s) on 7/29/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

**CC:**

Martin French



Date: 08/24/2021

---

**CLIENT:** Specialty Analytical  
**Project:** Wilsonville  
**Work Order:** 2107469

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2107469-001	072721 LLIC	07/27/2021 10:00 AM	07/29/2021 9:49 AM
2107469-002	072721 LLEC	07/27/2021 10:00 AM	07/29/2021 9:49 AM
2107469-003	072721 VILLABOIS	07/27/2021 10:45 AM	07/29/2021 9:49 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

Original

---

**CLIENT:** Specialty Analytical  
**Project:** Wilsonville

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2107469-001A

M-1631-W has been Sub Contracted.

2107469-002A

M-1631-W has been Sub Contracted.

2107469-003A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2107469

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received three (3) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 2107469-002A (2108108-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210922.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.





## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2107469-001A	072721 LLIC	2108108-01	Wastewater	Sample	07/27/2021	08/09/2021
2107469-002A	072721 LLEC	2108108-02	Wastewater	Sample	07/27/2021	08/09/2021
2107469-003A	72721 VILLABOI	2108108-03	Wastewater	Sample	07/27/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922

## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2107469-001A, 072721 LLIC</b>										
2108108-01	Hg	Wastewater	TR	50.9		0.68	2.11	ng/L	B212210	S210907
<b>2107469-002A, 072721 LLEC</b>										
2108108-02	Hg	Wastewater	TR	1.39		0.14	0.42	ng/L	B212210	S210922
<b>2107469-003A, 072721 VILLABOIS</b>										
2108108-03	Hg	Wastewater	TR	7.95		0.68	2.11	ng/L	B212210	S210907



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS5	Matrix Spike (2108109-01) Hg	80.10	526.3	572.0	ng/L	93% 71-125	
B212210-MSD5	Matrix Spike Duplicate (2108109-01) Hg	80.10	526.3	573.6	ng/L	94% 71-125	0.3% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	<b>0.08</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.03</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	



## Sample Containers

<b>Lab ID:</b> 2108108-01 <b>Sample:</b> 2107469-001A			<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample		<b>Collected:</b> 07/27/2021 <b>Received:</b> 08/09/2021		
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b>	<b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108108
<b>Lab ID:</b> 2108108-02 <b>Sample:</b> 2107469-002A			<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample		<b>Collected:</b> 07/27/2021 <b>Received:</b> 08/09/2021		
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b>	<b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108108
<b>Lab ID:</b> 2108108-03 <b>Sample:</b> 2107469-003A			<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample		<b>Collected:</b> 07/27/2021 <b>Received:</b> 08/09/2021		
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b>	<b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108108

## Shipping Containers

### Cooler - 2108108

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



**CHAIN OF CUSTODY RECORD**

Omega COCID 1101

PAGE: 1

OF: 1

ADDRESS: BAL Report 2108108

Fremont Analytical, Inc.  
3600 Fremont Ave. N.  
Seattle, WA 98103  
TEL: 206-352-3790  
FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS: Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w BrCl.</i>	
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>			
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>			
PHONE:	FAX:		EMAIL:
ACCOUNT #:			

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2107469-001A M-1631-W	072721 LLIC	AMBER GLASS 5	Wastewater	7/27/2021 10:00:00 AM	1	
2	2107469-002A M-1631-W	072721 LLEC	AMBER GLASS 5	Wastewater	7/27/2021 10:00:00 AM	1	
3	2107469-003A M-1631-W	072721 VILLABOIS	AMBER GLASS 5	Wastewater	7/27/2021 10:45:00 AM	1	

Relinquished By: <i>B. Barnes</i>	Date: <i>8/19/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/19/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE  FOR LAB USE ONLY Temp of samples _____ °C    Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT:    Standard <input type="checkbox"/> RUSH:    Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/> Note: RUSH requests will incur surcharges!						

Client Name: <b>SPECIAL</b>	Work Order Number: <b>2107469</b>
Logged by: <b>Gabrielle Coeuille</b>	Date Received: <b>7/29/2021 9:49:00 AM</b>

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* Unknown prior to receipt Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample 1	24.4

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Jannsen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

2107469

Client: **Specialty Analytical**

Date: **7-27-21** Page: **1** of **1**  
Project Name: **Wilsonville**  
Project No: **2107216** PO No:

Address:

Collected by:

City, State, Zip:

State Collected:  OR  WA  OTHER

Telephone:

Report To (PM): **Julie Clay & Martin French**

AP Email: **monday@specialtyanalytical.com**

PM Email: **juice@specialtyanalytical.com + Marty@specialtyanalytical.com**

*I - influent  
E - effluent*

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers
072721 <del>FE</del> <b>LLTC</b>	7-27-21	1000	WW	1
072721 <del>FE</del> <b>LLTC</b>	7-27-21	1000	WW	1
072721 <b>villabois</b>	7/27	10:45	WW	1

Requested Tests  
*LOW LEVEL MERCURY (63)*

Comments

\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
Expedited turn-around requests should be coordinated in advance

Relinquished  **Kell McCallard** Date/Time **7-27-21** Received  **Justin May** Date/Time **9:49 7/29/21**

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_



# Specialty Analytical

9011 SE Jannsen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Client: Wilsonville

Address:

City, State, Zip: Wilsonville OR 97070

Telephone: 503-701-9671

AP Email:

G - grab  
C - Composite  
S - Biosolids

Sample Name

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	PM Email: C G G C C G G C G G	Report To (PM):	State Collected: OR WA OTHER	Collected by:	Project No:	Project Name: <u>Wilsonville</u>	Date: <u>7-27-21</u>	Page: <u>of</u>	Laboratory Project No (Internal): <u>2107216</u>	
072621LLFG	7-26-21	1330	WW	10	EPA2008 Metals SM 4500 CRB Hex Chrom SM 4500 CR SM 4500 NHA EPA 3511 TRN EPA 1681 TS EPA 310.2 AIR EPA 625 SM 4500 S20 SM 2510B ROD CROD SM 2540D TSS EPA 624 VOC PT									
072721LLFC	7-27-21	1000	WW	5	X									* 48 hr TAT 624 + 625 SM 4500 S20
072621LLEGR	7-26-21	1300	WW	10										X 48 hr TAT 624 + 625 SM 4500 S20
072721LLCIC	7-27-21	1000	WW	5	X									
072621LLBS	7-26-21	1300	S	3										
072621 Villabois G	7-26-21	3:15P	WW	10										* 48 TAT 624 + 625 SM 4500 S20
072721 Villabois C	7-27-21	10:45A	WW	4										

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Sludg, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:

Expedited turn-around requests should be coordinated in advance

Relinquished x Keeli McClelland 7-27-21 1228 Received x [Signature] 7/27/21 1228

Relinquished x [Signature] 7/27/21 1310 Received x [Signature] 7/27/21 1310

Relinquished x [Signature] Date/Time Received x [Signature] Date/Time



**Sampling Schedule for Local Limits Analysis  
City of Wilsonville WWTP**

Sampling Start Date (Week 1): **5/17** (enter)

Note: Pending this sampling event, a Willamette River sample may be required for future sampling events.

Analytical Method	Collection Method	Week 1		Week 2					
		5/17	5/18	5/24	5/25	5/26	5/27	5/28	
<b>Influent</b>									
EPA 200.8	Composite	x	x	x	x	x	x	x	
EPA 1631E	Composite	x	x	x	x	x	x	x	
SM 3500-CrB	Grab	x	x	x	x	x	x	x	
SM 4500-CN E.	Grab	x	x	x	x	x	x	x	
SM 4500-NH3 G.	Composite	x	x	x	x	x	x	x	
SM 5210B	Composite	x	x	x	x	x	x	x	
SM 2540D	Composite	x	x	x	x	x	x	x	
EPA 624*	Grab	x*	x*	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	*48-hour TAT
EPA 625*	Grab	x*	x*	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	*48-hour TAT
EPA 310.2	Composite	x	x	x	x	x	x	x	
SM 4500-P B.	Composite	x	x	x	x	x	x	x	
EPA 351.1	Composite	x	x	x	x	x	x	x	
pH (field measurement)	Grab	x	x	x	x	x	x	x	
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	x*	x*	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	*48-hour TAT
<b>Final Effluent</b>									
EPA 200.8	Composite	x	x	x	x	x	x	x	
EPA 1631E	Composite	x	x	x	x	x	x	x	
SM 3500-CrB	Grab	x	x	x	x	x	x	x	
SM 4500-CN E.	Grab	x	x	x	x	x	x	x	
SM 4500-NH3 G.	Composite	x	x	x	x	x	x	x	
SM 5210B	Composite	x	x	x	x	x	x	x	
SM 2540D	Composite	x	x	x	x	x	x	x	
EPA 624	Grab	x*	x*	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	*48-hour TAT
EPA 625	Grab	x*	x*	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	x <sup>2</sup>	*48-hour TAT
EPA 310.2	Composite	x	x	x	x	x	x	x	
SM 4500-P B.	Composite	x	x	x	x	x	x	x	
EPA 351.1	Composite	x	x	x	x	x	x	x	
pH (field measurement)	Grab	x	x	x	x	x	x	x	
EPA 1684	Grab								
SM 4500-S2 D.	Grab	x*	x*	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	x <sup>3</sup>	*48-hour TAT
<b>Biosolids</b>									
EPA 200.8	Composite	x	x						
EPA 1631E	Composite	x	x						
SM 3500-CrB	Grab	x	x						
SM 4500-CN E.	Grab	x	x						
SM 4500-NH3 G.	Composite	x	x						
SM 5210B	Composite	x	x						
SM 2540D	Composite	x	x						
EPA 624	Grab	x	x						
EPA 625	Grab	x	x						
EPA 310.2	Composite	x	x						
SM 4500-P B.	Composite	x	x						
EPA 351.1	Composite	x	x						



pH (field measurement)	Grab	X	X						
EPA 1684	Grab	X	X						
SM 4500-S2 D.	Grab	X	X						
<b>Willow Creek and Landover</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	X
EPA 1631E	Composite	X	X	X	X	X	X	X	X
SM 3500-CrB	Grab	X	X	X	X	X	X	X	X
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	X
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	X
SM 5210B	Composite	X	X	X	X	X	X	X	X
SM 2540D	Composite	X	X	X	X	X	X	X	X
EPA 624*	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
EPA 625*	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
EPA 310.2	Composite	X	X	X	X	X	X	X	X
SM 4500-P B.	Composite	X	X	X	X	X	X	X	X
EPA 351.1	Composite	X	X	X	X	X	X	X	X
pH (field measurement)	Grab	X	X	X	X	X	X	X	X
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>
<b>Orepac and Industrial Way</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	X
EPA 1631E	Composite	X	X	X	X	X	X	X	X
SM 3500-CrB	Grab	X	X	X	X	X	X	X	X
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	X
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	X
SM 5210B	Composite	X	X	X	X	X	X	X	X
SM 2540D	Composite	X	X	X	X	X	X	X	X
EPA 624*	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
EPA 625*	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
EPA 310.2	Composite	X	X	X	X	X	X	X	X
SM 4500-P B.	Composite	X	X	X	X	X	X	X	X
EPA 351.1	Composite	X	X	X	X	X	X	X	X
pH (field measurement)	Grab	X	X	X	X	X	X	X	X
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

<b>Constituents by Analytical Method</b>	
EPA 200.8	Aluminum, Antimony, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Molybdenum, Nickel, Potassium, Selenium, Silver, Thallium, Zinc
EPA 1631E	Mercury
SM 3500-CrB	Hexavalent Chromium
SM 4500-CN E.	Cyanide
SM 4500-NH3 G.	Ammonia
SM 5210B	BOD5 and cBOD
SM 2540D	TSS
EPA 624	Chloroform, 1,4-Dichlorobenzene, Toluene, VOCs (see note 1)
EPA 625	All (see note 2)
EPA 310.2	Alkalinity
SM 4500-P B.	Phosphorus (total)
EPA 351.1	TKN
Field Measure	pH
EPA 1684	Total Solids
SM 4500-S2 D.	Sulfide (see note 3)

**Notes**

1. VOCs may be omitted from EPA 624 for Week 2 depending on results of Week 1 sampling.
2. Explosion/Fume Hazard POCs may be omitted from EPA 625 for Week 2 depending on results of Week 1 sampling.
3. SM 4500-S2 D. may be omitted entirely for Week 2 depending on results of Week 1 sampling.

**julie@specialtyanalytical.com**

---

**From:** Pan, Mia <mpan@ci.wilsonville.or.us>  
**Sent:** Tuesday, July 27, 2021 3:17 PM  
**To:** julie@specialtyanalytical.com  
**Cc:** marty@specialtyanalytical.com; 'Mandy Wehe'  
**Subject:** RE: Wilsonville Testing Questions

That's ok! Yes, the sampling schedule is the most accurate, the BS should be tested for all those parameters

**Mia Pan** (she/her)

*Industrial Pretreatment Coordinator*

City of Wilsonville

D: 503-570-1551

C: 503-522-7763

[mpan@ci.wilsonville.or.us](mailto:mpan@ci.wilsonville.or.us)

[www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)



29799 SW Town Center Loop East, Wilsonville, OR 97070

*City Hall is now open, with physical distancing controls in place, however the Public Works Building remains closed to the public. During COVID-19, we wish to remain responsive while prioritizing the health and safety of the Wilsonville community. We are happy to meet by call or teleconference as an alternative to face-to-face meetings.*

---

**From:** julie@specialtyanalytical.com <julie@specialtyanalytical.com>  
**Sent:** Tuesday, July 27, 2021 3:13 PM  
**To:** Pan, Mia <mpan@ci.wilsonville.or.us>  
**Cc:** marty@specialtyanalytical.com; 'Mandy Wehe' <mandy@specialtyanalytical.com>  
**Subject:** RE: Wilsonville Testing Questions

**[This email originated outside of the City of Wilsonville]**

---

Sorry for the confusion, I was asking if the biosolids need to be tested for additional parameters besides pH. On the sampling schedule it has the biosolids being tested for the full list of tests, please see attached.

*Julie Clay*  
*Operations Manager*  
*Specialty Analytical*  
503-607-1331

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---

**From:** Pan, Mia <[mpan@ci.wilsonville.or.us](mailto:mpan@ci.wilsonville.or.us)>  
**Sent:** Tuesday, July 27, 2021 3:10 PM  
**To:** [julie@specialtyanalytical.com](mailto:julie@specialtyanalytical.com)  
**Cc:** [marty@specialtyanalytical.com](mailto:marty@specialtyanalytical.com); Mandy Wehe <[mandy@specialtyanalytical.com](mailto:mandy@specialtyanalytical.com)>  
**Subject:** RE: Wilsonville Testing Questions

Yes, we tested the pH for the other samples in the field

**Mia Pan** (she/her)  
*Industrial Pretreatment Coordinator*  
City of Wilsonville  
D: 503-570-1551  
C: 503-522-7763  
[mpan@ci.wilsonville.or.us](mailto:mpan@ci.wilsonville.or.us)  
[www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)



29799 SW Town Center Loop East, Wilsonville, OR 97070

*City Hall is now open, with physical distancing controls in place, however the Public Works Building remains closed to the public. During COVID-19, we wish to remain responsive while prioritizing the health and safety of the Wilsonville community. We are happy to meet by call or teleconference as an alternative to face-to-face meetings.*

---

**From:** [julie@specialtyanalytical.com](mailto:julie@specialtyanalytical.com) <[julie@specialtyanalytical.com](mailto:julie@specialtyanalytical.com)>  
**Sent:** Tuesday, July 27, 2021 1:28 PM  
**To:** Pan, Mia <[mpan@ci.wilsonville.or.us](mailto:mpan@ci.wilsonville.or.us)>  
**Cc:** [marty@specialtyanalytical.com](mailto:marty@specialtyanalytical.com); Mandy Wehe <[mandy@specialtyanalytical.com](mailto:mandy@specialtyanalytical.com)>  
**Subject:** Wilsonville Testing Questions

**[This email originated outside of the City of Wilsonville]**

---

Good Morning Mia

I have attached the COC for the samples that Mandy picked up today. Reviewing the COC I want to confirm that the biosolids only need to be tested for pH.

Thank you,

*Julie Clay*  
*Operations Manager*  
*Specialty Analytical*

503-607-1331

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Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2107216  
Date: 10/18/2021

---

### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

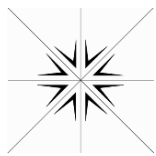
H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Definition Only

WO#: 2107216  
Date: 10/18/2021

---

### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

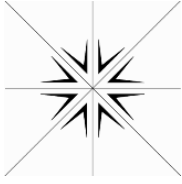
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

---



# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

---

October 18, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2107227

Dear Mia Pan:

REVISED REPORT: Please see case narrative for information on revision.

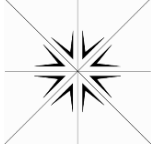
There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director





*Specialty Analytical*  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Case Narrative

WO#: 2107227

Date: 10/18/2021

---

**CLIENT:** City of Wilsonville

**Project:** Wilsonville

---

Revision 1.

Report revised to correct 625 units for sample 072721LLBS.

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-001  
**Client Sample ID** 072721LLIG

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Analyst: CK	
							E625.1	E625
<b>BASE/NEUTRALS/ACIDS</b>								
1,2,4-Trichlorobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
1,2-Dichlorobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
1,2-Diphenylhydrazine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
1,3-Dichlorobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
1,4-Dichlorobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,4,6-Trichlorophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,4-Dichlorophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,4-Dimethylphenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,4-Dinitrophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,4-Dinitrotoluene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2,6-Dinitrotoluene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2-Chloronaphthalene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2-Chlorophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2-Methylphenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
2-Nitrophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
3,3'-Dichlorobenzidine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
3,4-Methylphenol	91.3	1.49		µg/L	1	7/31/2021 9:59:00 AM		
4,6-Dinitro-2-methylphenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
4-Bromophenyl phenyl ether	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
4-Chloro-3-methylphenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
4-Chlorophenyl phenyl ether	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
4-Nitrophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Acenaphthene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Acenaphthylene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Aniline	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Anthracene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Azobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benz(a)anthracene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzidine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzo(a)pyrene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzo(b)fluoranthene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzo(g,h,i)perylene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzo(k)fluoranthene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Benzoic Acid	ND	7.43		µg/L	1	7/31/2021 9:59:00 AM		
Bis(2-chloroethoxy)methane	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Bis(2-chloroethyl)ether	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Bis(2-chloroisopropyl)ether	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		
Bis(2-ethylhexyl)phthalate	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-001  
**Client Sample ID** 072721LLIG

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Carbazole	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Chrysene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Dibenz(a,h)anthracene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Diethyl phthalate	4.93	0.743		µg/L	1	7/31/2021 9:59:00 AM
Dimethyl phthalate	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Di-n-butyl phthalate	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Di-n-octyl phthalate	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Fluoranthene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Fluorene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Hexachlorobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Hexachlorobutadiene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Hexachlorocyclopentadiene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Hexachloroethane	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Isophorone	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Naphthalene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Nitrobenzene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
N-Nitrosodimethylamine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
N-Nitrosodi-n-propylamine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
N-Nitrosodiphenylamine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Pentachlorophenol	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Phenanthrene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Phenol	15.8	0.743		µg/L	1	7/31/2021 9:59:00 AM
Pyrene	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Pyridine	ND	0.743		µg/L	1	7/31/2021 9:59:00 AM
Surr: 2,4,6-Tribromophenol	114	33.1 - 129.7		%Rec	1	7/31/2021 9:59:00 AM
Surr: 2-Fluorobiphenyl	79.4	33.1 - 126.2		%Rec	1	7/31/2021 9:59:00 AM
Surr: 2-Fluorophenol	55.3	13.4 - 127.1		%Rec	1	7/31/2021 9:59:00 AM
Surr: 4-Terphenyl-d14	118	41 - 140		%Rec	1	7/31/2021 9:59:00 AM
Surr: Nitrobenzene-d5	73.7	28.9 - 129.9		%Rec	1	7/31/2021 9:59:00 AM
Surr: Phenol-d6	37.0	10.6 - 128.5		%Rec	1	7/31/2021 9:59:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-001  
**Client Sample ID** 072721LLIG

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **TB**

1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 5:19:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 5:19:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 5:19:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 5:19:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Bromoform	1.15	0.500		µg/L	1	7/30/2021 5:19:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Chloroform	1.97	0.500		µg/L	1	7/30/2021 5:19:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Ethylbenzene	0.820	0.500		µg/L	1	7/30/2021 5:19:00 PM
m,p-Xylene	1.96	1.00		µg/L	1	7/30/2021 5:19:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 5:19:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Toluene	1.31	0.500		µg/L	1	7/30/2021 5:19:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 5:19:00 PM
Surr: 1,2-Dichloroethane-d4	100	83.4 - 126		%Rec	1	7/30/2021 5:19:00 PM
Surr: 4-Bromofluorobenzene	100	80.9 - 127		%Rec	1	7/30/2021 5:19:00 PM
Surr: Dibromofluoromethane	103	81.1 - 122		%Rec	1	7/30/2021 5:19:00 PM
Surr: Toluene-d8	97.5	80 - 120		%Rec	1	7/30/2021 5:19:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107227  
 Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-001  
**Client Sample ID** 072721LLIG

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	9.46	5.00		µg/L	1	8/16/2021 1:27:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00641	0.00500		mg/L	1	8/3/2021 12:51:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	3.04	1.00		mg/L	1	7/29/2021 2:55:33 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	630	5.00		mg/L	1	7/30/2021 3:30:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
 H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-002  
**Client Sample ID** 072821LLIC

**Collection Date:** 7/28/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	263	10.0		µg/L	1	8/4/2021 4:41:58 PM
Antimony	0.605	0.500		µg/L	1	8/4/2021 4:41:58 PM
Arsenic	1.07	0.100		µg/L	1	8/4/2021 4:41:58 PM
Cadmium	0.117	0.100		µg/L	1	8/4/2021 4:41:58 PM
Chromium	1.19	0.100		µg/L	1	8/4/2021 4:41:58 PM
Copper	34.5	0.500		µg/L	1	8/4/2021 4:41:58 PM
Iron	439	50.0		µg/L	1	8/4/2021 4:41:58 PM
Lead	0.836	0.100		µg/L	1	8/4/2021 4:41:58 PM
Molybdenum	3.75	0.500		µg/L	1	8/4/2021 4:41:58 PM
Nickel	2.42	0.500		µg/L	1	8/4/2021 4:41:58 PM
Potassium	14500	100		µg/L	1	8/4/2021 4:41:58 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:41:58 PM
Silver	0.244	0.100		µg/L	1	8/4/2021 4:41:58 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:41:58 PM
Zinc	130	2.00		µg/L	1	8/4/2021 4:41:58 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	53.5	0.200		mg/L	1	8/4/2021 4:41:58 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	269	2.00		mg/L	1	7/29/2021 4:42:56 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	251.9	2.0		mg/L	1	7/29/2021 5:05:54 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	220	10.0		mg/L CaCO3	1	8/3/2021 12:34:06 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	8/6/2021 12:20:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.80	0.200		mg/L	10	8/6/2021 3:39:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG E</b>		Analyst: <b>NK</b>
TKN as N	53.4	0.800		mg/L	4	8/11/2021 4:33:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	256	10.0		mg/L	1	7/28/2021 3:08:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-003  
**Client Sample ID** 072721LLEG

**Collection Date:** 7/27/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
1,2-Dichlorobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
1,2-Diphenylhydrazine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
1,3-Dichlorobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
1,4-Dichlorobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,4,6-Trichlorophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,4-Dichlorophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,4-Dimethylphenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,4-Dinitrophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,4-Dinitrotoluene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2,6-Dinitrotoluene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2-Chloronaphthalene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2-Chlorophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2-Methylphenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
2-Nitrophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
3,3'-Dichlorobenzidine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
3,4-Methylphenol	ND	1.30		µg/L	1	7/31/2021 8:58:00 AM
4,6-Dinitro-2-methylphenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
4-Bromophenyl phenyl ether	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
4-Chloro-3-methylphenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
4-Chlorophenyl phenyl ether	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
4-Nitrophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Acenaphthene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Acenaphthylene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Aniline	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Anthracene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Azobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benz(a)anthracene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzidine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzo(a)pyrene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzo(b)fluoranthene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzo(g,h,i)perylene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzo(k)fluoranthene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Benzoic Acid	ND	6.48		µg/L	1	7/31/2021 8:58:00 AM
Bis(2-chloroethoxy)methane	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Bis(2-chloroethyl)ether	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Bis(2-chloroisopropyl)ether	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Bis(2-ethylhexyl)phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-003  
**Client Sample ID** 072721LLEG

**Collection Date:** 7/27/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Carbazole	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Chrysene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Dibenz(a,h)anthracene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Diethyl phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Dimethyl phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Di-n-butyl phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Di-n-octyl phthalate	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Fluoranthene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Fluorene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Hexachlorobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Hexachlorobutadiene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Hexachlorocyclopentadiene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Hexachloroethane	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Isophorone	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Naphthalene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Nitrobenzene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
N-Nitrosodimethylamine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
N-Nitrosodi-n-propylamine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
N-Nitrosodiphenylamine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Pentachlorophenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Phenanthrene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Phenol	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Pyrene	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Pyridine	ND	0.648		µg/L	1	7/31/2021 8:58:00 AM
Surr: 2,4,6-Tribromophenol	102	33.1 - 129.7		%Rec	1	7/31/2021 8:58:00 AM
Surr: 2-Fluorobiphenyl	67.7	33.1 - 126.2		%Rec	1	7/31/2021 8:58:00 AM
Surr: 2-Fluorophenol	50.5	13.4 - 127.1		%Rec	1	7/31/2021 8:58:00 AM
Surr: 4-Terphenyl-d14	104	41 - 140		%Rec	1	7/31/2021 8:58:00 AM
Surr: Nitrobenzene-d5	67.1	28.9 - 129.9		%Rec	1	7/31/2021 8:58:00 AM
Surr: Phenol-d6	27.5	10.6 - 128.5		%Rec	1	7/31/2021 8:58:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-003  
**Client Sample ID** 072721LLEG

**Collection Date:** 7/27/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **TB**

1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 5:41:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 5:41:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 5:41:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 5:41:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Bromoform	1.12	0.500		µg/L	1	7/30/2021 5:41:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Chloroform	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Ethylbenzene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
m,p-Xylene	1.95	1.00		µg/L	1	7/30/2021 5:41:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 5:41:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Toluene	1.18	0.500		µg/L	1	7/30/2021 5:41:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 5:41:00 PM
Surr: 1,2-Dichloroethane-d4	101	83.4 - 126		%Rec	1	7/30/2021 5:41:00 PM
Surr: 4-Bromofluorobenzene	101	80.9 - 127		%Rec	1	7/30/2021 5:41:00 PM
Surr: Dibromofluoromethane	103	81.1 - 122		%Rec	1	7/30/2021 5:41:00 PM
Surr: Toluene-d8	97.2	80 - 120		%Rec	1	7/30/2021 5:41:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-003  
**Client Sample ID** 072721LLEG

**Collection Date:** 7/27/2021 1:30:00 PM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	6.78	5.00		µg/L	1	8/16/2021 1:28:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00605	0.00500		mg/L	1	8/3/2021 12:56:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	7/29/2021 3:15:33 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	227	5.00		mg/L	1	7/30/2021 3:31:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-004  
**Client Sample ID** 072821LLEC

**Collection Date:** 7/28/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	ND	10.0		µg/L	1	8/4/2021 4:45:23 PM
Antimony	ND	0.500		µg/L	1	8/4/2021 4:45:23 PM
Arsenic	0.705	0.100		µg/L	1	8/4/2021 4:45:23 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 4:45:23 PM
Chromium	0.238	0.100		µg/L	1	8/4/2021 4:45:23 PM
Copper	1.05	0.500		µg/L	1	8/4/2021 4:45:23 PM
Iron	119	50.0		µg/L	1	8/4/2021 4:45:23 PM
Lead	0.243	0.100		µg/L	1	8/4/2021 4:45:23 PM
Molybdenum	2.13	0.500		µg/L	1	8/4/2021 4:45:23 PM
Nickel	1.39	0.500		µg/L	1	8/4/2021 4:45:23 PM
Potassium	17600	100		µg/L	1	8/4/2021 4:45:23 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:45:23 PM
Silver	ND	0.100		µg/L	1	8/4/2021 4:45:23 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:45:23 PM
Zinc	77.7	2.00		µg/L	1	8/4/2021 4:45:23 PM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	57.6	0.200		mg/L	1	8/4/2021 4:45:23 PM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	2.00	2.00		mg/L	1	7/29/2021 4:43:56 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	6.5	2.0		mg/L	1	7/29/2021 7:10:54 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	178	10.0		mg/L CaCO3	1	8/3/2021 12:44:06 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	29.6	0.400		mg/L	20	8/6/2021 12:25:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	13.2	0.200		mg/L	10	8/6/2021 3:42:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	28.9	0.400		mg/L	2	8/11/2021 4:38:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	7/28/2021 3:09:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-005  
**Client Sample ID** 072721LLBS

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>TOTAL SOLIDS</b>						
				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	99.7	0.00100		%	1	7/29/2021 8:15:42 AM
<b>VOLATILE SOLIDS IN SOLIDS</b>						
				<b>SM2540 G</b>		Analyst: <b>NK</b>
Volatile Solids	86.3	0		wt%	1	8/9/2021 12:50:04 PM
<b>HEXAVALENT CHROMIUM IN SOIL BY IC</b>						
				<b>7199</b>	<b>SW 3060A</b>	Analyst: <b>rsincl</b>
Chromium, Hexavalent	10.8	10.0		µg/Kg-dry	1	8/23/2021 12:05:01 PM
<b>ICP/MS METALS-TOTAL RECOVERABLE</b>						
				<b>SW 6020B</b>	<b>SW3050B</b>	Analyst: <b>JRC</b>
Aluminum	1980000	9910		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Antimony	2020	495		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Arsenic	1510	991		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Cadmium	432	99.1		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Chromium	17300	991		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Copper	206000	4950		µg/Kg-dry	100	8/6/2021 11:05:19 AM
Iron	3400000	99100		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Lead	2190	248		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Molybdenum	8970	495		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Nickel	13800	495		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Potassium	6050000	99100		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Selenium	2050	991		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Silver	2140	99.1		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Thallium	ND	495		µg/Kg-dry	10	8/5/2021 5:52:35 PM
Zinc	216000	991		µg/Kg-dry	10	8/5/2021 5:52:35 PM
<b>TOTAL MERCURY</b>						
				<b>SW 7471B</b>	<b>SW 7471B</b>	Analyst: <b>EG</b>
Mercury	ND	9.42		µg/Kg-dry	1	8/2/2021 1:20:32 PM
<b>BASE/NEUTRALS/ACIDS</b>						
				<b>E625.1</b>	<b>E625</b>	Analyst: <b>TB</b>
1,2,4-Trichlorobenzene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
1,2-Dichlorobenzene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
1,2-Diphenylhydrazine	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
1,3-Dichlorobenzene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
1,4-Dichlorobenzene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,4,6-Trichlorophenol	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,4-Dichlorophenol	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,4-Dimethylphenol	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,4-Dinitrophenol	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,4-Dinitrotoluene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
2,6-Dinitrotoluene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-005  
**Client Sample ID** 072721LLBS

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF		Date Analyzed
					E625.1	E625	
<b>BASE/NEUTRALS/ACIDS</b>							
<b>Analyst: TB</b>							
2-Chloronaphthalene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
2-Chlorophenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
2-Methylphenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
2-Nitrophenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
3,3'-Dichlorobenzidine	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
3,4-Methylphenol	ND	6680	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
4,6-Dinitro-2-methylphenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
4-Bromophenyl phenyl ether	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
4-Chloro-3-methylphenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
4-Chlorophenyl phenyl ether	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
4-Nitrophenol	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Acenaphthene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Acenaphthylene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Aniline	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Anthracene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Azobenzene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benz(a)anthracene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzidine	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzo(a)pyrene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzo(b)fluoranthene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzo(g,h,i)perylene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzo(k)fluoranthene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Benzoic Acid	ND	33400	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Bis(2-chloroethoxy)methane	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Bis(2-chloroethyl)ether	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Bis(2-chloroisopropyl)ether	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Bis(2-ethylhexyl)phthalate	6820	3340		µg/Kg-dry	10		8/17/2021 10:08:00 PM
Butyl benzyl phthalate	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Carbazole	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Chrysene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Dibenz(a,h)anthracene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Diethyl phthalate	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Dimethyl phthalate	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Di-n-butyl phthalate	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Di-n-octyl phthalate	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Fluoranthene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Fluorene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM
Hexachlorobenzene	ND	3340	Q	µg/Kg-dry	10		8/17/2021 10:08:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-005  
**Client Sample ID** 072721LLBS

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>						
				<b>E625.1</b>	<b>E625</b>	<b>Analyst: TB</b>
Hexachlorobutadiene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Hexachlorocyclopentadiene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Hexachloroethane	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Indeno(1,2,3-cd)pyrene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Isophorone	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Naphthalene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Nitrobenzene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
N-Nitrosodimethylamine	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
N-Nitrosodi-n-propylamine	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
N-Nitrosodiphenylamine	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Pentachlorophenol	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Phenanthrene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Phenol	5410	3340		µg/Kg-dry	10	8/17/2021 10:08:00 PM
Pyrene	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Pyridine	ND	3340	Q	µg/Kg-dry	10	8/17/2021 10:08:00 PM
Surr: 2,4,6-Tribromophenol	0	33.1 - 129.7	SMI	%Rec	10	8/17/2021 10:08:00 PM
Surr: 2-Fluorobiphenyl	-250	33.1 - 126.2	SMI	%Rec	10	8/17/2021 10:08:00 PM
Surr: 2-Fluorophenol	79.0	13.4 - 127.1		%Rec	10	8/17/2021 10:08:00 PM
Surr: 4-Terphenyl-d14	23.0	41 - 122	SMI	%Rec	10	8/17/2021 10:08:00 PM
Surr: Nitrobenzene-d5	111	28.9 - 129.9		%Rec	10	8/17/2021 10:08:00 PM
Surr: Phenol-d6	93.0	10.6 - 128.5		%Rec	10	8/17/2021 10:08:00 PM
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>						
				<b>E624.1</b>	<b>E625</b>	<b>Analyst: CK</b>
1,1,1,2-Tetrachloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1,1-Trichloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1,2,2-Tetrachloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1,2-Trichloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1-Dichloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1-Dichloroethene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,1-Dichloropropene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2,3-Trichlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2,3-Trichloropropane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2,4-Trichlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2,4-Trimethylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2-Dibromo-3-chloropropane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2-Dibromoethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2-Dichlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2-Dichloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,2-Dichloropropane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-005  
**Client Sample ID** 072721LLBS

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**VOLATILE ORGANIC COMPOUNDS BY GC/MS**

**E624.1**

**E625**

Analyst: **CK**

1,3,5-Trimethylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,3-Dichlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,3-Dichloropropane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
1,4-Dichlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
2,2-Dichloropropane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
2-Butanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
2-Chlorotoluene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
2-Hexanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
4-Chlorotoluene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
4-Isopropyltoluene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
4-Methyl-2-pentanone	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Acetone	3410	2510		µg/Kg-dry	50	7/30/2021 6:03:00 PM
Benzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Bromobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Bromochloromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Bromodichloromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Bromoform	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Bromomethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Carbon Disulfide	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Carbon tetrachloride	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Chlorobenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Chloroethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Chloroform	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Chloromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
cis-1,2-Dichloroethene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
cis-1,3-Dichloropropene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Dibromochloromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Dibromomethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Dichlorodifluoromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Ethylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Hexachlorobutadiene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Isopropylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
m,p-Xylene	ND	1000	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Methyl tert-butyl ether	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Methylene Chloride	ND	2510	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Naphthalene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
n-Butylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
n-Propylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-005  
**Client Sample ID** 072721LLBS

**Collection Date:** 7/27/2021 1:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>						
				<b>E624.1</b>	<b>E625</b>	Analyst: <b>CK</b>
o-Xylene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
sec-Butylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Styrene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
tert-Butylbenzene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Tetrachloroethene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Toluene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
trans-1,2-Dichloroethene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
trans-1,3-Dichloropropene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Trichloroethene	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Trichlorofluoromethane	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Vinyl Chloride	ND	501	Q	µg/Kg-dry	50	7/30/2021 6:03:00 PM
Surr: 1,2-Dichloroethane-d4	99.8	71.5 - 124		%Rec	50	7/30/2021 6:03:00 PM
Surr: 4-Bromofluorobenzene	101	75.7 - 122		%Rec	50	7/30/2021 6:03:00 PM
Surr: Dibromofluoromethane	103	64.3 - 124		%Rec	50	7/30/2021 6:03:00 PM
Surr: Toluene-d8	97.3	74.9 - 120		%Rec	50	7/30/2021 6:03:00 PM
<b>ALKALINITY IN SOIL</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total	210	100		mg/Kg-dry	1	8/9/2021 1:07:01 PM
<b>CYANIDE</b>						
				<b>D8273</b>	<b>SW9010A</b>	Analyst: <b>NK</b>
Cyanide, Total	0.651	0.149		mg/Kg-dry	1	8/3/2021 12:41:31 PM
<b>AMMONIA AS N</b>						
				<b>E350.1</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	148	4.01		mg/Kg-dry	20	8/19/2021 1:01:47 PM
<b>CORROSIVITY BY PH</b>						
				<b>SW9045D</b>		Analyst: <b>JRH</b>
pH	4.58	1.00		pH Units	1	7/29/2021 11:43:04 PM
<b>TOTAL PHOSPHATE AS P</b>						
				<b>SM 4500-P E</b>	<b>T22 STLC</b>	Analyst: <b>JRH</b>
Phosphorus, Total	2170	99.6		mg/Kg-dry	500	8/19/2021 8:34:04 PM
<b>SULFIDE</b>						
				<b>SW9030</b>		Analyst: <b>NK</b>
Sulfide	802	20.1		mg/Kg-dry	1	7/29/2021 3:15:28 PM
<b>TOTAL KJELDAHL NITROGEN</b>						
				<b>E351.2</b>		Analyst: <b>NK</b>
Nitrogen, Kjeldahl, Total	786	22.1		mg/Kg-dry	10	8/19/2021 4:46:26 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-006  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/27/2021 1:20:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
1,2-Dichlorobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
1,2-Diphenylhydrazine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
1,3-Dichlorobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
1,4-Dichlorobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,4,6-Trichlorophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,4-Dichlorophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,4-Dimethylphenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,4-Dinitrophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,4-Dinitrotoluene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2,6-Dinitrotoluene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2-Chloronaphthalene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2-Chlorophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2-Methylphenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
2-Nitrophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
3,3'-Dichlorobenzidine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
3,4-Methylphenol	100	1.24		µg/L	1	7/31/2021 10:29:00 AM
4,6-Dinitro-2-methylphenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
4-Bromophenyl phenyl ether	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
4-Chloro-3-methylphenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
4-Chlorophenyl phenyl ether	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
4-Nitrophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Acenaphthene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Acenaphthylene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Aniline	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Anthracene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Azobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benz(a)anthracene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzidine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzo(a)pyrene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzo(b)fluoranthene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzo(g,h,i)perylene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzo(k)fluoranthene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Benzoic Acid	ND	6.21		µg/L	1	7/31/2021 10:29:00 AM
Bis(2-chloroethoxy)methane	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Bis(2-chloroethyl)ether	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Bis(2-chloroisopropyl)ether	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Bis(2-ethylhexyl)phthalate	12.0	0.621		µg/L	1	7/31/2021 10:29:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-006  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/27/2021 1:20:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Carbazole	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Chrysene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Dibenz(a,h)anthracene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Diethyl phthalate	3.06	0.621		µg/L	1	7/31/2021 10:29:00 AM
Dimethyl phthalate	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Di-n-butyl phthalate	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Di-n-octyl phthalate	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Fluoranthene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Fluorene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Hexachlorobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Hexachlorobutadiene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Hexachlorocyclopentadiene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Hexachloroethane	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Isophorone	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Naphthalene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Nitrobenzene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
N-Nitrosodimethylamine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
N-Nitrosodi-n-propylamine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
N-Nitrosodiphenylamine	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Pentachlorophenol	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Phenanthrene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Phenol	13.9	0.621		µg/L	1	7/31/2021 10:29:00 AM
Pyrene	ND	0.621		µg/L	1	7/31/2021 10:29:00 AM
Pyridine	6.12	0.621		µg/L	1	7/31/2021 10:29:00 AM
Surr: 2,4,6-Tribromophenol	107	33.1 - 129.7		%Rec	1	7/31/2021 10:29:00 AM
Surr: 2-Fluorobiphenyl	95.2	33.1 - 126.2		%Rec	1	7/31/2021 10:29:00 AM
Surr: 2-Fluorophenol	38.8	13.4 - 127.1		%Rec	1	7/31/2021 10:29:00 AM
Surr: 4-Terphenyl-d14	123	41 - 140		%Rec	1	7/31/2021 10:29:00 AM
Surr: Nitrobenzene-d5	85.2	28.9 - 129.9		%Rec	1	7/31/2021 10:29:00 AM
Surr: Phenol-d6	36.7	10.6 - 128.5		%Rec	1	7/31/2021 10:29:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-006  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/27/2021 1:20:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **TB**

1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
1,4-Dichlorobenzene	0.810	0.500		µg/L	1	7/30/2021 6:03:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 6:03:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 6:03:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 6:03:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 6:03:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Bromodichloromethane	0.550	0.500		µg/L	1	7/30/2021 6:03:00 PM
Bromoform	1.15	0.500		µg/L	1	7/30/2021 6:03:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Chloroform	4.21	0.500		µg/L	1	7/30/2021 6:03:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Ethylbenzene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
m,p-Xylene	1.96	1.00		µg/L	1	7/30/2021 6:03:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 6:03:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Toluene	0.870	0.500		µg/L	1	7/30/2021 6:03:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 6:03:00 PM
Surr: 1,2-Dichloroethane-d4	99.8	83.4 - 126		%Rec	1	7/30/2021 6:03:00 PM
Surr: 4-Bromofluorobenzene	101	80.9 - 127		%Rec	1	7/30/2021 6:03:00 PM
Surr: Dibromofluoromethane	103	81.1 - 122		%Rec	1	7/30/2021 6:03:00 PM
Surr: Toluene-d8	97.3	80 - 120		%Rec	1	7/30/2021 6:03:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-006  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/27/2021 1:20:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	26.4	5.00		µg/L	1	8/16/2021 1:29:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00699	0.00500		mg/L	1	8/3/2021 1:01:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	2.40	1.00		mg/L	1	7/29/2021 3:25:33 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	718	5.00		mg/L	1	7/30/2021 3:32:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-007  
**Client Sample ID** Villaboiss Grab

**Collection Date:** 7/27/2021 2:10:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
1,2-Dichlorobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
1,2-Diphenylhydrazine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
1,3-Dichlorobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
1,4-Dichlorobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,4,6-Trichlorophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,4-Dichlorophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,4-Dimethylphenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,4-Dinitrophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,4-Dinitrotoluene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2,6-Dinitrotoluene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2-Chloronaphthalene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2-Chlorophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2-Methylphenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
2-Nitrophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
3,3'-Dichlorobenzidine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
3,4-Methylphenol	52.6	1.26		µg/L	1	7/31/2021 11:00:00 AM
4,6-Dinitro-2-methylphenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
4-Bromophenyl phenyl ether	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
4-Chloro-3-methylphenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
4-Chlorophenyl phenyl ether	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
4-Nitrophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Acenaphthene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Acenaphthylene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Aniline	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Anthracene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Azobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benz(a)anthracene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzidine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzo(a)pyrene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzo(b)fluoranthene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzo(g,h,i)perylene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzo(k)fluoranthene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Benzoic Acid	ND	6.31		µg/L	1	7/31/2021 11:00:00 AM
Bis(2-chloroethoxy)methane	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Bis(2-chloroethyl)ether	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Bis(2-chloroisopropyl)ether	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Bis(2-ethylhexyl)phthalate	8.79	0.631		µg/L	1	7/31/2021 11:00:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-007  
**Client Sample ID** Villabois Grab

**Collection Date:** 7/27/2021 2:10:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Carbazole	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Chrysene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Dibenz(a,h)anthracene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Diethyl phthalate	3.26	0.631		µg/L	1	7/31/2021 11:00:00 AM
Dimethyl phthalate	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Di-n-butyl phthalate	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Di-n-octyl phthalate	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Fluoranthene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Fluorene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Hexachlorobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Hexachlorobutadiene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Hexachlorocyclopentadiene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Hexachloroethane	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Isophorone	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Naphthalene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Nitrobenzene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
N-Nitrosodimethylamine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
N-Nitrosodi-n-propylamine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
N-Nitrosodiphenylamine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Pentachlorophenol	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Phenanthrene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Phenol	7.06	0.631		µg/L	1	7/31/2021 11:00:00 AM
Pyrene	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Pyridine	ND	0.631		µg/L	1	7/31/2021 11:00:00 AM
Surr: 2,4,6-Tribromophenol	125	33.1 - 129.7		%Rec	1	7/31/2021 11:00:00 AM
Surr: 2-Fluorobiphenyl	99.0	33.1 - 126.2		%Rec	1	7/31/2021 11:00:00 AM
Surr: 2-Fluorophenol	43.8	13.4 - 127.1		%Rec	1	7/31/2021 11:00:00 AM
Surr: 4-Terphenyl-d14	128	41 - 140		%Rec	1	7/31/2021 11:00:00 AM
Surr: Nitrobenzene-d5	88.8	28.9 - 129.9		%Rec	1	7/31/2021 11:00:00 AM
Surr: Phenol-d6	25.2	10.6 - 128.5		%Rec	1	7/31/2021 11:00:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227

Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-007  
**Client Sample ID** Villabois Grab

**Collection Date:** 7/27/2021 2:10:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
2-Butanone	ND	5.00		µg/L	1	7/30/2021 6:26:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	7/30/2021 6:26:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	7/30/2021 6:26:00 PM
Acrylonitrile	ND	2.00		µg/L	1	7/30/2021 6:26:00 PM
Benzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Bromoform	1.16	0.500		µg/L	1	7/30/2021 6:26:00 PM
Bromomethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Chlorobenzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Chloroethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Chloroform	1.43	0.500		µg/L	1	7/30/2021 6:26:00 PM
Chloromethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Ethylbenzene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
m,p-Xylene	1.94	1.00		µg/L	1	7/30/2021 6:26:00 PM
Methylene chloride	ND	20.0		µg/L	1	7/30/2021 6:26:00 PM
o-Xylene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Styrene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Toluene	0.780	0.500		µg/L	1	7/30/2021 6:26:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Trichloroethene	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Vinyl chloride	ND	0.500		µg/L	1	7/30/2021 6:26:00 PM
Surr: 1,2-Dichloroethane-d4	101	83.4 - 126		%Rec	1	7/30/2021 6:26:00 PM
Surr: 4-Bromofluorobenzene	101	80.9 - 127		%Rec	1	7/30/2021 6:26:00 PM
Surr: Dibromofluoromethane	104	81.1 - 122		%Rec	1	7/30/2021 6:26:00 PM
Surr: Toluene-d8	96.1	80 - 120		%Rec	1	7/30/2021 6:26:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits		

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-007  
**Client Sample ID** Villabois Grab

**Collection Date:** 7/27/2021 2:10:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	8.56	5.00		µg/L	1	8/16/2021 1:30:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/3/2021 1:06:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	6.24	1.00		mg/L	1	7/29/2021 3:35:33 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	379	5.00		mg/L	1	7/30/2021 3:33:46 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-008  
**Client Sample ID** Parkway Comp

**Collection Date:** 7/28/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	128	10.0		µg/L	1	8/4/2021 4:48:48 PM
Antimony	0.987	0.500		µg/L	1	8/4/2021 4:48:48 PM
Arsenic	0.925	0.100		µg/L	1	8/4/2021 4:48:48 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 4:48:48 PM
Chromium	1.19	0.100		µg/L	1	8/4/2021 4:48:48 PM
Copper	40.1	0.500		µg/L	1	8/4/2021 4:48:48 PM
Iron	678	50.0		µg/L	1	8/4/2021 4:48:48 PM
Lead	0.749	0.100		µg/L	1	8/4/2021 4:48:48 PM
Molybdenum	1.69	0.500		µg/L	1	8/4/2021 4:48:48 PM
Nickel	4.38	0.500		µg/L	1	8/4/2021 4:48:48 PM
Potassium	26100	100		µg/L	1	8/4/2021 4:48:48 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:48:48 PM
Silver	0.154	0.100		µg/L	1	8/4/2021 4:48:48 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:48:48 PM
Zinc	116	2.00		µg/L	1	8/4/2021 4:48:48 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	47.0	0.200		mg/L	1	8/4/2021 4:48:48 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	130	2.00		mg/L	1	7/29/2021 4:44:56 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	285.7	2.0		mg/L	1	7/29/2021 7:10:54 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	267	10.0		mg/L CaCO3	1	8/5/2021 12:30:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	54.8	0.800		mg/L	40	8/6/2021 2:00:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	7.25	0.200		mg/L	10	8/6/2021 3:43:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	64.7	0.800		mg/L	4	8/11/2021 4:43:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	106	10.0		mg/L	1	7/28/2021 3:10:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits  
E Value above quantitation range  
R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2107227  
Date Reported: 10/18/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107227-009  
**Client Sample ID** Villabois Comp

**Collection Date:** 7/28/2021 10:25:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	203	10.0		µg/L	1	8/4/2021 4:52:13 PM
Antimony	0.633	0.500		µg/L	1	8/4/2021 4:52:13 PM
Arsenic	1.01	0.100		µg/L	1	8/4/2021 4:52:13 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 4:52:13 PM
Chromium	0.824	0.100		µg/L	1	8/4/2021 4:52:13 PM
Copper	22.3	0.500		µg/L	1	8/4/2021 4:52:13 PM
Iron	254	50.0		µg/L	1	8/4/2021 4:52:13 PM
Lead	0.422	0.100		µg/L	1	8/4/2021 4:52:13 PM
Molybdenum	0.798	0.500		µg/L	1	8/4/2021 4:52:13 PM
Nickel	2.21	0.500		µg/L	1	8/4/2021 4:52:13 PM
Potassium	14000	100		µg/L	1	8/4/2021 4:52:13 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 4:52:13 PM
Silver	0.232	0.100		µg/L	1	8/4/2021 4:52:13 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 4:52:13 PM
Zinc	135	2.00		µg/L	1	8/4/2021 4:52:13 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	61.3	0.200		mg/L	1	8/4/2021 4:52:13 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	147	2.00		mg/L	1	7/29/2021 4:45:56 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	263.9	2.0		mg/L	1	7/29/2021 7:10:54 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	200	10.0		mg/L CaCO3	1	8/3/2021 1:14:06 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	33.9	0.400		mg/L	20	8/6/2021 12:30:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.17	0.200		mg/L	10	8/6/2021 3:44:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	45.2	0.800		mg/L	4	8/11/2021 4:53:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	65.0	10.0		mg/L	1	7/28/2021 3:11:44 PM

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range  
H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531067</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	10.0	500.0	0	104	90	110				
Antimony	50.9	0.500	50.00	0	102	90	110				
Arsenic	50.4	0.100	50.00	0	101	90	110				
Cadmium	51.8	0.100	50.00	0	104	90	110				
Chromium	52.1	0.100	50.00	0	104	90	110				
Copper	52.4	0.500	50.00	0	105	90	110				
Iron	5500	50.0	5000	0	110	90	110				
Lead	51.1	0.100	50.00	0	102	90	110				
Molybdenum	50.7	0.500	50.00	0	101	90	110				
Nickel	51.7	0.500	50.00	0	103	90	110				
Potassium	5210	100	5000	0	104	90	110				
Selenium	50.5	1.00	50.00	0	101	90	110				
Silver	54.8	0.100	50.00	0	110	90	110				
Thallium	52.6	0.100	50.00	0	105	90	110				
Zinc	50.8	2.00	50.00	0	102	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	10.0	500.0	0	99.0	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.9	0.500	50.00	0	97.7	90	110				
Arsenic	49.1	0.100	50.00	0	98.1	90	110				
Cadmium	50.5	0.100	50.00	0	101	90	110				
Chromium	50.3	0.100	50.00	0	101	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Iron	5270	50.0	5000	0	105	90	110				
Lead	49.7	0.100	50.00	0	99.4	90	110				
Molybdenum	48.7	0.500	50.00	0	97.4	90	110				
Nickel	50.1	0.500	50.00	0	100	90	110				
Potassium	4950	100	5000	0	99.0	90	110				
Selenium	49.0	1.00	50.00	0	97.9	90	110				
Silver	52.2	0.100	50.00	0	104	90	110				
Thallium	50.4	0.100	50.00	0	101	90	110				
Zinc	50.1	2.00	50.00	0	100	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>					
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18300</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	426	10.0	500.0	0	85.1	85	115				
Antimony	49.0	0.500	50.00	0	97.9	85	115				
Arsenic	47.0	0.100	50.00	0	94.1	85	115				
Cadmium	49.8	0.100	50.00	0	99.6	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>LCS-18300</b>		SampType: <b>LCS</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531076</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	45.3	0.100	50.00	0	90.7	85	115				
Copper	49.3	0.500	50.00	0	98.7	85	115				
Iron	4850	50.0	5000	0	97.1	85	115				
Lead	49.2	0.100	50.00	0	98.4	85	115				
Molybdenum	46.5	0.500	50.00	0	93.0	85	115				
Nickel	48.2	0.500	50.00	0	96.3	85	115				
Potassium	4350	100	5000	0	87.0	85	115				
Selenium	47.1	1.00	50.00	0	94.3	85	115				
Silver	49.6	0.100	50.00	0	99.1	85	115				
Thallium	50.0	0.100	50.00	0	100	85	115				
Zinc	50.3	2.00	50.00	0	101	85	115				

Sample ID: <b>2107216-004ADUP</b>		SampType: <b>DUP</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531078</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0						0	0	20	
Antimony	ND	0.500						0	0	20	
Arsenic	0.458	0.100						0.4756	3.74	20	
Cadmium	ND	0.100						0	0	20	RRF
Chromium	0.190	0.100						0.2002	5.22	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2107216-004ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: BatchQC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531078						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.953	0.500						0.9759	2.35	20	
Iron	93.3	50.0						95.44	2.31	20	
Lead	0.242	0.100						0.2647	8.88	20	
Molybdenum	1.91	0.500						2.057	7.26	20	
Nickel	1.33	0.500						1.334	0.0669	20	
Potassium	18100	100						17950	1.07	20	
Selenium	ND	1.00						0	0	20	RRF
Silver	ND	0.100						0	0	20	RRF
Thallium	ND	0.100						0	0	20	RRF
Zinc	76.7	2.00						75.50	1.64	20	

Sample ID: 2107216-004AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: BatchQC	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531079						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	466	10.0	500.0	9.736	91.3	70	130				
Antimony	48.9	0.500	50.00	0.3337	97.2	70	130				
Arsenic	49.6	0.100	50.00	0.4756	98.2	70	130				
Cadmium	48.3	0.100	50.00	0	96.7	70	130				
Chromium	48.8	0.100	50.00	0.2002	97.2	70	130				
Copper	48.6	0.500	50.00	0.9759	95.3	70	130				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>2107216-004AMS</b>		SampType: <b>MS</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531079</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5190	50.0	5000	95.44	102	70	130				
Lead	50.5	0.100	50.00	0.2647	100	70	130				
Molybdenum	50.8	0.500	50.00	2.057	97.5	70	130				
Nickel	49.4	0.500	50.00	1.334	96.0	70	130				
Potassium	23400	100	5000	17950	109	70	130				
Selenium	48.3	1.00	50.00	0.2753	96.0	70	130				
Silver	45.1	0.100	50.00	0.02800	90.1	70	130				
Thallium	51.6	0.100	50.00	0.06066	103	70	130				
Zinc	125	2.00	50.00	75.50	98.1	70	130				

Sample ID: <b>2107216-004AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531080</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	467	10.0	500.0	9.736	91.4	70	130	466.0	0.146	20	
Antimony	49.1	0.500	50.00	0.3337	97.5	70	130	48.94	0.249	20	
Arsenic	49.4	0.100	50.00	0.4756	97.8	70	130	49.58	0.407	20	
Cadmium	48.4	0.100	50.00	0	96.8	70	130	48.34	0.158	20	
Chromium	48.4	0.100	50.00	0.2002	96.5	70	130	48.81	0.767	20	
Copper	48.8	0.500	50.00	0.9759	95.7	70	130	48.62	0.381	20	
Iron	5180	50.0	5000	95.44	102	70	130	5192	0.277	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531080</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.1	0.100	50.00	0.2647	99.7	70	130	50.46	0.734	20	
Molybdenum	50.7	0.500	50.00	2.057	97.4	70	130	50.82	0.166	20	
Nickel	49.1	0.500	50.00	1.334	95.4	70	130	49.35	0.600	20	
Potassium	22900	100	5000	17950	99.9	70	130	23390	1.90	20	
Selenium	48.4	1.00	50.00	0.2753	96.3	70	130	48.30	0.292	20	
Silver	45.0	0.100	50.00	0.02800	90.0	70	130	45.06	0.0444	20	
Thallium	51.2	0.100	50.00	0.06066	102	70	130	51.60	0.815	20	
Zinc	125	2.00	50.00	75.50	98.2	70	130	124.5	0.0619	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	10.0	500.0	0	101	90	110				
Antimony	48.0	0.500	50.00	0	96.1	90	110				
Arsenic	49.0	0.100	50.00	0	98.0	90	110				
Cadmium	50.2	0.100	50.00	0	100	90	110				
Chromium	49.8	0.100	50.00	0	99.5	90	110				
Copper	51.0	0.500	50.00	0	102	90	110				
Iron	5340	50.0	5000	0	107	90	110				
Lead	49.3	0.100	50.00	0	98.7	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	48.7	0.500	50.00	0	97.5	90	110				
Nickel	50.8	0.500	50.00	0	102	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	49.1	1.00	50.00	0	98.1	90	110				
Silver	51.8	0.100	50.00	0	104	90	110				
Thallium	49.9	0.100	50.00	0	99.8	90	110				
Zinc	49.8	2.00	50.00	0	99.5	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	10.0	500.0	0	101	90	110				
Antimony	49.1	0.500	50.00	0	98.2	90	110				
Arsenic	49.2	0.100	50.00	0	98.3	90	110				
Cadmium	50.9	0.100	50.00	0	102	90	110				
Chromium	50.5	0.100	50.00	0	101	90	110				
Copper	52.3	0.500	50.00	0	105	90	110				
Iron	5330	50.0	5000	0	107	90	110				
Lead	50.4	0.100	50.00	0	101	90	110				
Molybdenum	50.7	0.500	50.00	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	51.2	0.500	50.00	0	102	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	48.7	1.00	50.00	0	97.4	90	110				
Silver	53.6	0.100	50.00	0	107	90	110				
Thallium	51.3	0.100	50.00	0	103	90	110				
Zinc	50.9	2.00	50.00	0	102	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>			Prep Date:			RunNo: <b>41345</b>		
Client ID: <b>ICV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>			SeqNo: <b>531428</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	51400	1000	50000	0	103	90	110				
Antimony	5050	50.0	5000	0	101	90	110				
Arsenic	5020	100	5000	0	100	90	110				
Cadmium	5080	10.0	5000	0	102	90	110				
Chromium	5060	100	5000	0	101	90	110				
Copper	5150	50.0	5000	0	103	90	110				B
Iron	546000	10000	500000	0	109	90	110				
Lead	5130	25.0	5000	0	103	90	110				
Molybdenum	5300	50.0	5000	0	106	90	110				
Nickel	5120	50.0	5000	0	102	90	110				B
Potassium	513000	10000	500000	0	103	90	110				
Selenium	4990	100	5000	0	99.7	90	110				
Silver	5370	10.0	5000	0	107	90	110				
Thallium	5240	50.0	5000	0	105	90	110				
Zinc	5080	100	5000	0	102	90	110				B

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>			Prep Date:			RunNo: <b>41345</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>			SeqNo: <b>531432</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	46900	1000	50000	0	93.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227  
10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>CCV</b>		SampType: <b>CCV</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg</b>		Prep Date:		RunNo: <b>41345</b>		
Client ID: <b>CCV</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B</b>		<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531432</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Antimony	4700	50.0	5000	0	94.0	90	110					
Arsenic	4740	100	5000	0	94.7	90	110					
Cadmium	4850	10.0	5000	0	97.1	90	110					
Chromium	4810	100	5000	0	96.2	90	110					
Copper	4900	50.0	5000	0	97.9	90	110				B	
Iron	511000	10000	500000	0	102	90	110					
Lead	4880	25.0	5000	0	97.5	90	110					
Molybdenum	5000	50.0	5000	0	99.9	90	110					
Nickel	4850	50.0	5000	0	97.1	90	110				B	
Potassium	461000	10000	500000	0	92.1	90	110					
Selenium	4720	100	5000	0	94.5	90	110					
Silver	5160	10.0	5000	0	103	90	110					
Thallium	4950	50.0	5000	0	99.0	90	110					
Zinc	4880	100	5000	0	97.5	90	110				B	

Sample ID: <b>MB-18315</b>		SampType: <b>MBLK</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg</b>		Prep Date: <b>8/5/2021</b>		RunNo: <b>41345</b>		
Client ID: <b>PBS</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B</b>		<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531433</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	ND	1000										
Antimony	ND	50.0										

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>MB-18315</b>	SampType: <b>MBLK</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531433</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	100									
Cadmium	ND	10.0									
Chromium	ND	100									
Copper	89.7	50.0									
Iron	ND	10000									
Lead	ND	25.0									
Molybdenum	ND	50.0									
Nickel	50.9	50.0									
Potassium	ND	10000									
Selenium	ND	100									
Silver	ND	10.0									
Thallium	ND	50.0									
Zinc	192	100									

Sample ID: <b>LCS-18315</b>	SampType: <b>LCS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531434</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	48700	10000	50000	0	97.3	80	120				
Antimony	4440	500	5000	0	88.7	74.1	113				
Arsenic	4570	1000	5000	0	91.4	73.4	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227  
10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>LCS-18315</b>		SampType: <b>LCS</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg</b>		Prep Date: <b>8/5/2021</b>		RunNo: <b>41345</b>	
Client ID: <b>LCSS</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B</b>		<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531434</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4860	100	5000	0	97.2	80	120				
Chromium	4860	1000	5000	0	97.2	80	120				
Copper	5500	500	5000	0	110	80	120				
Iron	518000	100000	500000	0	104	80.3	122				
Lead	4860	250	5000	0	97.1	80	120				
Molybdenum	4760	500	5000	0	95.2	79.8	145				
Nickel	5020	500	5000	0	100	80	120				
Potassium	537000	100000	500000	0	107	80	120				
Selenium	4580	1000	5000	0	91.7	79.5	119				
Silver	5050	100	5000	0	101	70	130				
Thallium	4850	500	5000	0	97.1	66	135				
Zinc	5160	1000	5000	0	103	69	129				

Sample ID: <b>2107216-005ADUP</b>		SampType: <b>DUP</b>		TestCode: <b>6020_S</b>		Units: <b>µg/Kg-dry</b>		Prep Date: <b>8/5/2021</b>		RunNo: <b>41345</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18315</b>		TestNo: <b>SW 6020B</b>		<b>SW3050B</b>		Analysis Date: <b>8/5/2021</b>		SeqNo: <b>531438</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2260000	9520						2203000	2.52	20	
Antimony	2420	476						2432	0.348	20	
Arsenic	1200	952						1081	10.8	20	
Cadmium	523	95.2						533.5	2.03	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: 2107216-005ADUP	SampType: DUP	TestCode: 6020_S	Units: µg/Kg-dry	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: BatchQC	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20300	952						17130	16.9	20	
Iron	3780000	95200						3654000	3.35	20	
Lead	2960	238						2713	8.85	20	
Molybdenum	10400	476						10230	2.11	20	
Nickel	16100	476						14140	13.1	20	
Potassium	5160000	95200						4924000	4.60	20	
Selenium	2270	952						2125	6.61	20	
Silver	2920	95.2						2680	8.53	20	
Thallium	ND	476						0	0	20	
Zinc	252000	952						248400	1.48	20	

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 6020_S	Units: µg/Kg-dry	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: BatchQC	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531439						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2340000	9930	49630	2203000	276	70	130				SMC
Antimony	5930	496	4963	2432	70.6	70	130				
Arsenic	5710	993	4963	1081	93.2	70	130				
Cadmium	5290	99.3	4963	533.5	95.7	70	130				
Chromium	25800	993	4963	17130	175	70	130				SMC
Iron	4340000	99300	496300	3654000	138	70	130				SMC

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531439</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5920	248	4963	2713	64.6	70	130				SMI
Molybdenum	15200	496	4963	10230	100	70	130				
Nickel	20100	496	4963	14140	120	70	130				
Potassium	5610000	99300	496300	4924000	139	70	130				SMC
Selenium	6480	993	4963	2125	87.8	70	130				
Silver	7730	99.3	4963	2680	102	70	130				
Thallium	3380	496	4963	0	68.0	70	130				SMI
Zinc	270000	993	4963	248400	437	70	130				SMC

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531440</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2350000	10000	50150	2203000	303	70	130	2339000	0.650	20	SMC
Antimony	6000	501	5015	2432	71.1	70	130	5935	1.05	20	
Arsenic	5800	1000	5015	1081	94.0	70	130	5706	1.57	20	
Cadmium	5330	100	5015	533.5	95.6	70	130	5286	0.768	20	
Chromium	24300	1000	5015	17130	142	70	130	25820	6.16	20	SMC
Iron	4310000	100000	501500	3654000	131	70	130	4337000	0.598	20	SMC
Lead	6070	251	5015	2713	66.9	70	130	5918	2.54	20	SMI
Molybdenum	15100	501	5015	10230	97.5	70	130	15190	0.510	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531440</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	22200	501	5015	14140	160	70	130	20080	9.81	20	SMC
Potassium	5680000	100000	501500	4924000	151	70	130	5615000	1.19	20	SMC
Selenium	6460	1000	5015	2125	86.5	70	130	6482	0.266	20	
Silver	7480	100	5015	2680	95.7	70	130	7731	3.31	20	
Thallium	3450	501	5015	0	68.9	70	130	3376	2.28	20	SMI
Zinc	259000	1000	5015	248400	213	70	130	270100	4.16	20	SMC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	4970	50.0	5000	0	99.3	90	110				B
Selenium	4930	100	5000	0	98.5	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	4990	50.0	5000	0	99.7	90	110				B
Selenium	4840	100	5000	0	96.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 6020\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41345</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531534</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	232000	4760						230600	0.513	20	

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531535</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	234000	4960	4963	230600	68.7	70	130				S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6020_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41345</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18315</b>	TestNo: <b>SW 6020B</b>	<b>SW3050B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531536</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	240000	5010	5015	230600	184	70	130	234100	2.46	20	S

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	10.0	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	10.0	40.00	0	115	80	120				
1,1,2,2-Tetrachloroethane	39.0	10.0	40.00	0	97.6	80	120				
1,1,2-Trichloroethane	39.3	10.0	40.00	0	98.2	80	120				
1,1-Dichloroethane	45.4	10.0	40.00	0	113	80	120				
1,1-Dichloroethene	45.6	10.0	40.00	0	114	80	120				
1,1-Dichloropropene	46.2	10.0	40.00	0	115	80	120				
1,2,3-Trichlorobenzene	41.2	10.0	40.00	0	103	80	120				
1,2,3-Trichloropropane	40.3	10.0	40.00	0	101	80	120				
1,2,4-Trichlorobenzene	39.9	10.0	40.00	0	99.8	80	120				
1,2,4-Trimethylbenzene	41.4	10.0	40.00	0	104	80	120				
1,2-Dibromo-3-chloropropane	40.0	10.0	40.00	0	100	80	120				
1,2-Dibromoethane	39.6	10.0	40.00	0	99.1	80	120				
1,2-Dichlorobenzene	40.5	10.0	40.00	0	101	80	120				
1,2-Dichloroethane	44.1	10.0	40.00	0	110	80	120				
1,2-Dichloropropane	46.0	10.0	40.00	0	115	80	120				
1,3,5-Trimethylbenzene	41.2	10.0	40.00	0	103	80	120				
1,3-Dichlorobenzene	40.6	10.0	40.00	0	102	80	120				
1,3-Dichloropropane	39.7	10.0	40.00	0	99.3	80	120				
1,4-Dichlorobenzene	40.4	10.0	40.00	0	101	80	120				
2,2-Dichloropropane	49.4	10.0	40.00	0	124	80	120				SSC
2-Butanone	90.3	20.0	80.00	0	113	80	120				
2-Chlorotoluene	42.6	10.0	40.00	0	106	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Hexanone	80.4	20.0	80.00	0	100	80	120				
4-Chlorotoluene	39.6	10.0	40.00	0	98.9	80	120				
4-Isopropyltoluene	42.3	10.0	40.00	0	106	80	120				
4-Methyl-2-pentanone	80.5	20.0	80.00	0	101	80	120				
Acetone	87.0	50.0	80.00	0	109	80	120				
Benzene	41.5	10.0	40.00	0	104	80	120				
Bromobenzene	40.1	10.0	40.00	0	100	80	120				
Bromochloromethane	45.5	10.0	40.00	0	114	80	120				
Bromodichloromethane	46.2	10.0	40.00	0	115	80	120				
Bromoform	38.3	10.0	40.00	0	95.7	80	120				
Bromomethane	49.3	10.0	40.00	0	123	80	120				SSC
Carbon Disulfide	47.4	10.0	40.00	0	119	80	120				
Carbon tetrachloride	46.8	10.0	40.00	0	117	80	120				
Chlorobenzene	40.3	10.0	40.00	0	101	80	120				
Chloroethane	47.3	10.0	40.00	0	118	80	120				
Chloroform	45.4	10.0	40.00	0	114	80	120				
Chloromethane	41.4	10.0	40.00	0	104	80	120				
cis-1,2-Dichloroethene	46.2	10.0	40.00	0	116	80	120				
cis-1,3-Dichloropropene	47.6	10.0	40.00	0	119	80	120				
Dibromochloromethane	40.3	10.0	40.00	0	101	80	120				
Dibromomethane	46.0	10.0	40.00	0	115	80	120				
Dichlorodifluoromethane	43.8	10.0	40.00	0	110	80	120				
Ethylbenzene	40.4	10.0	40.00	0	101	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531732</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	42.3	10.0	40.00	0	106	80	120				
Isopropylbenzene	40.8	10.0	40.00	0	102	80	120				
m,p-Xylene	77.4	20.0	80.00	0	96.7	80	120				
Methyl tert-butyl ether	45.0	10.0	40.00	0	112	80	120				
Methylene Chloride	ND	50.0	40.00	0	94.6	80	120				
Naphthalene	39.8	10.0	40.00	0	99.5	80	120				
n-Butylbenzene	42.5	10.0	40.00	0	106	80	120				
n-Propylbenzene	38.2	10.0	40.00	0	95.5	80	120				
o-Xylene	41.7	10.0	40.00	0	104	80	120				
sec-Butylbenzene	42.5	10.0	40.00	0	106	80	120				
Styrene	41.4	10.0	40.00	0	103	80	120				
tert-Butylbenzene	41.8	10.0	40.00	0	105	80	120				
Tetrachloroethene	40.2	10.0	40.00	0	100	80	120				
Toluene	42.3	10.0	40.00	0	106	80	120				
trans-1,2-Dichloroethene	46.1	10.0	40.00	0	115	80	120				
trans-1,3-Dichloropropene	41.6	10.0	40.00	0	104	80	120				
Trichloroethene	46.8	10.0	40.00	0	117	80	120				
Trichlorofluoromethane	46.2	10.0	40.00	0	116	80	120				
Vinyl Chloride	46.2	10.0	40.00	0	115	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon Disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene Chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl Chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	71.5	124				
Surr: 4-Bromofluorobenzene	101		100.0		101	75.7	122				
Surr: Dibromofluoromethane	101		100.0		101	64.3	124				
Surr: Toluene-d8	98.4		100.0		98.4	74.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227  
10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531733</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	39.7	10.0	40.00	0	99.3	70	130				
1,1,1-Trichloroethane	46.0	10.0	40.00	0	115	70	130				
1,1,2,2-Tetrachloroethane	39.0	10.0	40.00	0	97.6	70	130				
1,1,2-Trichloroethane	39.3	10.0	40.00	0	98.2	70	130				
1,1-Dichloroethane	45.4	10.0	40.00	0	113	70	130				
1,1-Dichloroethene	45.6	10.0	40.00	0	114	72.4	131				
1,1-Dichloropropene	46.2	10.0	40.00	0	115	70	130				
1,2,3-Trichlorobenzene	41.2	10.0	40.00	0	103	70	130				
1,2,3-Trichloropropane	40.3	10.0	40.00	0	101	70	130				
1,2,4-Trichlorobenzene	39.9	10.0	40.00	0	99.8	70	130				
1,2,4-Trimethylbenzene	41.4	10.0	40.00	0	104	70	130				
1,2-Dibromo-3-chloropropane	40.0	10.0	40.00	0	100	70	130				
1,2-Dibromoethane	39.6	10.0	40.00	0	99.1	70	130				
1,2-Dichlorobenzene	40.5	10.0	40.00	0	101	70	130				
1,2-Dichloroethane	44.1	10.0	40.00	0	110	70	130				
1,2-Dichloropropane	46.0	10.0	40.00	0	115	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	41.2	10.0	40.00	0	103	70	130				
1,3-Dichlorobenzene	40.6	10.0	40.00	0	102	70	130				
1,3-Dichloropropane	39.7	10.0	40.00	0	99.3	70	130				
1,4-Dichlorobenzene	40.4	10.0	40.00	0	101	70	130				
2,2-Dichloropropane	49.4	10.0	40.00	0	124	70	130				
2-Butanone	90.3	20.0	80.00	0	113	70	130				
2-Chlorotoluene	42.6	10.0	40.00	0	106	70	130				
2-Hexanone	80.4	20.0	80.00	0	100	70	130				
4-Chlorotoluene	39.6	10.0	40.00	0	98.9	70	130				
4-Isopropyltoluene	42.3	10.0	40.00	0	106	70	130				
4-Methyl-2-pentanone	80.5	20.0	80.00	0	101	70	130				
Acetone	87.0	50.0	80.00	0	109	70	130				
Benzene	41.5	10.0	40.00	0	104	74.3	136				
Bromobenzene	40.1	10.0	40.00	0	100	70	130				
Bromochloromethane	45.5	10.0	40.00	0	114	70	130				
Bromodichloromethane	46.2	10.0	40.00	0	115	70	130				
Bromoform	38.3	10.0	40.00	0	95.7	70	130				
Bromomethane	49.3	10.0	40.00	0	123	70	130				
Carbon Disulfide	47.4	10.0	40.00	0	119	70	130				
Carbon tetrachloride	46.8	10.0	40.00	0	117	70	130				
Chlorobenzene	40.3	10.0	40.00	0	101	75.9	121				
Chloroethane	47.3	10.0	40.00	0	118	70	130				
Chloroform	45.4	10.0	40.00	0	114	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	41.4	10.0	40.00	0	104	70	130				
cis-1,2-Dichloroethene	46.2	10.0	40.00	0	116	70	130				
cis-1,3-Dichloropropene	47.6	10.0	40.00	0	119	70	130				
Dibromochloromethane	40.3	10.0	40.00	0	101	70	130				
Dibromomethane	46.0	10.0	40.00	0	115	70	130				
Dichlorodifluoromethane	43.8	10.0	40.00	0	110	70	130				
Ethylbenzene	40.4	10.0	40.00	0	101	70	130				
Hexachlorobutadiene	42.3	10.0	40.00	0	106	70	130				
Isopropylbenzene	40.8	10.0	40.00	0	102	70	130				
m,p-Xylene	77.4	20.0	80.00	0	96.7	70	130				
Methyl tert-butyl ether	45.0	10.0	40.00	0	112	70	130				
Methylene Chloride	ND	50.0	40.00	0	94.6	70	130				
Naphthalene	39.8	10.0	40.00	0	99.5	70	130				
n-Butylbenzene	42.5	10.0	40.00	0	106	70	130				
n-Propylbenzene	38.2	10.0	40.00	0	95.5	70	130				
o-Xylene	41.7	10.0	40.00	0	104	70	130				
sec-Butylbenzene	42.5	10.0	40.00	0	106	70	130				
Styrene	41.4	10.0	40.00	0	103	70	130				
tert-Butylbenzene	41.8	10.0	40.00	0	105	70	130				
Tetrachloroethene	40.2	10.0	40.00	0	100	70	130				
Toluene	42.3	10.0	40.00	0	106	75.1	123				
trans-1,2-Dichloroethene	46.1	10.0	40.00	0	115	70	130				
trans-1,3-Dichloropropene	41.6	10.0	40.00	0	104	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_S

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41367</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18274</b>	TestNo: <b>E624.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531737</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	46.8	10.0	40.00	0	117	77.8	129				
Trichlorofluoromethane	46.2	10.0	40.00	0	116	70	130				
Vinyl Chloride	46.2	10.0	40.00	0	115	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41272</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41272</b>					
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41272				
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021	SeqNo: 530466				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.4	0.500	40.00	0	98.6	70	130				
1,1,1-Trichloroethane	44.3	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	39.1	0.500	40.00	0	97.8	46	157				
1,1,2-Trichloroethane	38.7	0.500	40.00	0	96.8	52	150				
1,1-Dichloroethane	44.2	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
1,2-Dichloroethane	41.5	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	43.7	0.500	40.00	0	109	0.01	210				
1,3-Dichlorobenzene	36.1	0.500	40.00	0	90.4	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	0	91.6	18	190				
2-Butanone	99.7	5.00	80.00	0	125	50	150				
2-Chloroethyl vinyl ether	43.7	10.0	40.00	0	109	0.01	305				
4-Methyl-2-pentanone	85.2	5.00	80.00	0	107	50	150				
Acrylonitrile	44.7	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	44.1	0.500	40.00	0	110	35	155				
Bromoform	38.2	0.500	40.00	0	95.5	45	169				
Bromomethane	40.9	0.500	40.00	0	102	0.01	242				
Carbon tetrachloride	45.8	0.500	40.00	0	114	70	140				
Chlorobenzene	39.9	0.500	40.00	0	99.8	37	160				
Chloroethane	62.4	0.500	40.00	0.6000	155	14	230				
Chloroform	46.0	0.500	40.00	0	115	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41272				
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021	SeqNo: 530466				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	45.0	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	45.0	0.500	40.00	0	113	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.3	0.500	40.00	0.8400	96.1	37	162				
m,p-Xylene	75.4	1.00	80.00	0	94.3	50	150				
Methylene chloride	29.0	20.0	40.00	0	72.6	0.01	221				
o-Xylene	40.2	0.500	40.00	0	101	50	150				
Styrene	40.1	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	43.5	0.500	40.00	0.6800	107	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	41.9	0.500	40.00	0	105	17	183				
Trichloroethene	43.8	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	45.3	0.500	40.00	0	113	17	181				
Vinyl chloride	35.6	0.500	40.00	0	89.1	0.01	251				

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41272				
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021	SeqNo: 530467				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530467							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	40.0	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.4	52	150				
1,1-Dichloroethane	42.0	0.500	40.00	0	105	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	40.4	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.5	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	40.9	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.8	0.500	40.00	0	102	18	190				
2-Butanone	88.3	5.00	80.00	0	110	50	150				
2-Chloroethyl vinyl ether	42.5	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	50	150				
Acrylonitrile	43.3	2.00	40.00	0	108	20	150				
Benzene	38.0	0.500	40.00	0	95.0	37	151				
Bromodichloromethane	42.7	0.500	40.00	0	107	35	155				
Bromoform	39.3	0.500	40.00	1.110	95.5	45	169				
Bromomethane	28.7	0.500	40.00	0	71.8	0.01	242				
Carbon tetrachloride	43.5	0.500	40.00	0	109	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	51.9	0.500	40.00	0	130	14	230				
Chloroform	41.7	0.500	40.00	0	104	51	138				
Chloromethane	35.5	0.500	40.00	0	88.7	0.01	273				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530467					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	44.2	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	40.8	0.500	40.00	0	102	53	149				
Ethylbenzene	40.9	0.500	40.00	0.8400	100	37	162				
m,p-Xylene	79.0	1.00	80.00	1.950	96.4	50	150				
Methylene chloride	27.2	20.0	40.00	0	68.1	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.0	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.3	64	148				
Toluene	43.4	0.500	40.00	1.220	105	47	150				
trans-1,2-Dichloroethene	42.5	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	107	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	17	181				
Vinyl chloride	29.4	0.500	40.00	0	73.5	0.01	251				

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530468					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	42.7	0.500	40.00	0	107	52	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530468							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	101	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.0	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	37.1	0.500	40.00	0	92.8	18	190				
1,2-Dichloroethane	40.6	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	37.0	0.500	40.00	0	92.4	59	156				
1,4-Dichlorobenzene	37.2	0.500	40.00	0	93.1	18	190				
2-Butanone	89.4	5.00	80.00	1.330	110	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	38.9	0.500	40.00	0	97.3	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	38.2	0.500	40.00	1.120	92.7	45	169				
Bromomethane	34.4	0.500	40.00	0	86.1	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	39.8	0.500	40.00	0	99.6	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	1.160	105	51	138				
Chloromethane	35.4	0.500	40.00	0	88.5	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530468					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.5	0.500	40.00	0.8300	96.8	37	162				
m,p-Xylene	74.8	1.00	80.00	1.940	91.1	50	150				
Methylene chloride	27.6	20.0	40.00	0	69.1	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				
Styrene	40.2	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	42.6	0.500	40.00	0.7300	105	47	150				
trans-1,2-Dichloroethene	43.6	0.500	40.00	0	109	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	43.0	0.500	40.00	0	108	71	157				
Trichlorofluoromethane	42.7	0.500	40.00	0	107	17	181				
Vinyl chloride	32.6	0.500	40.00	0	81.5	0.01	251				

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: LCSW	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530469					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	46	157				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	59	155				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	0.01	234				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	49	155				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	0.01	210				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
2-Butanone	90.3	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	305				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	30	150				
Benzene	41.5	0.500	40.00	0	104	37	151				
Bromodichloromethane	46.2	0.500	40.00	0	115	35	155				
Bromoform	38.3	0.500	40.00	0	95.7	45	169				
Bromomethane	49.3	0.500	40.00	0	123	0.01	242				
Carbon tetrachloride	46.8	0.500	40.00	0	117	70	140				
Chlorobenzene	40.3	0.500	40.00	0	101	37	160				
Chloroethane	47.3	0.500	40.00	0	118	14	230				
Chloroform	45.4	0.500	40.00	0	114	51	138				
Chloromethane	41.4	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	77.4	1.00	80.00	0	96.7	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.6	0.01	221				
o-Xylene	41.7	0.500	40.00	0	104	50	150				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	42.3	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	17	183				
Trichloroethene	46.8	0.500	40.00	0	117	71	157				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	17	181				
Vinyl chloride	46.2	0.500	40.00	0	115	0.01	251				

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41298</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41298</b>					
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	0.860	0.500									
m,p-Xylene	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	0.730	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

Sample ID: <b>2107227-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>072721LLIG</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530723</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.3	0.500	40.00	0	98.2	70	130				
1,1,1-Trichloroethane	52.1	0.500	40.00	0	130	52	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: 072721LLIG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530723							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	38.9	0.500	40.00	0	97.3	52	150				
1,1-Dichloroethane	52.1	0.500	40.00	0	130	59	155				
1,1-Dichloroethene	52.9	0.500	40.00	0	132	47.8	165				
1,2-Dichlorobenzene	36.6	0.500	40.00	0	91.4	18	190				
1,2-Dichloroethane	48.9	0.500	40.00	0	122	49	155				
1,2-Dichloropropane	52.1	0.500	40.00	0	130	0.01	210				
1,3-Dichlorobenzene	36.7	0.500	40.00	0	91.7	59	156				
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.2	18	190				
2-Butanone	112	5.00	80.00	4.390	135	50	150				
2-Chloroethyl vinyl ether	52.1	10.0	40.00	0	130	0.01	305				
4-Methyl-2-pentanone	85.0	5.00	80.00	0	106	50	150				
Acrylonitrile	53.6	2.00	40.00	0	134	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	52.1	0.500	40.00	0	130	35	155				
Bromoform	37.8	0.500	40.00	1.150	91.7	45	169				
Bromomethane	39.8	0.500	40.00	0	99.6	0.01	242				
Carbon tetrachloride	53.2	0.500	40.00	0	133	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.7	37	160				
Chloroethane	54.0	0.500	40.00	0	135	14	230				
Chloroform	54.0	0.500	40.00	1.970	130	51	138				
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	53.5	0.500	40.00	0	134	0.01	227				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: 072721LLIG	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530723		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	39.8	0.500	40.00	0	99.5	53	149				
Ethylbenzene	39.1	0.500	40.00	0.8200	95.8	37	162				
m,p-Xylene	74.1	1.00	80.00	1.960	90.2	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.5	0.01	221				
o-Xylene	39.8	0.500	40.00	0	99.6	50	150				
Styrene	39.6	0.500	40.00	0	99.1	70	130				
Tetrachloroethene	35.9	0.500	40.00	0	89.8	64	148				
Toluene	43.0	0.500	40.00	1.310	104	47	150				
trans-1,2-Dichloroethene	53.0	0.500	40.00	0	132	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	52.2	0.500	40.00	0	131	71	157				
Trichlorofluoromethane	52.5	0.500	40.00	0	131	17	181				
Vinyl chloride	47.1	0.500	40.00	0	118	0.01	251				

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: 072721LLEG	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530724		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.7	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	41.1	0.500	40.00	0	103	46	157				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: 072721LLEG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530724							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	40.0	0.500	40.00	0	99.9	52	150				
1,1-Dichloroethane	43.5	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	40.7	0.500	40.00	0	102	18	190				
1,2-Dichloroethane	41.4	0.500	40.00	0	103	49	155				
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	41.1	0.500	40.00	0	103	59	156				
1,4-Dichlorobenzene	41.1	0.500	40.00	0	103	18	190				
2-Butanone	91.0	5.00	80.00	0	114	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	46.1	2.00	40.00	0	115	20	150				
Benzene	39.2	0.500	40.00	0	98.0	37	151				
Bromodichloromethane	43.3	0.500	40.00	0	108	35	155				
Bromoform	39.6	0.500	40.00	1.120	96.1	45	169				
Bromomethane	26.8	0.500	40.00	0	67.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	112	70	140				
Chlorobenzene	41.1	0.500	40.00	0	103	37	160				
Chloroethane	46.2	0.500	40.00	0	116	14	230				
Chloroform	42.7	0.500	40.00	0	107	51	138				
Chloromethane	32.0	0.500	40.00	0	80.0	0.01	273				
cis-1,3-Dichloropropene	44.8	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	41.3	0.500	40.00	0	103	53	149				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: 072721LLEG	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530724							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	41.2	0.500	40.00	0	103	37	162				
m,p-Xylene	79.7	1.00	80.00	1.950	97.2	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.0	0.01	221				
o-Xylene	42.4	0.500	40.00	0	106	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.8	0.500	40.00	0	97.1	64	148				
Toluene	43.6	0.500	40.00	1.180	106	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.2	0.500	40.00	0	108	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	42.8	0.500	40.00	0	107	17	181				
Vinyl chloride	29.2	0.500	40.00	0	73.1	0.01	251				

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: Parkway Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530725							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.0	0.500	40.00	0	97.4	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	46	157				
1,1,2-Trichloroethane	37.8	0.500	40.00	0	94.5	52	150				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: Parkway Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530725							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.8	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	37.3	0.500	40.00	0	93.3	18	190				
1,2-Dichloroethane	47.6	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	42.2	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	37.7	0.500	40.00	0	94.3	59	156				
1,4-Dichlorobenzene	38.5	0.500	40.00	0.8100	94.3	18	190				
2-Butanone	86.8	5.00	80.00	0	108	50	150				
2-Chloroethyl vinyl ether	42.2	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	1.520	105	50	150				
Acrylonitrile	41.5	2.00	40.00	0	104	20	150				
Benzene	54.9	0.500	40.00	0	137	37	151				
Bromodichloromethane	42.3	0.500	40.00	0.5500	104	35	155				
Bromoform	37.3	0.500	40.00	1.150	90.3	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.8	37	160				
Chloroethane	39.6	0.500	40.00	0	99.1	14	230				
Chloroform	44.2	0.500	40.00	4.210	99.9	51	138				
Chloromethane	30.6	0.500	40.00	0	76.4	0.01	273				
cis-1,3-Dichloropropene	43.0	0.500	40.00	0	108	0.01	227				
Dibromochloromethane	39.1	0.500	40.00	0	97.9	53	149				
Ethylbenzene	39.4	0.500	40.00	0	98.5	37	162				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: Parkway Grab	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530725		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	75.3	1.00	80.00	1.960	91.6	50	150				
Methylene chloride	25.5	20.0	40.00	0	63.6	0.01	221				
o-Xylene	40.4	0.500	40.00	0	101	50	150				
Styrene	40.0	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.6	0.500	40.00	0	91.6	64	148				
Toluene	42.5	0.500	40.00	0.8700	104	47	150				
trans-1,2-Dichloroethene	41.7	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	41.1	0.500	40.00	0	103	17	183				
Trichloroethene	42.5	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	103	17	181				
Vinyl chloride	32.1	0.500	40.00	0	80.2	0.01	251				

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: Villabois Grab	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530726		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	37.9	0.500	40.00	0	94.7	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	46	157				
1,1,2-Trichloroethane	38.0	0.500	40.00	0	94.9	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: Villabois Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530726							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.4	18	190				
1,2-Dichloroethane	39.0	0.500	40.00	0	97.4	49	155				
1,2-Dichloropropane	41.7	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.0	59	156				
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	88.6	5.00	80.00	2.360	108	50	150				
2-Chloroethyl vinyl ether	41.7	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	83.7	5.00	80.00	0	105	50	150				
Acrylonitrile	44.1	2.00	40.00	0	110	20	150				
Benzene	37.8	0.500	40.00	0	94.6	37	151				
Bromodichloromethane	41.7	0.500	40.00	0	104	35	155				
Bromoform	37.4	0.500	40.00	1.160	90.6	45	169				
Bromomethane	31.3	0.500	40.00	0	78.3	0.01	242				
Carbon tetrachloride	41.3	0.500	40.00	0	103	70	140				
Chlorobenzene	38.5	0.500	40.00	0	96.4	37	160				
Chloroethane	38.9	0.500	40.00	0	97.2	14	230				
Chloroform	42.0	0.500	40.00	1.430	101	51	138				
Chloromethane	32.0	0.500	40.00	0	79.9	0.01	273				
cis-1,3-Dichloropropene	42.9	0.500	40.00	0	107	0.01	227				
Dibromochloromethane	39.0	0.500	40.00	0	97.5	53	149				
Ethylbenzene	37.8	0.500	40.00	0	94.6	37	162				
m,p-Xylene	71.3	1.00	80.00	1.940	86.7	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: Villabois Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530726							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	25.6	20.0	40.00	0	64.0	0.01	221				
o-Xylene	38.7	0.500	40.00	0	96.8	50	150				
Styrene	38.6	0.500	40.00	0	96.6	70	130				
Tetrachloroethene	34.5	0.500	40.00	0	86.2	64	148				
Toluene	41.4	0.500	40.00	0.7800	102	47	150				
trans-1,2-Dichloroethene	42.3	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	41.2	0.500	40.00	0	103	17	183				
Trichloroethene	41.8	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	39.9	0.500	40.00	0	99.7	17	181				
Vinyl chloride	27.2	0.500	40.00	0	68.1	0.01	251				

Sample ID: CCV1	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531041							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	80	120				
1,1,1-Trichloroethane	44.2	0.500	40.00	0	111	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	60.5	139.5				
1,1,2-Trichloroethane	39.5	0.500	40.00	0	98.7	71	129				
1,1-Dichloroethane	44.7	0.500	40.00	0	112	72.5	127.5				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	50.5	149.5				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41325</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/4/2021</b>			SeqNo: <b>531041</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	40.3	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	41.8	0.500	40.00	0	105	68	132				
1,2-Dichloropropane	43.9	0.500	40.00	0	110	34	166				
1,3-Dichlorobenzene	41.0	0.500	40.00	0	103	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	91.9	5.00	80.00	0	115	60	140				
2-Chloroethyl vinyl ether	43.9	10.0	40.00	0	110	0.01	224				
4-Methyl-2-pentanone	83.5	5.00	80.00	0	104	60	140				
Acrylonitrile	45.5	2.00	40.00	0	114	50	150				
Benzene	40.6	0.500	40.00	0	101	64	136				
Bromodichloromethane	43.7	0.500	40.00	0	109	65.5	134.5				
Bromoform	38.6	0.500	40.00	0	96.6	71	129				
Bromomethane	38.9	0.500	40.00	0	97.3	14	186				
Carbon tetrachloride	44.5	0.500	40.00	0	111	73	127				
Chlorobenzene	40.8	0.500	40.00	0	102	66	134				
Chloroethane	43.5	0.500	40.00	0	109	38	162				
Chloroform	44.0	0.500	40.00	0	110	67.5	132.5				
Chloromethane	32.6	0.500	40.00	0	81.4	0.01	204				
cis-1,3-Dichloropropene	45.9	0.500	40.00	0	115	24	176				
Dibromochloromethane	40.1	0.500	40.00	0	100	67.5	132.5				
Ethylbenzene	41.1	0.500	40.00	0	103	59	141				
m,p-Xylene	77.2	1.00	80.00	0	96.5	80	120				
Methylene chloride	43.5	20.0	40.00	0	109	60.5	139.5				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531041</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.2	0.500	40.00	0	105	80	120				
Styrene	41.8	0.500	40.00	0	104	80	120				
Tetrachloroethene	39.2	0.500	40.00	0	98.1	73.5	126.5				
Toluene	42.6	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	45.1	0.500	40.00	0	113	69.5	130.5				
trans-1,3-Dichloropropene	42.7	0.500	40.00	0	107	50	150				
Trichloroethene	45.1	0.500	40.00	0	113	66.5	133.5				
Trichlorofluoromethane	43.2	0.500	40.00	0	108	48	152				
Vinyl chloride	26.4	0.500	40.00	0	66.0	4	196				
Surr: 1,2-Dichloroethane-d4	97.4		100.0		97.4	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	93.0		100.0		93.0	80	120				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	1.09	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	0.820	0.500									
m,p-Xylene	1.94	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	100		100.0		100	83.4	126				
Surr: 4-Bromofluorobenzene	99.8		100.0		99.8	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	93.1		100.0		93.1	80	120				

Sample ID: <b>2107246-002EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531046</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41325					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 8/4/2021	SeqNo: 531046					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.8	0.500	40.00	0	99.4	70	130				
1,1,1-Trichloroethane	45.8	0.500	40.00	0	114	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	97.0	46	157				
1,1,2-Trichloroethane	38.8	0.500	40.00	0	97.0	52	150				
1,1-Dichloroethane	45.8	0.500	40.00	0	114	59	155				
1,1-Dichloroethene	45.2	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	18	190				
1,2-Dichloroethane	42.9	0.500	40.00	0	107	49	155				
1,2-Dichloropropane	45.2	0.500	40.00	0	113	0.01	210				
1,3-Dichlorobenzene	37.4	0.500	40.00	0	93.5	59	156				
1,4-Dichlorobenzene	38.3	0.500	40.00	0.8100	93.7	18	190				
2-Butanone	99.5	5.00	80.00	0	124	50	150				
2-Chloroethyl vinyl ether	45.2	10.0	40.00	0	113	0.01	305				
4-Methyl-2-pentanone	84.2	5.00	80.00	0	105	50	150				
Acrylonitrile	45.7	2.00	40.00	0	114	20	150				
Benzene	41.9	0.500	40.00	0	105	37	151				
Bromodichloromethane	45.5	0.500	40.00	0	114	35	155				
Bromoform	38.0	0.500	40.00	1.120	92.1	45	169				
Bromomethane	32.3	0.500	40.00	0	80.8	0.01	242				
Carbon tetrachloride	46.7	0.500	40.00	0	117	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	43.8	0.500	40.00	0	109	14	230				
Chloroform	47.8	0.500	40.00	2.650	113	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	35.1	0.500	40.00	0	87.8	0.01	273				
cis-1,3-Dichloropropene	46.8	0.500	40.00	0	117	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	76.8	1.00	80.00	0	96.0	50	150				
Methylene chloride	30.1	20.0	40.00	0	75.4	0.01	221				
o-Xylene	41.2	0.500	40.00	0	103	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.4	64	148				
Toluene	45.2	0.500	40.00	3.220	105	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	42.4	0.500	40.00	0	106	17	183				
Trichloroethene	45.8	0.500	40.00	0	114	71	157				
Trichlorofluoromethane	44.8	0.500	40.00	0	112	17	181				
Vinyl chloride	32.8	0.500	40.00	0	82.0	0.01	251				
Surr: 1,2-Dichloroethane-d4	98.3		100.0		98.3	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	94.3		100.0		94.3	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	16.7									
1,2-Dichlorobenzene	ND	16.7									
1,2-Diphenylhydrazine	ND	16.7									
1,3-Dichlorobenzene	ND	16.7									
1,4-Dichlorobenzene	ND	16.7									
2,4,6-Trichlorophenol	ND	16.7									
2,4-Dichlorophenol	ND	16.7									
2,4-Dimethylphenol	ND	16.7									
2,4-Dinitrophenol	ND	16.7									
2,4-Dinitrotoluene	ND	16.7									
2,6-Dinitrotoluene	ND	16.7									
2-Chloronaphthalene	ND	16.7									
2-Chlorophenol	ND	16.7									
2-Methylphenol	ND	16.7									
2-Nitrophenol	ND	16.7									
3,3'-Dichlorobenzidine	ND	16.7									
3,4-Methylphenol	ND	33.3									
4,6-Dinitro-2-methylphenol	ND	16.7									
4-Bromophenyl phenyl ether	ND	16.7									
4-Chloro-3-methylphenol	ND	16.7									
4-Chlorophenyl phenyl ether	ND	16.7									
4-Nitrophenol	ND	16.7									
Acenaphthene	ND	16.7									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	16.7									
Aniline	ND	16.7									
Anthracene	ND	16.7									
Azobenzene	ND	16.7									
Benz(a)anthracene	ND	16.7									
Benzidine	ND	16.7									
Benzo(a)pyrene	ND	16.7									
Benzo(b)fluoranthene	ND	16.7									
Benzo(g,h,i)perylene	ND	16.7									
Benzo(k)fluoranthene	ND	16.7									
Benzoic Acid	ND	16.7									
Bis(2-chloroethoxy)methane	ND	16.7									
Bis(2-chloroethyl)ether	ND	16.7									
Bis(2-chloroisopropyl)ether	ND	16.7									
Bis(2-ethylhexyl)phthalate	ND	16.7									
Butyl benzyl phthalate	ND	16.7									
Carbazole	ND	16.7									
Chrysene	ND	16.7									
Dibenz(a,h)anthracene	ND	16.7									
Diethyl phthalate	ND	16.7									
Dimethyl phthalate	ND	16.7									
Di-n-butyl phthalate	ND	16.7									
Di-n-octyl phthalate	ND	16.7									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	16.7									
Fluorene	ND	16.7									
Hexachlorobenzene	ND	16.7									
Hexachlorobutadiene	ND	16.7									
Hexachlorocyclopentadiene	ND	16.7									
Hexachloroethane	ND	16.7									
Indeno(1,2,3-cd)pyrene	ND	16.7									
Isophorone	ND	16.7									
Naphthalene	ND	16.7									
Nitrobenzene	ND	16.7									
N-Nitrosodimethylamine	ND	16.7									
N-Nitrosodi-n-propylamine	ND	16.7									
N-Nitrosodiphenylamine	ND	16.7									
Pentachlorophenol	ND	16.7									
Phenanthrene	ND	16.7									
Phenol	ND	16.7									
Pyrene	ND	16.7									
Pyridine	ND	16.7									
Surr: 2,4,6-Tribromophenol	2970		3333		89.1	33.1	129.7				
Surr: 2-Fluorobiphenyl	2440		3333		73.3	33.1	126.2				
Surr: 2-Fluorophenol	2330		3333		70.0	13.4	127.1				
Surr: 4-Terphenyl-d14	2570		3333		77.0	41	122				
Surr: Nitrobenzene-d5	2660		3333		79.8	28.9	129.9				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>MB-18274</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533344</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	2410		3333		72.4	10.6	128.5				

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1040	16.7	1333	0	77.8	44	142				
1,2-Dichlorobenzene	1030	16.7	1333	0	77.4	32	129				
1,2-Diphenylhydrazine	1330	16.7	1333	0	99.5	40	140				
1,3-Dichlorobenzene	1040	16.7	1333	0	77.8	0.01	172				
1,4-Dichlorobenzene	1040	16.7	1333	0	77.7	20	124				
2,4,6-Trichlorophenol	1170	16.7	1333	0	88.0	37	144				
2,4-Dichlorophenol	1090	16.7	1333	0	81.5	39	135				
2,4-Dimethylphenol	1040	16.7	1333	0	77.7	32	119				
2,4-Dinitrophenol	1070	16.7	1333	0	80.5	0.01	191				
2,4-Dinitrotoluene	1420	16.7	1333	0	106	39	139				
2,6-Dinitrotoluene	1460	16.7	1333	0	109	30	158				
2-Chloronaphthalene	1060	16.7	1333	0	79.3	30	118				
2-Chlorophenol	1060	16.7	1333	0	79.3	23	134				
2-Methylphenol	1080	16.7	1333	0	80.8	30	120				
2-Nitrophenol	1110	16.7	1333	0	83.1	29	182				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	1260	16.7	1333	0	94.6	0.01	262				
3,4-Methylphenol	1100	33.3	1333	0	82.6	30	120				
4,6-Dinitro-2-methylphenol	1220	16.7	1333	0	91.5	0.01	181				
4-Bromophenyl phenyl ether	1340	16.7	1333	0	101	33	127				
4-Chloro-3-methylphenol	1240	16.7	1333	0	93.1	22	147				
4-Chlorophenyl phenyl ether	1240	16.7	1333	0	92.8	25	158				
4-Nitrophenol	1020	16.7	1333	0	76.4	0.01	132				
Acenaphthene	1120	16.7	1333	0	83.9	37	145				
Acenaphthylene	1280	16.7	1333	0	95.8	33	145				
Aniline	838	16.7	1333	0	62.9	16	134				
Anthracene	1320	16.7	1333	0	99.3	27	133				
Azobenzene	1330	16.7	1333	0	99.5	70	130				
Benz(a)anthracene	1240	16.7	1333	0	92.7	33	143				
Benzdine	149	16.7	1333	0	11.2	0.1	140				
Benzo(a)pyrene	1330	16.7	1333	0	99.5	17	163				
Benzo(b)fluoranthene	1380	16.7	1333	0	103	24	159				
Benzo(g,h,i)perylene	1380	16.7	1333	0	103	0.01	219				
Benzo(k)fluoranthene	1330	16.7	1333	0	99.6	11	162				
Benzoic Acid	ND	167	1333	0	0	0	250				
Bis(2-chloroethoxy)methane	1040	16.7	1333	0	78.4	33	184				
Bis(2-chloroethyl)ether	1040	16.7	1333	0	77.8	12	158				
Bis(2-chloroisopropyl)ether	1010	16.7	1333	0	75.6	20	140				
Bis(2-ethylhexyl)phthalate	1270	16.7	1333	0	95.0	8	158				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	1280	16.7	1333	0	96.1	0.01	152				
Carbazole	1380	16.7	1333	0	103	23	131				
Chrysene	1210	16.7	1333	0	90.8	17	168				
Dibenz(a,h)anthracene	1440	16.7	1333	0	108	0.01	224				
Diethyl phthalate	1220	16.7	1333	0	91.3	0.01	114				
Dimethyl phthalate	1250	16.7	1333	0	93.8	0.01	112				
Di-n-butyl phthalate	1360	16.7	1333	0	102	1	118				
Di-n-octyl phthalate	1230	16.7	1333	0	92.2	4	146				
Fluoranthene	1410	16.7	1333	0	106	26	137				
Fluorene	1160	16.7	1333	0	86.9	19	121				
Hexachlorobenzene	1350	16.7	1333	0	102	0.01	152				
Hexachlorobutadiene	1060	16.7	1333	0	79.3	24	116				
Hexachlorocyclopentadiene	1190	16.7	1333	0	89.1	10	110				
Hexachloroethane	1040	16.7	1333	0	77.7	40	143				
Indeno(1,2,3-cd)pyrene	1400	16.7	1333	0	105	0.01	171				
Isophorone	1100	16.7	1333	0	82.4	21	196				
Naphthalene	1180	16.7	1333	0	88.2	35	133				
Nitrobenzene	1080	16.7	1333	0	80.9	14	150				
N-Nitrosodimethylamine	1080	16.7	1333	0	81.2	0.01	250				
N-Nitrosodi-n-propylamine	1080	16.7	1333	0	81.3	0.01	230				
N-Nitrosodiphenylamine	1210	16.7	1333	0	90.6	0.01	133				
Pentachlorophenol	1320	16.7	1333	0	99.3	24	176				
Phenanthrene	1330	16.7	1333	0	99.4	5	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	1060	16.7	1333	0	79.5	12	112				
Pyrene	1350	16.7	1333	0	101	12	115				
Pyridine	253	16.7	1333	0	19.0	13	158				

Sample ID: <b>LCS-18274</b>	SampType: <b>LCS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533345</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	1090	16.7	1333	0	82.1	44	142	1037	5.38	20	
1,2-Dichlorobenzene	1200	16.7	1333	0	90.0	32	129	1031	15.1	20	
1,2-Diphenylhydrazine	1570	16.7	1333	0	118	40	140	1327	17.1	20	
1,3-Dichlorobenzene	1190	16.7	1333	0	89.1	0.01	172	1038	13.5	20	
1,4-Dichlorobenzene	1190	16.7	1333	0	89.5	20	124	1036	14.1	20	
2,4,6-Trichlorophenol	1180	16.7	1333	0	88.2	37	144	1174	0.142	20	
2,4-Dichlorophenol	1160	16.7	1333	0	87.0	39	135	1086	6.56	20	
2,4-Dimethylphenol	1090	16.7	1333	0	81.6	32	119	1036	4.93	20	
2,4-Dinitrophenol	1140	16.7	1333	0	85.3	0.01	191	1073	5.82	20	
2,4-Dinitrotoluene	1510	16.7	1333	0	113	39	139	1417	6.31	20	
2,6-Dinitrotoluene	1520	16.7	1333	0	114	30	158	1459	3.77	20	
2-Chloronaphthalene	1200	16.7	1333	0	90.1	30	118	1057	12.8	20	
2-Chlorophenol	1230	16.7	1333	0	92.0	23	134	1058	14.7	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	1230	16.7	1333	0	91.9	30	120	1077	12.9	20	
2-Nitrophenol	1180	16.7	1333	0	88.4	29	182	1107	6.18	20	
3,3'-Dichlorobenzidine	1280	16.7	1333	0	96.1	0.01	262	1261	1.60	20	
3,4-Methylphenol	1240	33.3	1333	0	93.3	30	120	1102	12.1	20	
4,6-Dinitro-2-methylphenol	1310	16.7	1333	0	98.5	0.01	181	1220	7.34	20	
4-Bromophenyl phenyl ether	1320	16.7	1333	0	98.7	33	127	1341	1.86	20	
4-Chloro-3-methylphenol	1310	16.7	1333	0	98.0	22	147	1241	5.18	20	
4-Chlorophenyl phenyl ether	1310	16.7	1333	0	98.4	25	158	1237	5.91	20	
4-Nitrophenol	1240	16.7	1333	0	92.8	0.01	132	1018	19.4	20	
Acenaphthene	1240	16.7	1333	0	92.9	37	145	1118	10.3	20	
Acenaphthylene	1550	16.7	1333	0	116	33	145	1277	19.3	20	
Aniline	972	16.7	1333	0	72.9	16	134	838.3	14.8	20	
Anthracene	1570	16.7	1333	0	118	27	133	1324	17.1	20	
Azobenzene	1570	16.7	1333	0	118	70	130	1327	17.1	0	
Benz(a)anthracene	1350	16.7	1333	0	101	33	143	1236	8.55	20	
Benzidine	279	16.7	1333	0	21.0	0.1	140	149.3	60.7	20	R
Benzo(a)pyrene	1410	16.7	1333	0	106	17	163	1327	6.33	20	
Benzo(b)fluoranthene	1420	16.7	1333	0	106	24	159	1375	2.94	20	
Benzo(g,h,i)perylene	1410	16.7	1333	0	106	0.01	219	1379	2.29	20	
Benzo(k)fluoranthene	1390	16.7	1333	0	104	11	162	1328	4.66	20	
Benzoic Acid	ND	167	1333	0	9.00	0	250	0	0	20	R
Bis(2-chloroethoxy)methane	1120	16.7	1333	0	84.1	33	184	1045	7.11	20	
Bis(2-chloroethyl)ether	1220	16.7	1333	0	91.3	12	158	1037	16.1	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	1220	16.7	1333	0	91.3	20	140	1008	18.8	20	
Bis(2-ethylhexyl)phthalate	1430	16.7	1333	0	107	8	158	1266	12.0	20	
Butyl benzyl phthalate	1390	16.7	1333	0	104	0.01	152	1281	8.09	20	
Carbazole	1580	16.7	1333	0	118	23	131	1375	13.7	20	
Chrysene	1360	16.7	1333	0	102	17	168	1211	11.3	20	
Dibenz(a,h)anthracene	1450	16.7	1333	0	109	0.01	224	1438	0.647	20	
Diethyl phthalate	1320	16.7	1333	0	99.3	0.01	114	1217	8.39	20	
Dimethyl phthalate	1360	16.7	1333	0	102	0.01	112	1250	8.33	20	
Di-n-butyl phthalate	1660	16.7	1333	0	125	1	118	1360	20.0	20	RSSC
Di-n-octyl phthalate	1430	16.7	1333	0	108	4	146	1229	15.4	20	
Fluoranthene	1670	16.7	1333	0	126	26	137	1407	17.3	20	
Fluorene	1320	16.7	1333	0	99.0	19	121	1158	13.1	20	
Hexachlorobenzene	1280	16.7	1333	0	96.2	0.01	152	1354	5.44	20	
Hexachlorobutadiene	1090	16.7	1333	0	82.1	24	116	1057	3.44	20	
Hexachlorocyclopentadiene	1220	16.7	1333	0	91.6	10	110	1188	2.74	20	
Hexachloroethane	1210	16.7	1333	0	90.9	40	143	1036	15.7	20	
Indeno(1,2,3-cd)pyrene	1440	16.7	1333	0	108	0.01	171	1404	2.51	20	
Isophorone	1170	16.7	1333	0	87.6	21	196	1098	6.15	20	
Naphthalene	1360	16.7	1333	0	102	21	133	1176	14.7	20	
Nitrobenzene	1160	16.7	1333	0	87.2	35	180	1079	7.49	20	
N-Nitrosodimethylamine	1080	16.7	1333	0	81.3	0.01	230	1082	0.154	20	
N-Nitrosodi-n-propylamine	1220	16.7	1333	0	91.7	0.01	250	1083	12.1	20	
N-Nitrosodiphenylamine	1340	16.7	1333	0	100	0.01	250	1207	10.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: LCSD-18274	SampType: LCSD	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSS02	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	1350	16.7	1333	0	101	14	176	1324	1.85	20	
Phenanthrene	1550	16.7	1333	0	116	24	120	1325	15.8	20	
Phenol	1220	16.7	1333	0	91.3	5	112	1059	13.8	20	
Pyrene	1650	16.7	1333	0	124	12	115	1345	20.1	20	RSSC
Pyridine	342	16.7	1333	0	25.7	13	158	253.0	30.0	20	R

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: BatchQC	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1670	13380	0	7.00	44	142				SMI
1,2-Dichlorobenzene	ND	1670	13380	0	0	32	129				SMI
1,2-Diphenylhydrazine	ND	1670	13380	0	0	40	140				SMI
1,3-Dichlorobenzene	ND	1670	13380	0	0	0.01	172				SMI
1,4-Dichlorobenzene	ND	1670	13380	0	0	20	124				SMI
2,4,6-Trichlorophenol	1710	1670	13380	0	12.8	37	144				SMI
2,4-Dichlorophenol	ND	1670	13380	0	7.50	39	135				SMI
2,4-Dimethylphenol	ND	1670	13380	0	12.3	32	119				SMI
2,4-Dinitrophenol	ND	1670	13380	0	7.75	0.01	191				
2,4-Dinitrotoluene	ND	1670	13380	0	9.25	39	139				SMI
2,6-Dinitrotoluene	ND	1670	13380	0	0	30	158				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: BatchQC	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	1670	13380	0	8.50	30	118				SMI
2-Chlorophenol	ND	1670	13380	0	7.50	23	134				SMI
2-Methylphenol	ND	1670	13380	0	9.25	30	120				SMI
2-Nitrophenol	ND	1670	13380	0	6.50	29	182				SMI
3,3'-Dichlorobenzidine	ND	1670	13380	0	10.3	0.01	262				
3,4-Methylphenol	5620	3340	13380	5218	3.00	30	120				SMI
4,6-Dinitro-2-methylphenol	3910	1670	13380	0	29.3	0.01	181				
4-Bromophenyl phenyl ether	ND	1670	13380	0	8.00	33	127				SMI
4-Chloro-3-methylphenol	ND	1670	13380	0	0	22	147				SMI
4-Chlorophenyl phenyl ether	ND	1670	13380	0	8.00	25	158				SMI
4-Nitrophenol	5490	1670	13380	0	41.0	0.01	132				
Acenaphthene	ND	1670	13380	0	8.25	37	145				SMI
Acenaphthylene	ND	1670	13380	0	0	33	145				SMI
Aniline	ND	1670	13380	0	0	16	134				SMI
Anthracene	ND	1670	13380	0	0	27	133				SMI
Azobenzene	ND	1670	13380	0	0	70	130				SMI
Benz(a)anthracene	ND	1670	13380	0	11.0	33	143				SMI
Benzidine	2140	1670	13380	0	16.0	0.1	140				
Benzo(a)pyrene	ND	1670	13380	0	11.0	17	163				SMI
Benzo(b)fluoranthene	1810	1670	13380	0	13.5	24	159				SMI
Benzo(g,h,i)perylene	ND	1670	13380	0	10.0	0.01	219				
Benzo(k)fluoranthene	ND	1670	13380	0	12.3	11	162				
Benzoic Acid	ND	16700	13380	0	31.5	0	250				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: 2107216-005AMS	SampType: MS	TestCode: 625X_S	Units: µg/Kg-dry	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: BatchQC	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	ND	1670	13380	0	7.50	33	184				SMI
Bis(2-chloroethyl)ether	ND	1670	13380	0	0	12	158				SMI
Bis(2-chloroisopropyl)ether	1970	1670	13380	0	14.8	20	140				SMI
Bis(2-ethylhexyl)phthalate	5890	1670	13380	0	44.0	8	158				
Butyl benzyl phthalate	ND	1670	13380	0	12.0	0.01	152				
Carbazole	ND	1670	13380	0	0	23	131				SMI
Chrysene	ND	1670	13380	0	11.8	17	168				SMI
Dibenz(a,h)anthracene	ND	1670	13380	0	10.3	0.01	224				
Diethyl phthalate	ND	1670	13380	0	8.25	0.01	114				
Dimethyl phthalate	ND	1670	13380	0	8.25	0.01	112				
Di-n-butyl phthalate	ND	1670	13380	0	0	1	118				SMI
Di-n-octyl phthalate	2110	1670	13380	0	15.8	4	146				
Fluoranthene	ND	1670	13380	0	0	26	137				SMI
Fluorene	ND	1670	13380	0	8.50	19	121				SMI
Hexachlorobenzene	ND	1670	13380	0	8.50	0.01	152				
Hexachlorobutadiene	ND	1670	13380	0	6.50	24	116				SMI
Hexachlorocyclopentadiene	ND	1670	13380	0	0	10	110				SMI
Hexachloroethane	ND	1670	13380	0	0	40	143				SMI
Indeno(1,2,3-cd)pyrene	ND	1670	13380	0	10.3	0.01	171				
Isophorone	ND	1670	13380	0	7.75	21	196				SMI
Naphthalene	ND	1670	13380	0	0	21	133				SMI
Nitrobenzene	ND	1670	13380	0	7.00	35	180				SMI
N-Nitrosodimethylamine	ND	1670	13380	0	0	0.01	230				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41497</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533347</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	ND	1670	13380	0	0	0.01	250				SMI
N-Nitrosodiphenylamine	ND	1670	13380	0	8.25	0.01	250				
Pentachlorophenol	5490	1670	13380	0	41.0	14	176				
Phenanthrene	ND	1670	13380	0	0	24	120				SMI
Phenol	6560	1670	13380	6188	2.75	5	112				SMI
Pyrene	ND	1670	13380	0	0	12	115				SMI
Pyridine	ND	1670	13380	0	0	13	158				SMI

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	623	16.7	666.7	0	93.5	80	120				
1,2-Dichlorobenzene	703	16.7	666.7	0	106	80	120				
1,2-Diphenylhydrazine	757	16.7	666.7	0	114	80	120				
1,3-Dichlorobenzene	704	16.7	666.7	0	106	80	120				
1,4-Dichlorobenzene	694	16.7	666.7	0	104	80	120				
2,4,6-Trichlorophenol	594	16.7	666.7	0	89.0	80	120				
2,4-Dichlorophenol	643	16.7	666.7	0	96.5	80	120				
2,4-Dimethylphenol	644	16.7	666.7	0	96.6	80	120				
2,4-Dinitrophenol	640	16.7	666.7	0	96.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	714	16.7	666.7	0	107	80	120				
2,6-Dinitrotoluene	711	16.7	666.7	0	107	80	120				
2-Chloronaphthalene	660	16.7	666.7	0	99.0	80	120				
2-Chlorophenol	718	16.7	666.7	0	108	80	120				
2-Methylphenol	701	16.7	666.7	0	105	80	120				
2-Nitrophenol	658	16.7	666.7	0	98.8	80	120				
3,3'-Dichlorobenzidine	675	16.7	666.7	0	101	80	120				
3,4-Methylphenol	700	33.3	666.7	0	105	80	120				
4-Bromophenyl phenyl ether	635	16.7	666.7	0	95.2	80	120				
4-Chloro-3-methylphenol	661	16.7	666.7	0	99.2	80	120				
4-Chlorophenyl phenyl ether	641	16.7	666.7	0	96.2	80	120				
4-Nitrophenol	642	16.7	666.7	0	96.2	80	120				
Acenaphthene	644	16.7	666.7	0	96.7	80	120				
Acenaphthylene	813	16.7	666.7	0	122	80	120				SSC
Aniline	706	16.7	666.7	0	106	80	120				
Anthracene	808	16.7	666.7	0	121	80	120				SSC
Azobenzene	757	16.7	666.7	0	114	80	120				
Benz(a)anthracene	665	16.7	666.7	0	99.7	80	120				
Benzidine	682	16.7	666.7	0	102	80	120				
Benzo(a)pyrene	681	16.7	666.7	0	102	80	120				
Benzo(b)fluoranthene	667	16.7	666.7	0	100	80	120				
Benzo(g,h,i)perylene	651	16.7	666.7	0	97.7	80	120				
Benzo(k)fluoranthene	652	16.7	666.7	0	97.8	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzoic Acid	204	167	666.7	0	30.6	80	120				SSC
Bis(2-chloroethoxy)methane	635	16.7	666.7	0	95.3	80	120				
Bis(2-chloroethyl)ether	712	16.7	666.7	0	107	80	120				
Bis(2-chloroisopropyl)ether	690	16.7	666.7	0	104	80	120				
Bis(2-ethylhexyl)phthalate	754	16.7	666.7	0	113	80	120				
Butyl benzyl phthalate	714	16.7	666.7	0	107	80	120				
Carbazole	792	16.7	666.7	0	119	80	120				
Chrysene	665	16.7	666.7	0	99.8	80	120				
Dibenz(a,h)anthracene	668	16.7	666.7	0	100	80	120				
Diethyl phthalate	692	16.7	666.7	0	104	80	120				
Dimethyl phthalate	666	16.7	666.7	0	99.8	80	120				
Di-n-butyl phthalate	863	16.7	666.7	0	129	80	120				SSC
Di-n-octyl phthalate	781	16.7	666.7	0	117	80	120				
Fluoranthene	812	16.7	666.7	0	122	80	120				SSC
Fluorene	660	16.7	666.7	0	99.0	80	120				
Hexachlorobenzene	606	16.7	666.7	0	90.9	80	120				
Hexachlorobutadiene	630	16.7	666.7	0	94.5	80	120				
Hexachlorocyclopentadiene	166	16.7	666.7	0	24.8	80	120				SSC
Hexachloroethane	661	16.7	666.7	0	99.2	80	120				
Indeno(1,2,3-cd)pyrene	661	16.7	666.7	0	99.1	80	120				
Isophorone	644	16.7	666.7	0	96.7	80	120				
Naphthalene	768	16.7	666.7	0	115	80	120				
Nitrobenzene	660	16.7	666.7	0	99.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>			Prep Date:			RunNo: <b>41497</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>			Analysis Date: <b>8/17/2021</b>			SeqNo: <b>533350</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodimethylamine	643	16.7	666.7	0	96.4	80	120				
N-Nitrosodi-n-propylamine	643	16.7	666.7	0	96.5	80	120				
N-Nitrosodiphenylamine	663	16.7	666.7	0	99.4	80	120				
Pentachlorophenol	307	16.7	666.7	0	46.1	80	120				SSC
Phenanthrene	789	16.7	666.7	0	118	80	120				
Phenol	653	16.7	666.7	0	97.9	80	120				
Pyrene	847	16.7	666.7	0	127	80	120				SSC
Pyridine	705	16.7	666.7	0	106	80	120				

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>			Prep Date:			RunNo: <b>41497</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>			Analysis Date: <b>8/17/2021</b>			SeqNo: <b>533352</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	625	16.7	666.7	0	93.8	80	120				
1,2-Dichlorobenzene	714	16.7	666.7	0	107	80	120				
1,2-Diphenylhydrazine	743	16.7	666.7	0	112	80	120				
1,3-Dichlorobenzene	715	16.7	666.7	0	107	80	120				
1,4-Dichlorobenzene	710	16.7	666.7	0	106	80	120				
2,4,6-Trichlorophenol	607	16.7	666.7	0	91.0	80	120				
2,4-Dichlorophenol	637	16.7	666.7	0	95.5	80	120				
2,4-Dimethylphenol	625	16.7	666.7	0	93.8	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrophenol	627	16.7	666.7	0	94.0	80	120				
2,4-Dinitrotoluene	703	16.7	666.7	0	105	80	120				
2,6-Dinitrotoluene	692	16.7	666.7	0	104	80	120				
2-Chloronaphthalene	650	16.7	666.7	0	97.5	80	120				
2-Chlorophenol	678	16.7	666.7	0	102	80	120				
2-Methylphenol	708	16.7	666.7	0	106	80	120				
2-Nitrophenol	662	16.7	666.7	0	99.4	80	120				
3,3'-Dichlorobenzidine	659	16.7	666.7	0	98.8	80	120				
3,4-Methylphenol	698	33.3	666.7	0	105	80	120				
4-Bromophenyl phenyl ether	628	16.7	666.7	0	94.2	80	120				
4-Chloro-3-methylphenol	661	16.7	666.7	0	99.2	80	120				
4-Chlorophenyl phenyl ether	646	16.7	666.7	0	96.9	80	120				
4-Nitrophenol	648	16.7	666.7	0	97.3	80	120				
Acenaphthene	638	16.7	666.7	0	95.8	80	120				
Acenaphthylene	802	16.7	666.7	0	120	80	120				SSC
Aniline	692	16.7	666.7	0	104	80	120				
Anthracene	807	16.7	666.7	0	121	80	120				SSC
Azobenzene	743	16.7	666.7	0	112	80	120				
Benz(a)anthracene	654	16.7	666.7	0	98.0	80	120				
Benzdine	620	16.7	666.7	0	93.0	80	120				
Benzo(a)pyrene	670	16.7	666.7	0	100	80	120				
Benzo(b)fluoranthene	648	16.7	666.7	0	97.3	80	120				
Benzo(g,h,i)perylene	652	16.7	666.7	0	97.9	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	670	16.7	666.7	0	101	80	120				
Benzoic Acid	577	167	666.7	0	86.6	80	120				
Bis(2-chloroethoxy)methane	636	16.7	666.7	0	95.4	80	120				
Bis(2-chloroethyl)ether	700	16.7	666.7	0	105	80	120				
Bis(2-chloroisopropyl)ether	691	16.7	666.7	0	104	80	120				
Bis(2-ethylhexyl)phthalate	695	16.7	666.7	0	104	80	120				
Butyl benzyl phthalate	668	16.7	666.7	0	100	80	120				
Carbazole	789	16.7	666.7	0	118	80	120				
Chrysene	665	16.7	666.7	0	99.8	80	120				
Dibenz(a,h)anthracene	658	16.7	666.7	0	98.7	80	120				
Diethyl phthalate	662	16.7	666.7	0	99.3	80	120				
Dimethyl phthalate	654	16.7	666.7	0	98.2	80	120				
Di-n-butyl phthalate	846	16.7	666.7	0	127	80	120				SSC
Di-n-octyl phthalate	710	16.7	666.7	0	106	80	120				
Fluoranthene	837	16.7	666.7	0	126	80	120				SSC
Fluorene	662	16.7	666.7	0	99.3	80	120				
Hexachlorobenzene	595	16.7	666.7	0	89.2	80	120				
Hexachlorobutadiene	623	16.7	666.7	0	93.4	80	120				
Hexachlorocyclopentadiene	635	16.7	666.7	0	95.2	80	120				
Hexachloroethane	704	16.7	666.7	0	106	80	120				
Indeno(1,2,3-cd)pyrene	661	16.7	666.7	0	99.2	80	120				
Isophorone	639	16.7	666.7	0	95.9	80	120				
Naphthalene	774	16.7	666.7	0	116	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_S

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18274</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533352</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	646	16.7	666.7	0	97.0	80	120				
N-Nitrosodimethylamine	647	16.7	666.7	0	97.1	80	120				
N-Nitrosodi-n-propylamine	691	16.7	666.7	0	104	80	120				
N-Nitrosodiphenylamine	667	16.7	666.7	0	100	80	120				
Pentachlorophenol	624	16.7	666.7	0	93.6	80	120				
Phenanthrene	793	16.7	666.7	0	119	80	120				
Phenol	682	16.7	666.7	0	102	80	120				
Pyrene	822	16.7	666.7	0	123	80	120				SSC
Pyridine	656	16.7	666.7	0	98.4	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.7	0.500	20.00	0	104	80	120				
1,2-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,2-Diphenylhydrazine	20.6	0.500	20.00	0	103	80	120				
1,3-Dichlorobenzene	20.6	0.500	20.00	0	103	80	120				
1,4-Dichlorobenzene	19.1	0.500	20.00	0	95.6	80	120				
2,4,6-Trichlorophenol	19.4	0.500	20.00	0	97.2	80	120				
2,4-Dichlorophenol	21.2	0.500	20.00	0	106	80	120				
2,4-Dimethylphenol	20.2	0.500	20.00	0	101	80	120				
2,4-Dinitrophenol	16.2	0.500	20.00	0	81.0	80	120				
2,4-Dinitrotoluene	21.2	0.500	20.00	0	106	80	120				
2,6-Dinitrotoluene	20.8	0.500	20.00	0	104	80	120				
2-Chloronaphthalene	20.6	0.500	20.00	0	103	80	120				
2-Chlorophenol	19.8	0.500	20.00	0	98.9	80	120				
2-Methylphenol	19.8	0.500	20.00	0	99.2	80	120				
2-Nitrophenol	20.3	0.500	20.00	0	101	80	120				
3,3'-Dichlorobenzidine	20.9	0.500	20.00	0	105	80	120				
3,4-Methylphenol	20.2	1.00	20.00	0	101	80	120				
4-Bromophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Chloro-3-methylphenol	20.4	0.500	20.00	0	102	80	120				
4-Chlorophenyl phenyl ether	21.5	0.500	20.00	0	107	80	120				
4-Nitrophenol	20.5	0.500	20.00	0	103	80	120				
Acenaphthene	20.6	0.500	20.00	0	103	80	120				
Acenaphthylene	20.7	0.500	20.00	0	104	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	21.1	0.500	20.00	0	106	80	120				
Anthracene	20.6	0.500	20.00	0	103	80	120				
Azobenzene	20.6	0.500	20.00	0	103	80	120				
Benz(a)anthracene	20.7	0.500	20.00	0	103	80	120				
Benzydine	19.5	0.500	20.00	0	97.4	80	120				
Benzo(a)pyrene	20.9	0.500	20.00	0	105	80	120				
Benzo(b)fluoranthene	20.9	0.500	20.00	0	104	80	120				
Benzo(g,h,i)perylene	21.0	0.500	20.00	0	105	80	120				
Benzo(k)fluoranthene	20.6	0.500	20.00	0	103	80	120				
Benzoic Acid	17.7	5.00	20.00	0	88.6	80	120				
Bis(2-chloroethoxy)methane	20.0	0.500	20.00	0	100	80	120				
Bis(2-chloroethyl)ether	20.8	0.500	20.00	0	104	80	120				
Bis(2-chloroisopropyl)ether	19.2	0.500	20.00	0	96.2	80	120				
Bis(2-ethylhexyl)phthalate	18.2	0.500	20.00	0	91.1	80	120				
Butyl benzyl phthalate	20.9	0.500	20.00	0	105	80	120				
Carbazole	20.8	0.500	20.00	0	104	80	120				
Chrysene	20.6	0.500	20.00	0	103	80	120				
Dibenz(a,h)anthracene	20.8	0.500	20.00	0	104	80	120				
Diethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Dimethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-butyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-octyl phthalate	20.7	0.500	20.00	0	104	80	120				
Fluoranthene	20.7	0.500	20.00	0	103	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobenzene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobutadiene	20.8	0.500	20.00	0	104	80	120				
Hexachlorocyclopentadiene	19.7	0.500	20.00	0	98.7	80	120				
Hexachloroethane	19.8	0.500	20.00	0	99.0	80	120				
Indeno(1,2,3-cd)pyrene	21.0	0.500	20.00	0	105	80	120				
Isophorone	20.9	0.500	20.00	0	105	80	120				
Naphthalene	20.6	0.500	20.00	0	103	80	120				
Nitrobenzene	21.0	0.500	20.00	0	105	80	120				
N-Nitrosodimethylamine	21.6	0.500	20.00	0	108	80	120				
N-Nitrosodi-n-propylamine	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodiphenylamine	20.6	0.500	20.00	0	103	80	120				
Pentachlorophenol	19.1	0.500	20.00	0	95.7	80	120				
Phenanthrene	20.6	0.500	20.00	0	103	80	120				
Phenol	21.4	0.500	20.00	0	107	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	21.0	0.500	20.00	0	105	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	103		100.0		103	33.1	129.7				
Surr: 2-Fluorobiphenyl	109		100.0		109	33.1	126.2				
Surr: 2-Fluorophenol	47.6		100.0		47.6	13.4	127.1				
Surr: 4-Terphenyl-d14	121		100.0		121	41	122				
Surr: Nitrobenzene-d5	91.6		100.0		91.6	28.9	129.9				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	31.6		100.0		31.6	10.6	128.5				

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	34.1	0.500	40.00	0	85.2	44	142				
1,2-Dichlorobenzene	37.3	0.500	40.00	0	93.2	32	129				
1,2-Diphenylhydrazine	38.7	0.500	40.00	0	96.7	40	140				
1,3-Dichlorobenzene	37.6	0.500	40.00	0	93.9	0.01	172				
1,4-Dichlorobenzene	37.8	0.500	40.00	0	94.4	20	124				
2,4,6-Trichlorophenol	37.2	0.500	40.00	0	93.1	37	144				
2,4-Dichlorophenol	34.6	0.500	40.00	0	86.4	39	135				
2,4-Dimethylphenol	34.5	0.500	40.00	0	86.3	32	119				
2,4-Dinitrophenol	36.9	0.500	40.00	0	92.2	0.01	191				
2,4-Dinitrotoluene	42.6	0.500	40.00	0	107	39	139				
2,6-Dinitrotoluene	42.8	0.500	40.00	0	107	30	158				
2-Chloronaphthalene	38.5	0.500	40.00	0	96.3	30	118				
2-Chlorophenol	39.4	0.500	40.00	0	98.5	23	134				
2-Methylphenol	34.5	0.500	40.00	0	86.3	30	120				
2-Nitrophenol	33.2	0.500	40.00	0	82.9	29	182				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	40.4	0.500	40.00	0	101	0.01	262				
3,4-Methylphenol	34.7	1.00	40.00	0	86.9	30	120				
4,6-Dinitro-2-methylphenol	28.8	0.500	40.00	0	71.9	0.01	181				
4-Bromophenyl phenyl ether	29.6	0.500	40.00	0	73.9	33	127				
4-Chloro-3-methylphenol	35.0	0.500	40.00	0	87.4	22	147				
4-Chlorophenyl phenyl ether	31.2	0.500	40.00	0	78.1	25	158				
4-Nitrophenol	19.8	0.500	40.00	0	49.6	0.01	132				
Acenaphthene	39.6	0.500	40.00	0	98.9	37	145				
Acenaphthylene	38.7	0.500	40.00	0	96.7	33	145				
Aniline	34.7	0.500	40.00	0	86.7	16	134				
Anthracene	40.7	0.500	40.00	0	102	27	133				
Azobenzene	38.7	0.500	40.00	0	96.7	70	130				
Benz(a)anthracene	39.9	0.500	40.00	0	99.7	33	143				
Benzdine	10.6	0.500	40.00	0	26.6	0.1	140				
Benzo(a)pyrene	38.9	0.500	40.00	0	97.2	17	163				
Benzo(b)fluoranthene	38.4	0.500	40.00	0	96.0	24	159				
Benzo(g,h,i)perylene	38.8	0.500	40.00	0	97.1	0.01	219				
Benzo(k)fluoranthene	38.7	0.500	40.00	0	96.8	11	162				
Benzoic Acid	6.73	5.00	40.00	0	16.8	0	250				
Bis(2-chloroethoxy)methane	30.1	0.500	40.00	0	75.3	33	184				
Bis(2-chloroethyl)ether	40.2	0.500	40.00	0	101	12	158				
Bis(2-chloroisopropyl)ether	31.1	0.500	40.00	0	77.8	20	140				
Bis(2-ethylhexyl)phthalate	29.3	0.500	40.00	0	73.3	8	158				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	44.4	0.500	40.00	0	111	0.01	152				
Carbazole	40.1	0.500	40.00	0	100	23	131				
Chrysene	40.4	0.500	40.00	0	101	17	168				
Dibenz(a,h)anthracene	40.8	0.500	40.00	0	102	0.01	224				
Diethyl phthalate	41.8	0.500	40.00	0	105	0.01	114				
Dimethyl phthalate	41.7	0.500	40.00	0	104	0.01	112				
Di-n-butyl phthalate	42.0	0.500	40.00	0	105	1	118				
Di-n-octyl phthalate	43.7	0.500	40.00	0	109	4	146				
Fluoranthene	42.9	0.500	40.00	0	107	26	137				
Fluorene	39.9	0.500	40.00	0	99.7	19	121				
Hexachlorobenzene	40.4	0.500	40.00	0	101	0.01	152				
Hexachlorobutadiene	33.9	0.500	40.00	0	84.8	24	116				
Hexachlorocyclopentadiene	34.5	0.500	40.00	0	86.3	10	110				
Hexachloroethane	36.7	0.500	40.00	0	91.8	40	143				
Indeno(1,2,3-cd)pyrene	40.7	0.500	40.00	0	102	0.01	171				
Isophorone	37.5	0.500	40.00	0	93.8	21	196				
Naphthalene	34.7	0.500	40.00	0	86.8	35	133				
Nitrobenzene	37.7	0.500	40.00	0	94.3	14	150				
N-Nitrosodimethylamine	24.4	0.500	40.00	0	60.9	0.01	250				
N-Nitrosodi-n-propylamine	30.4	0.500	40.00	0	76.1	0.01	230				
N-Nitrosodiphenylamine	40.7	0.500	40.00	0	102	0.01	133				
Pentachlorophenol	23.0	0.500	40.00	0	57.6	24	176				
Phenanthrene	40.7	0.500	40.00	0	102	5	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	18.9	0.500	40.00	0	47.2	12	112				
Pyrene	39.5	0.500	40.00	0	98.8	12	115				
Pyridine	9.05	0.500	40.00	0	22.6	13	158				

Sample ID: <b>LCS-D-18275</b>	SampType: <b>LCS-D</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	35.8	0.500	40.00	0	89.5	44	142	34.09	4.92	20	
1,2-Dichlorobenzene	33.6	0.500	40.00	0	84.0	32	129	37.27	10.4	20	
1,2-Diphenylhydrazine	39.3	0.500	40.00	0	98.2	40	140	38.68	1.51	20	
1,3-Dichlorobenzene	33.0	0.500	40.00	0	82.4	0.01	172	37.56	13.0	20	
1,4-Dichlorobenzene	35.6	0.500	40.00	0	89.1	20	124	37.76	5.75	20	
2,4,6-Trichlorophenol	44.5	0.500	40.00	0	111	37	144	37.23	17.9	20	
2,4-Dichlorophenol	38.1	0.500	40.00	0	95.2	39	135	34.56	9.74	20	
2,4-Dimethylphenol	37.0	0.500	40.00	0	92.5	32	119	34.53	6.88	20	
2,4-Dinitrophenol	39.2	0.500	40.00	0	98.0	0.01	191	36.88	6.12	20	
2,4-Dinitrotoluene	44.3	0.500	40.00	0	111	39	139	42.64	3.80	20	
2,6-Dinitrotoluene	45.6	0.500	40.00	0	114	30	158	42.77	6.36	20	
2-Chloronaphthalene	40.2	0.500	40.00	0	100	30	118	38.52	4.24	20	
2-Chlorophenol	38.2	0.500	40.00	0	95.5	23	134	39.40	3.07	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18275	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: LCSS02	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	33.2	0.500	40.00	0	82.9	30	120	34.53	4.05	20	
2-Nitrophenol	34.9	0.500	40.00	0	87.3	29	182	33.16	5.17	20	
3,3'-Dichlorobenzidine	43.0	0.500	40.00	0	108	0.01	262	40.43	6.23	20	
3,4-Methylphenol	29.8	1.00	40.00	0	74.6	30	120	34.74	15.1	20	
4,6-Dinitro-2-methylphenol	31.5	0.500	40.00	0	78.7	0.01	181	28.77	8.96	20	
4-Bromophenyl phenyl ether	30.6	0.500	40.00	0	76.5	33	127	29.56	3.42	20	
4-Chloro-3-methylphenol	34.4	0.500	40.00	0	85.9	22	147	34.97	1.76	20	
4-Chlorophenyl phenyl ether	31.1	0.500	40.00	0	77.7	25	158	31.24	0.513	20	
4-Nitrophenol	21.4	0.500	40.00	0	53.5	0.01	132	19.83	7.62	20	
Acenaphthene	42.5	0.500	40.00	0	106	37	145	39.55	7.19	20	
Acenaphthylene	40.1	0.500	40.00	0	100	33	145	38.67	3.53	20	
Aniline	31.6	0.500	40.00	0	79.0	16	134	34.67	9.33	20	
Anthracene	42.1	0.500	40.00	0	105	27	133	40.68	3.45	20	
Azobenzene	39.3	0.500	40.00	0	98.2	70	130	38.68	1.51	0	
Benz(a)anthracene	41.6	0.500	40.00	0	104	33	143	39.87	4.34	20	
Benzdine	9.35	0.500	40.00	0	23.4	0.1	140	10.63	12.8	20	
Benzo(a)pyrene	39.8	0.500	40.00	0	99.4	17	163	38.87	2.26	20	
Benzo(b)fluoranthene	40.6	0.500	40.00	0	101	24	159	38.39	5.52	20	
Benzo(g,h,i)perylene	40.6	0.500	40.00	0	102	0.01	219	38.83	4.58	20	
Benzo(k)fluoranthene	36.3	0.500	40.00	0	90.8	11	162	38.72	6.37	20	
Benzoic Acid	6.52	5.00	40.00	0	16.3	0	250	6.730	3.17	20	
Bis(2-chloroethoxy)methane	31.2	0.500	40.00	0	77.9	33	184	30.11	3.43	20	
Bis(2-chloroethyl)ether	36.8	0.500	40.00	0	92.0	12	158	40.22	8.83	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18275	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: LCSS02	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	30.2	0.500	40.00	0	75.5	20	140	31.14	3.03	20	
Bis(2-ethylhexyl)phthalate	29.8	0.500	40.00	0	74.6	8	158	29.32	1.79	20	
Butyl benzyl phthalate	46.0	0.500	40.00	0	115	0.01	152	44.41	3.54	20	
Carbazole	41.8	0.500	40.00	0	104	23	131	40.08	4.08	20	
Chrysene	42.0	0.500	40.00	0	105	17	168	40.36	3.91	20	
Dibenz(a,h)anthracene	42.7	0.500	40.00	0	107	0.01	224	40.83	4.48	20	
Diethyl phthalate	43.0	0.500	40.00	0	108	0.01	114	41.81	2.88	20	
Dimethyl phthalate	42.6	0.500	40.00	0	106	0.01	112	41.67	2.09	20	
Di-n-butyl phthalate	42.5	0.500	40.00	0	106	1	118	42.05	1.09	20	
Di-n-octyl phthalate	46.2	0.500	40.00	0	115	4	146	43.70	5.48	20	
Fluoranthene	44.4	0.500	40.00	0	111	26	137	42.88	3.57	20	
Fluorene	41.5	0.500	40.00	0	104	19	121	39.86	3.96	20	
Hexachlorobenzene	43.0	0.500	40.00	0	108	0.01	152	40.38	6.38	20	
Hexachlorobutadiene	34.7	0.500	40.00	0	86.7	24	116	33.90	2.27	20	
Hexachlorocyclopentadiene	34.0	0.500	40.00	0	85.0	10	110	34.53	1.49	20	
Hexachloroethane	32.8	0.500	40.00	0	82.0	40	143	36.72	11.3	20	
Indeno(1,2,3-cd)pyrene	42.3	0.500	40.00	0	106	0.01	171	40.74	3.66	20	
Isophorone	37.9	0.500	40.00	0	94.6	21	196	37.51	0.929	20	
Naphthalene	36.1	0.500	40.00	0	90.2	21	133	34.70	3.93	20	
Nitrobenzene	40.8	0.500	40.00	0	102	35	180	37.70	7.97	20	
N-Nitrosodimethylamine	26.0	0.500	40.00	0	65.0	0.01	230	24.37	6.40	20	
N-Nitrosodi-n-propylamine	31.4	0.500	40.00	0	78.6	0.01	250	30.45	3.20	20	
N-Nitrosodiphenylamine	44.0	0.500	40.00	0	110	0.01	250	40.69	7.88	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCSD-18275</b>	SampType: <b>LCSD</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	25.3	0.500	40.00	0	63.3	14	176	23.02	9.56	20	
Phenanthrene	42.3	0.500	40.00	0	106	24	120	40.70	3.88	20	
Phenol	18.0	0.500	40.00	0	44.9	5	112	18.88	4.99	20	
Pyrene	41.0	0.500	40.00	0	102	12	115	39.50	3.70	20	
Pyridine	9.43	0.500	40.00	0	23.6	13	158	9.050	4.11	20	

Sample ID: <b>2107227-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>072721LLEG</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	40.1	0.613	49.02	0	81.8	44	142				
1,2-Dichlorobenzene	37.2	0.613	49.02	0	75.9	32	129				
1,2-Diphenylhydrazine	44.9	0.613	49.02	0	91.7	40	140				
1,3-Dichlorobenzene	36.8	0.613	49.02	0	75.1	0.01	172				
1,4-Dichlorobenzene	38.2	0.613	49.02	0	77.8	20	124				
2,4,6-Trichlorophenol	47.2	0.613	49.02	0	96.3	37	144				
2,4-Dichlorophenol	40.0	0.613	49.02	0	81.5	39	135				
2,4-Dimethylphenol	36.6	0.613	49.02	0	74.7	32	119				
2,4-Dinitrophenol	39.4	0.613	49.02	0	80.3	0.01	191				
2,4-Dinitrotoluene	52.9	0.613	49.02	0	108	39	139				
2,6-Dinitrotoluene	52.5	0.613	49.02	0	107	30	158				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107227-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: 072721LLEG	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532497						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloronaphthalene	42.7	0.613	49.02	0	87.0	30	118				
2-Chlorophenol	40.3	0.613	49.02	0	82.2	23	134				
2-Methylphenol	34.8	0.613	49.02	0	71.1	30	120				
2-Nitrophenol	42.4	0.613	49.02	0	86.5	29	182				
3,3'-Dichlorobenzidine	46.8	0.613	49.02	0	95.4	0.01	262				
3,4-Methylphenol	31.5	1.23	49.02	0	64.2	30	120				
4,6-Dinitro-2-methylphenol	36.6	0.613	49.02	0	74.7	0.01	181				
4-Bromophenyl phenyl ether	34.9	0.613	49.02	0	71.3	33	127				
4-Chloro-3-methylphenol	40.9	0.613	49.02	0	83.4	22	147				
4-Chlorophenyl phenyl ether	33.7	0.613	49.02	0	68.7	25	158				
4-Nitrophenol	31.6	0.613	49.02	0	64.6	0.01	132				
Acenaphthene	43.8	0.613	49.02	0	89.4	37	145				
Acenaphthylene	42.6	0.613	49.02	0	86.8	33	145				
Aniline	36.4	0.613	49.02	0	74.2	16	134				
Anthracene	49.4	0.613	49.02	0	101	27	133				
Azobenzene	44.9	0.613	49.02	0	91.7	70	130				
Benz(a)anthracene	48.5	0.613	49.02	0	99.0	33	143				
Benzidine	11.7	0.613	49.02	0	23.8	0.1	140				
Benzo(a)pyrene	46.5	0.613	49.02	0	94.8	17	163				
Benzo(b)fluoranthene	46.3	0.613	49.02	0	94.4	24	159				
Benzo(g,h,i)perylene	47.7	0.613	49.02	0	97.3	0.01	219				
Benzo(k)fluoranthene	43.4	0.613	49.02	0	88.6	11	162				
Benzoic Acid	8.08	6.13	49.02	0	16.5	0	250				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107227-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: 072721LLEG	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532497						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	37.0	0.613	49.02	0	75.4	33	184				
Bis(2-chloroethyl)ether	40.4	0.613	49.02	0	82.5	12	158				
Bis(2-chloroisopropyl)ether	39.5	0.613	49.02	0	80.6	20	140				
Bis(2-ethylhexyl)phthalate	38.2	0.613	49.02	0	78.0	8	158				
Butyl benzyl phthalate	55.1	0.613	49.02	0	112	0.01	152				
Carbazole	49.3	0.613	49.02	0	100	23	131				
Chrysene	49.4	0.613	49.02	0	101	17	168				
Dibenz(a,h)anthracene	49.5	0.613	49.02	0	101	0.01	224				
Diethyl phthalate	50.7	0.613	49.02	0	104	0.01	114				
Dimethyl phthalate	48.0	0.613	49.02	0	97.9	0.01	112				
Di-n-butyl phthalate	51.3	0.613	49.02	0	105	1	118				
Di-n-octyl phthalate	56.1	0.613	49.02	0	114	4	146				
Fluoranthene	51.6	0.613	49.02	0	105	26	137				
Fluorene	46.6	0.613	49.02	0	95.1	19	121				
Hexachlorobenzene	48.2	0.613	49.02	0	98.4	0.01	152				
Hexachlorobutadiene	40.1	0.613	49.02	0	81.8	24	116				
Hexachlorocyclopentadiene	47.9	0.613	49.02	0	97.7	10	110				
Hexachloroethane	36.2	0.613	49.02	0	73.8	40	143				
Indeno(1,2,3-cd)pyrene	48.8	0.613	49.02	0	99.5	0.01	171				
Isophorone	39.8	0.613	49.02	0	81.3	21	196				
Naphthalene	42.0	0.613	49.02	0	85.7	21	133				
Nitrobenzene	43.2	0.613	49.02	0	88.0	35	180				
N-Nitrosodimethylamine	25.5	0.613	49.02	0	51.9	0.01	230				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2107227-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>072721LLEG</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	37.5	0.613	49.02	0	76.5	0.01	250				
N-Nitrosodiphenylamine	50.0	0.613	49.02	0	102	0.01	250				
Pentachlorophenol	45.2	0.613	49.02	0	92.3	14	176				
Phenanthrene	49.2	0.613	49.02	0	100	24	120				
Phenol	16.8	0.613	49.02	0	34.2	5	112				
Pyrene	46.9	0.613	49.02	0	95.8	12	115				
Pyridine	21.4	0.613	49.02	0	43.6	13	158				

Sample ID: <b>2107226-002DMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/29/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532498</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	29.5	0.502	40.12	0	73.6	44	142				
1,2-Dichlorobenzene	26.1	0.502	40.12	0	65.1	32	129				
1,2-Diphenylhydrazine	37.3	0.502	40.12	0	93.0	40	140				
1,3-Dichlorobenzene	25.5	0.502	40.12	0	63.6	0.01	172				
1,4-Dichlorobenzene	26.7	0.502	40.12	0	66.6	20	124				
2,4,6-Trichlorophenol	43.6	0.502	40.12	0	109	37	144				
2,4-Dichlorophenol	37.8	0.502	40.12	0	94.1	39	135				
2,4-Dimethylphenol	28.9	0.502	40.12	0	72.0	32	119				
2,4-Dinitrophenol	32.3	0.502	40.12	0	80.4	0.01	191				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	44.0	0.502	40.12	0	110	39	139				
2,6-Dinitrotoluene	39.6	0.502	40.12	0	98.6	30	158				
2-Chloronaphthalene	34.8	0.502	40.12	0	86.8	30	118				
2-Chlorophenol	32.3	0.502	40.12	0	80.4	23	134				
2-Methylphenol	26.0	0.502	40.12	0	64.7	30	120				
2-Nitrophenol	37.2	0.502	40.12	0	92.7	29	182				
3,3'-Dichlorobenzidine	40.0	0.502	40.12	0	99.6	0.01	262				
3,4-Methylphenol	22.2	1.00	40.12	0	55.3	30	120				
4,6-Dinitro-2-methylphenol	30.7	0.502	40.12	0	76.4	0.01	181				
4-Bromophenyl phenyl ether	31.2	0.502	40.12	0	77.9	33	127				
4-Chloro-3-methylphenol	34.1	0.502	40.12	0	85.1	22	147				
4-Chlorophenyl phenyl ether	29.6	0.502	40.12	0	73.9	25	158				
4-Nitrophenol	18.0	0.502	40.12	0	44.8	0.01	132				
Acenaphthene	38.4	0.502	40.12	0	95.6	37	145				
Acenaphthylene	35.9	0.502	40.12	0	89.5	33	145				
Aniline	25.5	0.502	40.12	0	63.6	16	134				
Anthracene	41.1	0.502	40.12	0	103	27	133				
Azobenzene	37.3	0.502	40.12	0	93.0	70	130				
Benz(a)anthracene	40.5	0.502	40.12	0	101	33	143				
Benzdine	8.20	0.502	40.12	0	20.4	0.1	140				
Benzo(a)pyrene	37.7	0.502	40.12	0	94.0	17	163				
Benzo(b)fluoranthene	38.7	0.502	40.12	0	96.5	24	159				
Benzo(g,h,i)perylene	38.8	0.502	40.12	0	96.7	0.01	219				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	38.9	0.502	40.12	0	96.9	11	162				
Benzoic Acid	5.51	5.02	40.12	0	13.7	0	250				
Bis(2-chloroethoxy)methane	30.4	0.502	40.12	0	75.8	33	184				
Bis(2-chloroethyl)ether	31.6	0.502	40.12	0	78.8	12	158				
Bis(2-chloroisopropyl)ether	31.1	0.502	40.12	0	77.6	20	140				
Bis(2-ethylhexyl)phthalate	32.6	0.502	40.12	0	81.2	8	158				
Butyl benzyl phthalate	46.3	0.502	40.12	0	115	0.01	152				
Carbazole	40.0	0.502	40.12	0	99.7	23	131				
Chrysene	41.0	0.502	40.12	0	102	17	168				
Dibenz(a,h)anthracene	40.7	0.502	40.12	0	102	0.01	224				
Diethyl phthalate	41.8	0.502	40.12	0	104	0.01	114				
Dimethyl phthalate	41.1	0.502	40.12	0	102	0.01	112				
Di-n-butyl phthalate	41.7	0.502	40.12	0	104	1	118				
Di-n-octyl phthalate	47.2	0.502	40.12	0	118	4	146				
Fluoranthene	42.1	0.502	40.12	0	105	26	137				
Fluorene	39.0	0.502	40.12	0	97.3	19	121				
Hexachlorobenzene	41.5	0.502	40.12	0	103	0.01	152				
Hexachlorobutadiene	27.0	0.502	40.12	0	67.2	24	116				
Hexachlorocyclopentadiene	38.9	0.502	40.12	0	97.0	10	110				
Hexachloroethane	24.4	0.502	40.12	0	60.9	40	143				
Indeno(1,2,3-cd)pyrene	40.2	0.502	40.12	0	100	0.01	171				
Isophorone	33.3	0.502	40.12	0	83.0	21	196				
Naphthalene	30.7	0.502	40.12	0	76.4	21	133				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	35.2	0.502	40.12	0	87.9	35	180				
N-Nitrosodimethylamine	18.8	0.502	40.12	0	46.8	0.01	230				
N-Nitrosodi-n-propylamine	30.0	0.502	40.12	0	74.7	0.01	250				
N-Nitrosodiphenylamine	42.4	0.502	40.12	0	106	0.01	250				
Pentachlorophenol	40.5	0.502	40.12	0	101	14	176				
Phenanthrene	40.9	0.502	40.12	0	102	24	120				
Phenol	12.8	0.502	40.12	0	32.0	5	112				
Pyrene	39.6	0.502	40.12	0	98.8	12	115				
Pyridine	8.10	0.502	40.12	0	20.2	13	158				

Sample ID: CCV MSSWS-2000	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCV	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532509						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Dichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Diphenylhydrazine	20.0	0.500	20.00	0	100	80	120				
1,3-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,4-Dichlorobenzene	20.0	0.500	20.00	0	99.8	80	120				
2,4,6-Trichlorophenol	19.2	0.500	20.00	0	95.9	80	120				
2,4-Dichlorophenol	19.4	0.500	20.00	0	97.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dimethylphenol	19.8	0.500	20.00	0	99.0	80	120				
2,4-Dinitrophenol	20.1	0.500	20.00	0	101	80	120				
2,4-Dinitrotoluene	20.0	0.500	20.00	0	99.9	80	120				
2,6-Dinitrotoluene	19.9	0.500	20.00	0	99.4	80	120				
2-Chloronaphthalene	20.0	0.500	20.00	0	100	80	120				
2-Chlorophenol	20.0	0.500	20.00	0	99.8	80	120				
2-Methylphenol	20.1	0.500	20.00	0	101	80	120				
2-Nitrophenol	20.0	0.500	20.00	0	100	80	120				
3,3'-Dichlorobenzidine	19.6	0.500	20.00	0	97.9	80	120				
3,4-Methylphenol	20.1	1.00	20.00	0	100	80	120				
4-Bromophenyl phenyl ether	19.1	0.500	20.00	0	95.6	80	120				
4-Chloro-3-methylphenol	19.8	0.500	20.00	0	99.1	80	120				
4-Chlorophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Nitrophenol	19.4	0.500	20.00	0	96.8	80	120				
Acenaphthene	20.0	0.500	20.00	0	99.9	80	120				
Acenaphthylene	19.9	0.500	20.00	0	99.7	80	120				
Aniline	20.2	0.500	20.00	0	101	80	120				
Anthracene	20.0	0.500	20.00	0	100	80	120				
Azobenzene	20.0	0.500	20.00	0	100	80	120				
Benz(a)anthracene	20.1	0.500	20.00	0	100	80	120				
Benzenidine	18.9	0.500	20.00	0	94.4	80	120				
Benzo(a)pyrene	20.0	0.500	20.00	0	100	80	120				
Benzo(b)fluoranthene	19.6	0.500	20.00	0	97.8	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	19.6	0.500	20.00	0	98.1	80	120				
Benzo(k)fluoranthene	19.9	0.500	20.00	0	99.7	80	120				
Benzoic Acid	21.1	5.00	20.00	0	105	80	120				
Bis(2-chloroethoxy)methane	20.0	0.500	20.00	0	100	80	120				
Bis(2-chloroethyl)ether	19.9	0.500	20.00	0	99.4	80	120				
Bis(2-chloroisopropyl)ether	21.3	0.500	20.00	0	107	80	120				
Bis(2-ethylhexyl)phthalate	20.6	0.500	20.00	0	103	80	120				
Butyl benzyl phthalate	20.0	0.500	20.00	0	100	80	120				
Carbazole	19.9	0.500	20.00	0	99.7	80	120				
Chrysene	20.1	0.500	20.00	0	101	80	120				
Dibenz(a,h)anthracene	19.5	0.500	20.00	0	97.5	80	120				
Diethyl phthalate	20.0	0.500	20.00	0	99.9	80	120				
Dimethyl phthalate	19.8	0.500	20.00	0	99.2	80	120				
Di-n-butyl phthalate	20.2	0.500	20.00	0	101	80	120				
Di-n-octyl phthalate	19.7	0.500	20.00	0	98.6	80	120				
Fluoranthene	20.2	0.500	20.00	0	101	80	120				
Fluorene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobenzene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobutadiene	19.7	0.500	20.00	0	98.4	80	120				
Hexachlorocyclopentadiene	19.0	0.500	20.00	0	95.0	80	120				
Hexachloroethane	19.6	0.500	20.00	0	98.2	80	120				
Indeno(1,2,3-cd)pyrene	19.6	0.500	20.00	0	98.1	80	120				
Isophorone	19.9	0.500	20.00	0	99.6	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	19.9	0.500	20.00	0	99.4	80	120				
Nitrobenzene	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodimethylamine	19.7	0.500	20.00	0	98.7	80	120				
N-Nitrosodi-n-propylamine	18.8	0.500	20.00	0	93.8	80	120				
N-Nitrosodiphenylamine	20.0	0.500	20.00	0	100	80	120				
Pentachlorophenol	19.5	0.500	20.00	0	97.3	80	120				
Phenanthrene	20.0	0.500	20.00	0	100	80	120				
Phenol	20.7	0.500	20.00	0	104	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	19.3	0.500	20.00	0	96.5	80	120				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	100		100.0		100	33.1	125				
Surr: 2-Fluorobiphenyl	92.0		100.0		92.0	33.1	96.2				
Surr: 2-Fluorophenol	48.0		100.0		48.0	13.4	57.1				
Surr: 4-Terphenyl-d14	125		100.0		125	41	135				
Surr: Nitrobenzene-d5	90.9		100.0		90.9	28.9	99.9				
Surr: Phenol-d6	26.0		100.0		26.0	10.6	38.5				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>CCV1-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530890</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	255	10.0	250.0	0	102	90	110				

Sample ID: <b>MB-R41311</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530891</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>LCS-R41311</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530892</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	251	10.0	250.0	0	100	87.5	111				

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	243	10.0	100.0	147.0	96.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107151-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530896</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	250	10.0	100.0	147.0	103	80	120	243.0	2.84	20	

Sample ID: <b>CCV2-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530901</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	215	10.0	200.0	0	108	90	110				

Sample ID: <b>2107227-004CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>072821LLEC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	178.0	97.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-004CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>072821LLEC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530905</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	280	10.0	100.0	178.0	102	80	120	275.0	1.80	20	

Sample ID: <b>CCV3-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530908</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	210	10.0	200.0	0	105	90	110				

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531446</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	200	10.0	200.0	0	100	90	110				

Sample ID: <b>2107227-008CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>Parkway Comp</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531448</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	366	10.0	100.0	267.0	99.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-008CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>Parkway Comp</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531448</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107227-008CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>Parkway Comp</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531449</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	361	10.0	100.0	267.0	94.0	80	120	366.0	1.38	20	

Sample ID: <b>CCB-R41348</b>	SampType: <b>CCB</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531454</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	196.0	79.0	80	120				S

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2108028-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531461</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	285	10.0	100.0	196.0	89.0	80	120	275.0	3.57	20	

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	198	10.0	200.0	0	99.0	90	110				

Sample ID: <b>MBLK-R41348</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_S

Sample ID: <b>LCS-R41388</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531947</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	202	10.0	200.0	0	101	80	120				

Sample ID: <b>MB-R41388</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531948</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	ND	10.0									

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531950</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	114	100						78.39	37.0	20	RRF

Sample ID: <b>CCV-R41388</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531952</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	205	10.0	200.0	0	103	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_S

Sample ID: <b>CCV-R41388</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41388</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531952</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41302</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>		Prep Date:	RunNo: <b>41302</b>					
Client ID: <b>PBW</b>	Batch ID: <b>R41302</b>	TestNo: <b>SM5210B</b>		Analysis Date: <b>7/29/2021</b>		SeqNo: <b>530771</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41302</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>		Prep Date:	RunNo: <b>41302</b>					
Client ID: <b>LCSW</b>	Batch ID: <b>R41302</b>	TestNo: <b>SM5210B</b>		Analysis Date: <b>7/29/2021</b>		SeqNo: <b>530772</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	162	2.00	171.0	0	94.7	70	130				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41317</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41317</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41317</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530970</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41317</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41317</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41317</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530971</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	214.0	2.0	198.0	0	108	84	116				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>ICV-R41307</b>	SampType: <b>ICV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530866</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0547	0.00500	0.05000	0	109	90	110				

Sample ID: <b>MB-R41307</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530868</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	ND	0.00500									

Sample ID: <b>LCS-R41307</b>	SampType: <b>LCS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530869</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0906	0.00500	0.1000	0	90.6	80	120				

Sample ID: <b>CCV1-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.0982	0.00500	0.1000	0	98.2	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>CCV1-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530872</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.858	0.150	1.502	1.472	-40.8	80	120				SRP

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530873</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.658	0.150	1.502	1.472	-54.2	80	120	0.8584	26.5	20	RSRP

Sample ID: <b>CCV-R41307</b>	SampType: <b>CCV</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530878</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	0.100	0.00500	0.1000	0	100	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_S

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41307</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18298</b>	TestNo: <b>D8273</b>	<b>SW9010A</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530879</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	3.24	0.150	1.502	1.472	118	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41306</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530837</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0547	0.00500	0.05000	0	109	90	110				

Sample ID: <b>MB-R41306</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530839</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41306</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530840</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0906	0.00500	0.1000	0	90.6	80	120				

Sample ID: <b>2107216-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0506	0.00500	0.05000	0.005898	89.5	67.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530842</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0490	0.00500	0.05000	0.005898	86.2	67.9	120	0.05065	3.35	20	

Sample ID: <b>CCV1-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530846</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0982	0.00500	0.1000	0	98.2	90	110				

Sample ID: <b>CCV2-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530857</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0969	0.00500	0.1000	0	96.9	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107264-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530858</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0574	0.00500	0.05000	0.01904	76.7	67.9	120				

Sample ID: <b>2107264-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530859</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0577	0.00500	0.05000	0.01904	77.3	67.9	120	0.05739	0.540	20	

Sample ID: <b>CCV4-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530864</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0979	0.00500	0.1000	0	97.9	90	110				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** Cr6\_S\_IC

Sample ID: <b>LCS-18405</b>	SampType: <b>LCS</b>	TestCode: <b>CR6_S_IC</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533850</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	475	10.0	400.0	0	119	80	120				

Sample ID: <b>LCSD-18405</b>	SampType: <b>LCSD</b>	TestCode: <b>CR6_S_IC</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533851</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	470	10.0	400.0	0	117	80	120	475.2	1.19	20	

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533853</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	39.3	10.0						37.73	4.17	20	

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533854</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	111	10.0	802.7	37.73	9.10	75	125				SMI

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** Cr6\_S\_IC

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533854</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>Cr6_S_IC</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/20/2021</b>	RunNo: <b>41531</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18405</b>	TestNo: <b>7199</b>	<b>SW 3060A</b>	Analysis Date: <b>8/23/2021</b>	SeqNo: <b>533855</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	111	10.0	802.7	37.73	9.15	75	125	110.8	0.362	20	SMI

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41458</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532907</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41458</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	90	110				

Sample ID: <b>2107226-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532911</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	75	125				

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	43.4	5.00	50.00	0	86.7	75	125	50.49	15.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107207-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532914</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	4.105	85.6	75	125				

Sample ID: <b>2107207-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532915</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	4.105	89.2	75	125	46.92	3.73	20	

Sample ID: <b>CCV1-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532917</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107219-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532922</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	51.4	5.00	50.00	4.105	94.6	75	125				

Sample ID: <b>2107219-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532923</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	53.2	5.00	50.00	4.105	98.1	75	125	51.38	3.41	20	

Sample ID: <b>CCV2-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532928</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	49.6	5.00	50.00	0	99.2	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531596</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.3	0.200	33.08	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531597</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	32.8	0.200	33.08	0	99.3	90	110				

Sample ID: <b>MB-18305</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531598</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	29.4	0.200	33.08	0	89.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531601</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	58.7	0.200						58.00	1.22	20	

Sample ID: <b>2107216-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531602</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	91.2	0.200	33.08	58.00	100	80	120				

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531603</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	89.6	0.200	33.08	58.00	95.5	80	120	91.24	1.81	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531606</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.5	0.200	33.08	0	101	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531612</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.3	0.200	33.08	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HG\_CTS

Sample ID: <b>LCS-R41282</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41282</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530531</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	378	10.0	400.0	0	94.4	80	120				

Sample ID: <b>LCSD-R41282</b>	SampType: <b>LCSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41282</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	406	10.0	400.0	0	102	80	120	377.5	7.28	20	

Sample ID: <b>MB-18291</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date: <b>8/2/2021</b>	RunNo: <b>41282</b>						
Client ID: <b>PBS</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530533</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	10.0									

Sample ID: <b>2107265-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/2/2021</b>	RunNo: <b>41282</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530536</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	28.1	9.96						23.14	19.5	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HG\_CTS

Sample ID: <b>2107265-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/2/2021</b>	RunNo: <b>41282</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530536</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107265-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/2/2021</b>	RunNo: <b>41282</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530537</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	521	10.6	423.5	23.14	118	75	125				

Sample ID: <b>2107265-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg-dry</b>	Prep Date: <b>8/2/2021</b>	RunNo: <b>41282</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530538</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	473	10.2	408.9	23.14	110	75	125	521.2	9.63	20	

Sample ID: <b>CCV1-R41282</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41282</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	428	10.0	400.0	0	107	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HG\_CTS

Sample ID: <b>CCV2-R41282</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>41282</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18291</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>8/2/2021</b>	SeqNo: <b>530545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	435	10.0	400.0	0	109	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>ICV-R41503</b>	SampType: <b>ICV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533434</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.491	0.0200	0.5000	0	98.2	90	110				

Sample ID: <b>ICB-R41503</b>	SampType: <b>ICB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533435</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41503</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533436</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41503</b>	SampType: <b>LCS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533437</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.985	0.0200	1.000	0	98.5	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>LCS-R41503</b>	SampType: <b>LCS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533437</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41503</b>	SampType: <b>CCV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533438</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.978	0.0200	1.000	0	97.8	90	110				

Sample ID: <b>CCB1-R41503</b>	SampType: <b>CCB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533439</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>2107227-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>072721LLBS</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533441</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	356	4.01	200.5	148.0	104	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3\_S

Sample ID: <b>2107227-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>072721LLBS</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533442</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	355	4.01	200.5	148.0	103	80	120	356.1	0.338	20	

Sample ID: <b>CCV2-R41503</b>	SampType: <b>CCV</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533443</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.965	0.0200	1.000	0	96.5	90	110				

Sample ID: <b>CCB2-R41503</b>	SampType: <b>CCB</b>	TestCode: <b>NH3_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41503</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41503</b>	TestNo: <b>E350.1</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533444</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.0370	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.982	0.0200	1.000	0	98.2	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** PH\_S

Sample ID: <b>2107227-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PH_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>41244</b>						
Client ID: <b>072721LLBS</b>	Batch ID: <b>R41244</b>	TestNo: <b>SW9045D</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530013</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.62	1.00						4.580	0.870	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: P-TOTAL**

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL\_S

Sample ID: <b>MB-R41502</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>PBS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533425</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: <b>LCS-R41502</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>LCSS</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533426</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	0.955	0.0200	1.000	0	95.5 90 110

Sample ID: <b>2107216-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>BatchQC</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533429</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	4020	100	2505	1467	102 80 120

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>
Client ID: <b>BatchQC</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533430</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	3960	100	2505	1467	99.7 80 120 4019 1.36 20

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL\_S

Sample ID: <b>2107216-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533430</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV-R41502</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533432</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.950	0.0200	1.000	0	95.0	90	110				

Sample ID: <b>CCB-R41502</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41502</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18399</b>	TestNo: <b>SM 4500-P E T22 STLC</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533433</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_S

Sample ID: <b>MB-R41260</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530304</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	2.00									

Sample ID: <b>LCS-R41260</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530305</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	114	2.00	100.0	0	114	80	120				

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41260</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41260</b>	TestNo: <b>SW9030</b>		Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530307</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	1610	20.1						802.7	66.7	20	RMI

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41261</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530309</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41261</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530310</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	114	1.00	100.0	0	114	85	115				

Sample ID: <b>2107227-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>072721LLIG</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530312</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	3.20	1.00						3.040	5.13	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV3-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532272</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:**

B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SOLID

Sample ID: <b>ICV-R41510</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533508</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	5.36	0.220	5.000	0	107	90	110				

Sample ID: <b>MB-R41510</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>PBS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533510</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	0.220									

Sample ID: <b>LCS-R41510</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533511</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	5.40	0.220	5.000	0	108	80	120				

Sample ID: <b>CCV1-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533512</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.2	0.220	10.00	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SOLID

Sample ID: <b>CCV1-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533512</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107227-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>072721LLBS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533515</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	847	22.1	501.3	786.1	12.2	75	125				SMC

Sample ID: <b>2107227-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg-dry</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>072721LLBS</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533516</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	850	22.1	501.3	786.1	12.8	75	125	847.2	0.378	20	SMC

Sample ID: <b>CCV2-R41510</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SOLID</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>41510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41510</b>	TestNo: <b>E351.2</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533517</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10.1	0.220	10.00	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41301</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530760</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41301</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530761</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1120	5.00	1000	0	112	80	120				

Sample ID: <b>2107216-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530763</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	624	5.00						625.0	0.160	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41234</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529919</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41234</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529920</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	92.0	10.0	100.0	0	92.0	80	105				

Sample ID: <b>2107224-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41234</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41234</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>7/28/2021</b>	SeqNo: <b>529926</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	457	10.0						446.7	2.2	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107227

10/18/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** VS\_S

Sample ID: <b>2107216-005ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>VS_S</b>	Units: <b>wt%</b>	Prep Date:	RunNo: <b>41429</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41429</b>	TestNo: <b>SM2540 G</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532455</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Volatile Solids	85.8	0						85.84	0.0105	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2107227

RcptNo: 1

Date and Time Received 7/28/2021 11:46:35 AM

Received by: Julie Clay

Completed by

Reviewed by:

Completed Date: 7/28/2021 1:10:16 PM

Reviewed Date:

Carrier name: SA

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To 2.3°C    |                                     |
| Water - Were bubbles absent in VOC vials?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | No Vials    | <input type="checkbox"/>            |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



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TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person:  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: 2107227**

**Work Order Number: 2107471**

August 24, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 4 sample(s) on 7/29/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

**CC:**

Martin French



---

**CLIENT:** Specialty Analytical  
**Project:** 2107227  
**Work Order:** 2107471

---

**Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
2107471-001	072821 LLIC	07/28/2021 10:00 AM	07/29/2021 9:44 AM
2107471-002	072821 LLEC	07/28/2021 10:30 AM	07/29/2021 9:44 AM
2107471-003	Park Way Camp	07/28/2021 9:00 AM	07/29/2021 9:44 AM
2107471-004	Villaboies Camp	07/28/2021 10:25 AM	07/29/2021 9:44 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Specialty Analytical  
**Project:** 2107227

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2107471-001A

M-1631-W has been Sub Contracted.

2107471-002A

M-1631-W has been Sub Contracted.

2107471-003A

M-1631-W has been Sub Contracted.

2107471-004A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2107471

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 2107471-002A (2108107-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210922.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall".

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com





## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2107471-001A	072821 LLIC	2108107-01	Wastewater	Sample	07/28/2021	08/09/2021
2107471-002A	072821 LLEC	2108107-02	Wastewater	Sample	07/28/2021	08/09/2021
2107471-003A	Park Way Camp	2108107-03	Wastewater	Sample	07/28/2021	08/09/2021
2107471-004A	Villaboies Camp	2108107-04	Wastewater	Sample	07/28/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922



## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2107471-001A, 072821 LLIC</b>										
2108107-01	Hg	Wastewater	TR	80.8		0.68	2.11	ng/L	B212210	S210907
<b>2107471-002A, 072821 LLEC</b>										
2108107-02	Hg	Wastewater	TR	2.04		0.14	0.42	ng/L	B212210	S210922
<b>2107471-003A, Park Way Camp</b>										
2108107-03	Hg	Wastewater	TR	14.7		0.68	2.11	ng/L	B212210	S210907
<b>2107471-004A, Villabois Camp</b>										
2108107-04	Hg	Wastewater	TR	11.0		0.68	2.11	ng/L	B212210	S210907



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS5	Matrix Spike (2108109-01) Hg	80.10	526.3	572.0	ng/L	93% 71-125	
B212210-MSD5	Matrix Spike Duplicate (2108109-01) Hg	80.10	526.3	573.6	ng/L	94% 71-125	0.3% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	<b>0.08</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.03</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	



## Sample Containers

<b>Lab ID:</b> 2108107-01 <b>Sample:</b> 2107471-001A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 07/28/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108107
<b>Lab ID:</b> 2108107-02 <b>Sample:</b> 2107471-002A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 07/28/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108107
<b>Lab ID:</b> 2108107-03 <b>Sample:</b> 2107471-003A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 07/28/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108107
<b>Lab ID:</b> 2108107-04 <b>Sample:</b> 2107471-004A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 07/28/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108107

## Shipping Containers

### Cooler - 2108107

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



CHAIN OF CUSTODY RECORD

Omega COCID 1100 PAGE: 1 OF: 1

ADDRESS  
 Fremont Analytical, Inc.  
 3600 Fremont Ave. N.  
 Seattle, WA 98103  
 TEL: 206-352-3790  
 FAX: 206-352-7178  
 Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS: Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w/Brcl.</i>	
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>			
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>			
PHONE:	FAX:		EMAIL:
ACCOUNT #:			

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2107471-001A M-1631-W	072821 LLIC	AMBER GLASS 5	Wastewater	7/28/2021 10:00:00 AM	1	
2	2107471-002A M-1631-W	072821 LLEC	AMBER GLASS 5	Wastewater	7/28/2021 10:30:00 AM	1	
3	2107471-003A M-1631-W	Park Way Camp	AMBER GLASS 5	Wastewater	7/28/2021 9:00:00 AM	1	
4	2107471-004A M-1631-W	Villaboiss Camp	AMBER GLASS 5	Wastewater	7/28/2021 10:25:00 AM	1	

Relinquished By: <i>M Barnes</i>	Date: <i>8/19/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/19/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE  FOR LAB USE ONLY Temp of samples _____ °C    Attempt to Cool ? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT:    Standard <input type="checkbox"/> RUSH:    Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/> Note: RUSH requests will incur surcharges!						Page 9 of 9 Page 9 of 204



Client Name: <b>SPECIAL</b>	Work Order Number: <b>2107471</b>
Logged by: <b>Gabrielle Coeuille</b>	Date Received: <b>7/29/2021 9:44:00 AM</b>

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* LL Hg. preserved Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample 1	22.8

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Jannsen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Date: \_\_\_\_\_ Page: 1 of 1

Project Name: 2107227

Project No: 2107227

Collected by:

State Collected: OR WA OTHER

Report To (PM): Julie Clay & Martin French

AP Email: mandy@specialtyanalytical.com PM Email: Julie@specialtyanalytical.com & Marty@specialtyanalytical.com

Laboratory/Project No (internal): 2107471

Temperature on Receipt: \_\_\_\_\_ °C

Cooling: \_\_\_\_\_ Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

MDL TIER IV EDD

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
I - influent						
E - effluent						
07282144IC	7-28-21	1000	WD	1	X	
07282144EC	7-28-21	1030	WD	1	X	
Parkway Comp	7-28-21	900	WD	1	X	
Villabois Comp	7-28-21	1025	WD	1	X	

\*Matrix: A=Air, AQ=Aqueous, L=Liquid, O=Oil, P=Product, S=Soil, SD=Sediment, S=Solid, W=Water, DW=Drinking Water, GW=Ground Water, SW=Storm Water, WW=Waste Water, M=Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_

Expedited turn-around requests should be coordinated in advance

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_

## Chain of Custody Record

**Specialty Analytical**  
 9011 SE Jannsen Rd  
 Clackamas, OR 97015  
 Phone: 503-607-1331  
 Fax: 503-607-1336

Client: Wilsonville  
 Address: \_\_\_\_\_  
 City, State, Zip: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 AP Email: \_\_\_\_\_

Date: 7-28-21 Page: \_\_\_\_\_ of \_\_\_\_\_  
 Project Name: Wilsonville  
 Project No: 20224 PO No: \_\_\_\_\_  
 Collected by: [Signature]  
 State Collected: OR  WA  OTHER

Laboratory Project No (Internal): 2107221  
 Temperature on Receipt: 2.3 °C  
 Cooling: ice Shipped Via: 8A  
 Custody Seal: Y/N Intact / Broken Cooler / Bottle  
 MDL  TIER IV  EDD   
 Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests										Comments				
					EPA 200.8 Metals	SM 4500 CN	SM 4500 NH3-N	EPA 351.1 TN	EPA 1684 TS	EPA 310.2 AIR	EPA 625	SM 4500 S20	SM 5210B COD CBOD	SM 2540D TSS		EPA 624 VOC	PH Total, vol		
G- grab	7-27-21	1300	WW	1	<del>SM 3500 CB</del>	SM 4500 CN	SM 4500 NH3-N	EPA 351.1 TN	EPA 1684 TS	EPA 310.2 AIR	EPA 625	SM 4500 S20	SM 5210B COD CBOD	SM 2540D TSS	EPA 624 VOC	PH Total, vol	* 48 hr TAT	624+625	
C - Composite	7-28-21	1600	WW	1															
I - Influent	7-27-21	1330	WW	1															
Sample Name E-116 (w/ant)	7-28-21	1600	WW	1															
	7-27-21	1300	MS	3															
Parkway grab	7-27-21	1:20	WW	1															
Villabois grab	7-27-21	8:10	WW	1															
Parkway comp	7-28-21	9:00	WW	4															
Villabois comp	7-28-21	10:25	WW	4															

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SW = Storm Water, WW = Waste Water, M = Miscellaneous  
 GW = Ground Water, DW = Drinking Water, SW = Sewer Water, SV = Storm Water, WM = Waste Material, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
 Expedited turn-around requests should be coordinated in advance

Requisitioned x [Signature] Date/Time 7-28-21 11:46  
 Requisitioned x [Signature] Date/Time 7/28/21 1223

**Sampling Schedule for Local Limits Analysis  
City of Wilsonville WWTP**

Sampling Start Date (Week 1): **5/17** (enter)

Note: Pending this sampling event, a Willamette River sample may be required for future sampling events.

Analytical Method	Collection Method	Week 1		Week 2					
		5/17	5/18	5/24	5/25	5/26	5/27	5/28	
<b>Influent</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	
EPA 1631E	Composite	X	X	X	X	X	X	X	
SM 3500-CrB	Grab	X	X	X	X	X	X	X	
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	
SM 5210B	Composite	X	X	X	X	X	X	X	
SM 2540D	Composite	X	X	X	X	X	X	X	
EPA 624*	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	*48-hour TAT
EPA 625*	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	*48-hour TAT
EPA 310.2	Composite	X	X	X	X	X	X	X	
SM 4500-P B.	Composite	X	X	X	X	X	X	X	
EPA 351.1	Composite	X	X	X	X	X	X	X	
pH (field measurement)	Grab	X	X	X	X	X	X	X	
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	*48-hour TAT
<b>Final Effluent</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	
EPA 1631E	Composite	X	X	X	X	X	X	X	
SM 3500-CrB	Grab	X	X	X	X	X	X	X	
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	
SM 5210B	Composite	X	X	X	X	X	X	X	
SM 2540D	Composite	X	X	X	X	X	X	X	
EPA 624	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	*48-hour TAT
EPA 625	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	*48-hour TAT
EPA 310.2	Composite	X	X	X	X	X	X	X	
SM 4500-P B.	Composite	X	X	X	X	X	X	X	
EPA 351.1	Composite	X	X	X	X	X	X	X	
pH (field measurement)	Grab	X	X	X	X	X	X	X	
EPA 1684	Grab								
SM 4500-S2 D.	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	*48-hour TAT
<b>Biosolids</b>									
EPA 200.8	Composite	X	X						
EPA 1631E	Composite	X	X						
SM 3500-CrB	Grab	X	X						
SM 4500-CN E.	Grab	X	X						
SM 4500-NH3 G.	Composite	X	X						
SM 5210B	Composite	X	X						
SM 2540D	Composite	X	X						
EPA 624	Grab	X	X						
EPA 625	Grab	X	X						
EPA 310.2	Composite	X	X						
SM 4500-P B.	Composite	X	X						
EPA 351.1	Composite	X	X						

pH (field measurement)	Grab	X	X						
EPA 1684	Grab	X	X						
SM 4500-S2 D.	Grab	X	X						
<b>Willow Creek and Landover</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	X
EPA 1631E	Composite	X	X	X	X	X	X	X	X
SM 3500-CrB	Grab	X	X	X	X	X	X	X	X
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	X
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	X
SM 5210B	Composite	X	X	X	X	X	X	X	X
SM 2540D	Composite	X	X	X	X	X	X	X	X
EPA 624*	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
EPA 625*	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
EPA 310.2	Composite	X	X	X	X	X	X	X	X
SM 4500-P B.	Composite	X	X	X	X	X	X	X	X
EPA 351.1	Composite	X	X	X	X	X	X	X	X
pH (field measurement)	Grab	X	X	X	X	X	X	X	X
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>
<b>Orepac and Industrial Way</b>									
EPA 200.8	Composite	X	X	X	X	X	X	X	X
EPA 1631E	Composite	X	X	X	X	X	X	X	X
SM 3500-CrB	Grab	X	X	X	X	X	X	X	X
SM 4500-CN E.	Grab	X	X	X	X	X	X	X	X
SM 4500-NH3 G.	Composite	X	X	X	X	X	X	X	X
SM 5210B	Composite	X	X	X	X	X	X	X	X
SM 2540D	Composite	X	X	X	X	X	X	X	X
EPA 624*	Grab	X*	X*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
EPA 625*	Grab	X*	X*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>
EPA 310.2	Composite	X	X	X	X	X	X	X	X
SM 4500-P B.	Composite	X	X	X	X	X	X	X	X
EPA 351.1	Composite	X	X	X	X	X	X	X	X
pH (field measurement)	Grab	X	X	X	X	X	X	X	X
EPA 1684	Grab								
SM 4500-S2 D.*	Grab	X*	X*	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>	X <sup>3</sup>

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

\*48-hour TAT

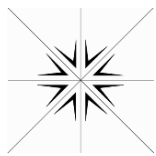
\*48-hour TAT

\*48-hour TAT

<b>Constituents by Analytical Method</b>	
EPA 200.8	Aluminum, Antimony, Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Molybdenum, Nickel, Potassium, Selenium, Silver, Thallium, Zinc
EPA 1631E	Mercury
SM 3500-CrB	Hexavalent Chromium
SM 4500-CN E.	Cyanide
SM 4500-NH3 G.	Ammonia
SM 5210B	BOD5 and cBOD
SM 2540D	TSS
EPA 624	Chloroform, 1,4-Dichlorobenzene, Toluene, VOCs (see note 1)
EPA 625	All (see note 2)
EPA 310.2	Alkalinity
SM 4500-P B.	Phosphorus (total)
EPA 351.1	TKN
Field Measure	pH
EPA 1684	Total Solids
SM 4500-S2 D.	Sulfide (see note 3)

**Notes**

1. VOCs may be omitted from EPA 624 for Week 2 depending on results of Week 1 sampling.
2. Explosion/Fume Hazard POCs may be omitted from EPA 625 for Week 2 depending on results of Week 1 sampling.
3. SM 4500-S2 D. may be omitted entirely for Week 2 depending on results of Week 1 sampling.



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2107227  
Date: 10/18/2021

---

### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



Specialty Analytical  
9011 SE Janssen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Definition Only

WO#: 2107227  
Date: 10/18/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

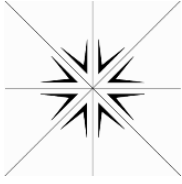
S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

---





# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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August 24, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2107246

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2107246

Date Reported: 8/24/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107246-001  
**Client Sample ID** Parkway Comp

**Collection Date:** 7/29/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>EG</b>
Aluminum	211	10.0		µg/L	1	8/4/2021 5:09:19 PM
Antimony	0.705	0.500		µg/L	1	8/4/2021 5:09:19 PM
Arsenic	0.805	0.100		µg/L	1	8/4/2021 5:09:19 PM
Cadmium	ND	0.100		µg/L	1	8/4/2021 5:09:19 PM
Chromium	2.40	0.100		µg/L	1	8/4/2021 5:09:19 PM
Copper	50.5	0.500		µg/L	1	8/4/2021 5:09:19 PM
Iron	1070	50.0		µg/L	1	8/4/2021 5:09:19 PM
Lead	0.955	0.100		µg/L	1	8/4/2021 5:09:19 PM
Molybdenum	1.51	0.500		µg/L	1	8/4/2021 5:09:19 PM
Nickel	4.21	0.500		µg/L	1	8/4/2021 5:09:19 PM
Potassium	28300	100		µg/L	1	8/4/2021 5:09:19 PM
Selenium	ND	1.00		µg/L	1	8/4/2021 5:09:19 PM
Silver	0.451	0.100		µg/L	1	8/4/2021 5:09:19 PM
Thallium	ND	0.100		µg/L	1	8/4/2021 5:09:19 PM
Zinc	147	2.00		µg/L	1	8/4/2021 5:09:19 PM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>EG</b>
Hardness (Calc.)	53.3	0.200		mg/L	1	8/4/2021 5:09:19 PM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>NK</b>
CBOD5	211	2.00		mg/L	1	7/30/2021 3:00:17 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	329.7	2.0		mg/L	1	7/30/2021 1:30:43 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	256	10.0		mg/L CaCO3	1	8/3/2021 1:24:06 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	48.6	0.800		mg/L	40	8/6/2021 2:05:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	8.04	0.200		mg/L	10	8/6/2021 3:45:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	66.8	1.00		mg/L	5	8/11/2021 4:58:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	240	10.0		mg/L	1	7/30/2021 2:02:44 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107246

Date Reported: 8/24/2021

**CLIENT:** City of Wilsonville

**Collection Date:** 7/28/2021 12:40:00 PM

**Project:** Wilsonville

**Lab ID:** 2107246-002

**Matrix:** WASTEWATER

**Client Sample ID** Parkway Grab

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>						
1,2,4-Trichlorobenzene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
1,2-Dichlorobenzene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
1,2-Diphenylhydrazine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
1,3-Dichlorobenzene	1.01	0.518		µg/L	1	7/31/2021 11:31:00 AM
1,4-Dichlorobenzene	1.08	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,4,6-Trichlorophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,4-Dichlorophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,4-Dimethylphenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,4-Dinitrophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,4-Dinitrotoluene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2,6-Dinitrotoluene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2-Chloronaphthalene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2-Chlorophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2-Methylphenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
2-Nitrophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
3,3'-Dichlorobenzidine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
3,4-Methylphenol	194	1.04		µg/L	1	7/31/2021 11:31:00 AM
4,6-Dinitro-2-methylphenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
4-Bromophenyl phenyl ether	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
4-Chloro-3-methylphenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
4-Chlorophenyl phenyl ether	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
4-Nitrophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Acenaphthene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Acenaphthylene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Aniline	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Anthracene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Azobenzene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benz(a)anthracene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzidine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzo(a)pyrene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzo(b)fluoranthene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzo(g,h,i)perylene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzo(k)fluoranthene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Benzoic Acid	ND	5.18		µg/L	1	7/31/2021 11:31:00 AM
Bis(2-chloroethoxy)methane	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Bis(2-chloroethyl)ether	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Bis(2-chloroisopropyl)ether	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Bis(2-ethylhexyl)phthalate	7.68	0.518		µg/L	1	7/31/2021 11:31:00 AM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107246

Date Reported: 8/24/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107246-002  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/28/2021 12:40:00 PM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Carbazole	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Chrysene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Dibenz(a,h)anthracene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Diethyl phthalate	2.45	0.518		µg/L	1	7/31/2021 11:31:00 AM
Dimethyl phthalate	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Di-n-butyl phthalate	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Di-n-octyl phthalate	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Fluoranthene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Fluorene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Hexachlorobenzene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Hexachlorobutadiene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Hexachlorocyclopentadiene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Hexachloroethane	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Isophorone	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Naphthalene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Nitrobenzene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
N-Nitrosodimethylamine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
N-Nitrosodi-n-propylamine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
N-Nitrosodiphenylamine	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Pentachlorophenol	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Phenanthrene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Phenol	22.8	0.518		µg/L	1	7/31/2021 11:31:00 AM
Pyrene	ND	0.518		µg/L	1	7/31/2021 11:31:00 AM
Pyridine	5.66	0.518		µg/L	1	7/31/2021 11:31:00 AM
Surr: 2,4,6-Tribromophenol	123	33.1 - 129.7		%Rec	1	7/31/2021 11:31:00 AM
Surr: 2-Fluorobiphenyl	92.3	33.1 - 126.2		%Rec	1	7/31/2021 11:31:00 AM
Surr: 2-Fluorophenol	64.2	13.4 - 127.1		%Rec	1	7/31/2021 11:31:00 AM
Surr: 4-Terphenyl-d14	96.9	41 - 140		%Rec	1	7/31/2021 11:31:00 AM
Surr: Nitrobenzene-d5	75.9	28.9 - 129.9		%Rec	1	7/31/2021 11:31:00 AM
Surr: Phenol-d6	53.8	10.6 - 128.5		%Rec	1	7/31/2021 11:31:00 AM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>TB</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107246  
Date Reported: 8/24/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107246-002  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/28/2021 12:40:00 PM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **TB**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
1,4-Dichlorobenzene	0.810	0.500		µg/L	1	8/4/2021 12:58:00 PM
2-Butanone	ND	5.00		µg/L	1	8/4/2021 12:58:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/4/2021 12:58:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/4/2021 12:58:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/4/2021 12:58:00 PM
Benzene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Bromoform	1.12	0.500		µg/L	1	8/4/2021 12:58:00 PM
Bromomethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Chloroethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Chloroform	2.65	0.500		µg/L	1	8/4/2021 12:58:00 PM
Chloromethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/4/2021 12:58:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/4/2021 12:58:00 PM
o-Xylene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Styrene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Toluene	3.22	0.500		µg/L	1	8/4/2021 12:58:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/4/2021 12:58:00 PM
Surr: 1,2-Dichloroethane-d4	101	83.4 - 126		%Rec	1	8/4/2021 12:58:00 PM
Surr: 4-Bromofluorobenzene	103	80.9 - 127		%Rec	1	8/4/2021 12:58:00 PM
Surr: Dibromofluoromethane	105	81.1 - 122		%Rec	1	8/4/2021 12:58:00 PM
Surr: Toluene-d8	97.0	80 - 120		%Rec	1	8/4/2021 12:58:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2107246  
Date Reported: 8/24/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2107246-002  
**Client Sample ID** Parkway Grab

**Collection Date:** 7/28/2021 12:40:00 PM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:31:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/3/2021 1:11:06 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	2.40	1.00		mg/L	1	7/29/2021 3:45:33 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>NK</b>
Total Solids	668	5.00		mg/L	1	7/30/2021 3:34:46 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531067</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	10.0	500.0	0	104	90	110				
Antimony	50.9	0.500	50.00	0	102	90	110				
Arsenic	50.4	0.100	50.00	0	101	90	110				
Cadmium	51.8	0.100	50.00	0	104	90	110				
Chromium	52.1	0.100	50.00	0	104	90	110				
Copper	52.4	0.500	50.00	0	105	90	110				
Iron	5500	50.0	5000	0	110	90	110				
Lead	51.1	0.100	50.00	0	102	90	110				
Molybdenum	50.7	0.500	50.00	0	101	90	110				
Nickel	51.7	0.500	50.00	0	103	90	110				
Potassium	5210	100	5000	0	104	90	110				
Selenium	50.5	1.00	50.00	0	101	90	110				
Silver	54.8	0.100	50.00	0	110	90	110				
Thallium	52.6	0.100	50.00	0	105	90	110				
Zinc	50.8	2.00	50.00	0	102	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	10.0	500.0	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531072</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.9	0.500	50.00	0	97.7	90	110				
Arsenic	49.1	0.100	50.00	0	98.1	90	110				
Cadmium	50.5	0.100	50.00	0	101	90	110				
Chromium	50.3	0.100	50.00	0	101	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Iron	5270	50.0	5000	0	105	90	110				
Lead	49.7	0.100	50.00	0	99.4	90	110				
Molybdenum	48.7	0.500	50.00	0	97.4	90	110				
Nickel	50.1	0.500	50.00	0	100	90	110				
Potassium	4950	100	5000	0	99.0	90	110				
Selenium	49.0	1.00	50.00	0	97.9	90	110				
Silver	52.2	0.100	50.00	0	104	90	110				
Thallium	50.4	0.100	50.00	0	101	90	110				
Zinc	50.1	2.00	50.00	0	100	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531075</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18300</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	426	10.0	500.0	0	85.1	85	115				
Antimony	49.0	0.500	50.00	0	97.9	85	115				
Arsenic	47.0	0.100	50.00	0	94.1	85	115				
Cadmium	49.8	0.100	50.00	0	99.6	85	115				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>LCS-18300</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531076</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	45.3	0.100	50.00	0	90.7	85	115				
Copper	49.3	0.500	50.00	0	98.7	85	115				
Iron	4850	50.0	5000	0	97.1	85	115				
Lead	49.2	0.100	50.00	0	98.4	85	115				
Molybdenum	46.5	0.500	50.00	0	93.0	85	115				
Nickel	48.2	0.500	50.00	0	96.3	85	115				
Potassium	4350	100	5000	0	87.0	85	115				
Selenium	47.1	1.00	50.00	0	94.3	85	115				
Silver	49.6	0.100	50.00	0	99.1	85	115				
Thallium	50.0	0.100	50.00	0	100	85	115				
Zinc	50.3	2.00	50.00	0	101	85	115				

Sample ID: <b>2107216-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531078</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0						0	0	20	
Antimony	ND	0.500						0	0	20	
Arsenic	0.458	0.100						0.4756	3.74	20	
Cadmium	ND	0.100						0	0	20	RRF
Chromium	0.190	0.100						0.2002	5.22	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2107216-004ADUP		SampType: DUP		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41328	
Client ID: BatchQC		Batch ID: 18300		TestNo: E200.8		E200.8		Analysis Date: 8/4/2021		SeqNo: 531078	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.953	0.500						0.9759	2.35	20	
Iron	93.3	50.0						95.44	2.31	20	
Lead	0.242	0.100						0.2647	8.88	20	
Molybdenum	1.91	0.500						2.057	7.26	20	
Nickel	1.33	0.500						1.334	0.0669	20	
Potassium	18100	100						17950	1.07	20	
Selenium	ND	1.00						0	0	20	RRF
Silver	ND	0.100						0	0	20	RRF
Thallium	ND	0.100						0	0	20	RRF
Zinc	76.7	2.00						75.50	1.64	20	

Sample ID: 2107216-004AMS		SampType: MS		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41328	
Client ID: BatchQC		Batch ID: 18300		TestNo: E200.8		E200.8		Analysis Date: 8/4/2021		SeqNo: 531079	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	466	10.0	500.0	9.736	91.3	70	130				
Antimony	48.9	0.500	50.00	0.3337	97.2	70	130				
Arsenic	49.6	0.100	50.00	0.4756	98.2	70	130				
Cadmium	48.3	0.100	50.00	0	96.7	70	130				
Chromium	48.8	0.100	50.00	0.2002	97.2	70	130				
Copper	48.6	0.500	50.00	0.9759	95.3	70	130				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>2107216-004AMS</b>		SampType: <b>MS</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531079</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5190	50.0	5000	95.44	102	70	130				
Lead	50.5	0.100	50.00	0.2647	100	70	130				
Molybdenum	50.8	0.500	50.00	2.057	97.5	70	130				
Nickel	49.4	0.500	50.00	1.334	96.0	70	130				
Potassium	23400	100	5000	17950	109	70	130				
Selenium	48.3	1.00	50.00	0.2753	96.0	70	130				
Silver	45.1	0.100	50.00	0.02800	90.1	70	130				
Thallium	51.6	0.100	50.00	0.06066	103	70	130				
Zinc	125	2.00	50.00	75.50	98.1	70	130				

Sample ID: <b>2107216-004AMS</b>		SampType: <b>MSD</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/3/2021</b>		RunNo: <b>41328</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18300</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>		SeqNo: <b>531080</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	467	10.0	500.0	9.736	91.4	70	130	466.0	0.146	20	
Antimony	49.1	0.500	50.00	0.3337	97.5	70	130	48.94	0.249	20	
Arsenic	49.4	0.100	50.00	0.4756	97.8	70	130	49.58	0.407	20	
Cadmium	48.4	0.100	50.00	0	96.8	70	130	48.34	0.158	20	
Chromium	48.4	0.100	50.00	0.2002	96.5	70	130	48.81	0.767	20	
Copper	48.8	0.500	50.00	0.9759	95.7	70	130	48.62	0.381	20	
Iron	5180	50.0	5000	95.44	102	70	130	5192	0.277	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531080</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.1	0.100	50.00	0.2647	99.7	70	130	50.46	0.734	20	
Molybdenum	50.7	0.500	50.00	2.057	97.4	70	130	50.82	0.166	20	
Nickel	49.1	0.500	50.00	1.334	95.4	70	130	49.35	0.600	20	
Potassium	22900	100	5000	17950	99.9	70	130	23390	1.90	20	
Selenium	48.4	1.00	50.00	0.2753	96.3	70	130	48.30	0.292	20	
Silver	45.0	0.100	50.00	0.02800	90.0	70	130	45.06	0.0444	20	
Thallium	51.2	0.100	50.00	0.06066	102	70	130	51.60	0.815	20	
Zinc	125	2.00	50.00	75.50	98.2	70	130	124.5	0.0619	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	10.0	500.0	0	101	90	110				
Antimony	48.0	0.500	50.00	0	96.1	90	110				
Arsenic	49.0	0.100	50.00	0	98.0	90	110				
Cadmium	50.2	0.100	50.00	0	100	90	110				
Chromium	49.8	0.100	50.00	0	99.5	90	110				
Copper	51.0	0.500	50.00	0	102	90	110				
Iron	5340	50.0	5000	0	107	90	110				
Lead	49.3	0.100	50.00	0	98.7	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531085</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	48.7	0.500	50.00	0	97.5	90	110				
Nickel	50.8	0.500	50.00	0	102	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	49.1	1.00	50.00	0	98.1	90	110				
Silver	51.8	0.100	50.00	0	104	90	110				
Thallium	49.9	0.100	50.00	0	99.8	90	110				
Zinc	49.8	2.00	50.00	0	99.5	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41328</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531096</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	506	10.0	500.0	0	101	90	110				
Antimony	49.1	0.500	50.00	0	98.2	90	110				
Arsenic	49.2	0.100	50.00	0	98.3	90	110				
Cadmium	50.9	0.100	50.00	0	102	90	110				
Chromium	50.5	0.100	50.00	0	101	90	110				
Copper	52.3	0.500	50.00	0	105	90	110				
Iron	5330	50.0	5000	0	107	90	110				
Lead	50.4	0.100	50.00	0	101	90	110				
Molybdenum	50.7	0.500	50.00	0	101	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41328</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	51.2	0.500	50.00	0	102	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	48.7	1.00	50.00	0	97.4	90	110				
Silver	53.6	0.100	50.00	0	107	90	110				
Thallium	51.3	0.100	50.00	0	103	90	110				
Zinc	50.9	2.00	50.00	0	102	90	110				

Sample ID: <b>MB-18300</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41328</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18300</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41272</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41272</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530461</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41272</b>				
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530462</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530466							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.4	0.500	40.00	0	98.6	70	130				
1,1,1-Trichloroethane	44.3	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	39.1	0.500	40.00	0	97.8	46	157				
1,1,2-Trichloroethane	38.7	0.500	40.00	0	96.8	52	150				
1,1-Dichloroethane	44.2	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
1,2-Dichloroethane	41.5	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	43.7	0.500	40.00	0	109	0.01	210				
1,3-Dichlorobenzene	36.1	0.500	40.00	0	90.4	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	0	91.6	18	190				
2-Butanone	99.7	5.00	80.00	0	125	50	150				
2-Chloroethyl vinyl ether	43.7	10.0	40.00	0	109	0.01	305				
4-Methyl-2-pentanone	85.2	5.00	80.00	0	107	50	150				
Acrylonitrile	44.7	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	44.1	0.500	40.00	0	110	35	155				
Bromoform	38.2	0.500	40.00	0	95.5	45	169				
Bromomethane	40.9	0.500	40.00	0	102	0.01	242				
Carbon tetrachloride	45.8	0.500	40.00	0	114	70	140				
Chlorobenzene	39.9	0.500	40.00	0	99.8	37	160				
Chloroethane	62.4	0.500	40.00	0.6000	155	14	230				
Chloroform	46.0	0.500	40.00	0	115	51	138				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41272		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530466		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	45.0	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	45.0	0.500	40.00	0	113	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.3	0.500	40.00	0.8400	96.1	37	162				
m,p-Xylene	75.4	1.00	80.00	0	94.3	50	150				
Methylene chloride	29.0	20.0	40.00	0	72.6	0.01	221				
o-Xylene	40.2	0.500	40.00	0	101	50	150				
Styrene	40.1	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	43.5	0.500	40.00	0.6800	107	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	41.9	0.500	40.00	0	105	17	183				
Trichloroethene	43.8	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	45.3	0.500	40.00	0	113	17	181				
Vinyl chloride	35.6	0.500	40.00	0	89.1	0.01	251				

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41272		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530467		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530467							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	40.0	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.4	52	150				
1,1-Dichloroethane	42.0	0.500	40.00	0	105	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	40.4	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.5	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	40.9	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.8	0.500	40.00	0	102	18	190				
2-Butanone	88.3	5.00	80.00	0	110	50	150				
2-Chloroethyl vinyl ether	42.5	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	50	150				
Acrylonitrile	43.3	2.00	40.00	0	108	20	150				
Benzene	38.0	0.500	40.00	0	95.0	37	151				
Bromodichloromethane	42.7	0.500	40.00	0	107	35	155				
Bromoform	39.3	0.500	40.00	1.110	95.5	45	169				
Bromomethane	28.7	0.500	40.00	0	71.8	0.01	242				
Carbon tetrachloride	43.5	0.500	40.00	0	109	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	51.9	0.500	40.00	0	130	14	230				
Chloroform	41.7	0.500	40.00	0	104	51	138				
Chloromethane	35.5	0.500	40.00	0	88.7	0.01	273				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41272		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530467		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	44.2	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	40.8	0.500	40.00	0	102	53	149				
Ethylbenzene	40.9	0.500	40.00	0.8400	100	37	162				
m,p-Xylene	79.0	1.00	80.00	1.950	96.4	50	150				
Methylene chloride	27.2	20.0	40.00	0	68.1	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.0	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.3	64	148				
Toluene	43.4	0.500	40.00	1.220	105	47	150				
trans-1,2-Dichloroethene	42.5	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	107	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	17	181				
Vinyl chloride	29.4	0.500	40.00	0	73.5	0.01	251				

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41272		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530468		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	42.7	0.500	40.00	0	107	52	162				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530468							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	101	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.0	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	37.1	0.500	40.00	0	92.8	18	190				
1,2-Dichloroethane	40.6	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	37.0	0.500	40.00	0	92.4	59	156				
1,4-Dichlorobenzene	37.2	0.500	40.00	0	93.1	18	190				
2-Butanone	89.4	5.00	80.00	1.330	110	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	38.9	0.500	40.00	0	97.3	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	38.2	0.500	40.00	1.120	92.7	45	169				
Bromomethane	34.4	0.500	40.00	0	86.1	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	39.8	0.500	40.00	0	99.6	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	1.160	105	51	138				
Chloromethane	35.4	0.500	40.00	0	88.5	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107216-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530468					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				
Ethylbenzene	39.5	0.500	40.00	0.8300	96.8	37	162				
m,p-Xylene	74.8	1.00	80.00	1.940	91.1	50	150				
Methylene chloride	27.6	20.0	40.00	0	69.1	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				
Styrene	40.2	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.5	0.500	40.00	0	91.2	64	148				
Toluene	42.6	0.500	40.00	0.7300	105	47	150				
trans-1,2-Dichloroethene	43.6	0.500	40.00	0	109	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	43.0	0.500	40.00	0	108	71	157				
Trichlorofluoromethane	42.7	0.500	40.00	0	107	17	181				
Vinyl chloride	32.6	0.500	40.00	0	81.5	0.01	251				

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41272					
Client ID: LCSW	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530469					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	46	157				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41272</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530469</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	45.4	0.500	40.00	0	113	59	155				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	0.01	234				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	18	190				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	49	155				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	0.01	210				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	59	156				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	18	190				
2-Butanone	90.3	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	305				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	30	150				
Benzene	41.5	0.500	40.00	0	104	37	151				
Bromodichloromethane	46.2	0.500	40.00	0	115	35	155				
Bromoform	38.3	0.500	40.00	0	95.7	45	169				
Bromomethane	49.3	0.500	40.00	0	123	0.01	242				
Carbon tetrachloride	46.8	0.500	40.00	0	117	70	140				
Chlorobenzene	40.3	0.500	40.00	0	101	37	160				
Chloroethane	47.3	0.500	40.00	0	118	14	230				
Chloroform	45.4	0.500	40.00	0	114	51	138				
Chloromethane	41.4	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	0.01	227				
Dibromochloromethane	40.3	0.500	40.00	0	101	53	149				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3043</b>		SampType: <b>LCS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41272</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18287</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>7/30/2021</b>				SeqNo: <b>530469</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	77.4	1.00	80.00	0	96.7	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.6	0.01	221				
o-Xylene	41.7	0.500	40.00	0	104	50	150				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	42.3	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	17	183				
Trichloroethene	46.8	0.500	40.00	0	117	71	157				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	17	181				
Vinyl chloride	46.2	0.500	40.00	0	115	0.01	251				

Sample ID: <b>CCV MSVWS-3043</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41298</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18287</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>7/30/2021</b>				SeqNo: <b>530721</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	80	120				
1,1,1-Trichloroethane	46.0	0.500	40.00	0	115	75	125				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.6	60.5	139.5				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	71	129				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41298</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	45.4	0.500	40.00	0	113	72.5	127.5				
1,1-Dichloroethene	45.6	0.500	40.00	0	114	50.5	149.5				
1,2-Dichlorobenzene	40.5	0.500	40.00	0	101	63	137				
1,2-Dichloroethane	44.1	0.500	40.00	0	110	68	132				
1,2-Dichloropropane	46.0	0.500	40.00	0	115	34	166				
1,3-Dichlorobenzene	40.6	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137				
2-Butanone	90.3	5.00	80.00	0	113	60	140				
2-Chloroethyl vinyl ether	46.0	10.0	40.00	0	115	0.01	224				
4-Methyl-2-pentanone	80.5	5.00	80.00	0	101	60	140				
Acrylonitrile	44.0	2.00	40.00	0	110	50	150				
Benzene	41.5	0.500	40.00	0	104	64	136				
Bromodichloromethane	46.2	0.500	40.00	0	115	65.5	134.5				
Bromoform	38.3	0.500	40.00	0	95.7	71	129				
Bromomethane	49.3	0.500	40.00	0	123	14	186				
Carbon tetrachloride	46.8	0.500	40.00	0	117	73	127				
Chlorobenzene	40.3	0.500	40.00	0	101	66	134				
Chloroethane	47.3	0.500	40.00	0	118	38	162				
Chloroform	45.4	0.500	40.00	0	114	67.5	132.5				
Chloromethane	41.4	0.500	40.00	0	104	0.01	204				
cis-1,3-Dichloropropene	47.6	0.500	40.00	0	119	24	176				
Dibromochloromethane	40.3	0.500	40.00	0	101	67.5	132.5				
Ethylbenzene	40.4	0.500	40.00	0	101	59	141				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3043</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41298</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530721</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	77.4	1.00	80.00	0	96.7	80	120				
Methylene chloride	37.8	20.0	40.00	0	94.6	60.5	139.5				
o-Xylene	41.7	0.500	40.00	0	104	80	120				
Styrene	41.4	0.500	40.00	0	103	80	120				
Tetrachloroethene	40.2	0.500	40.00	0	100	73.5	126.5				
Toluene	42.3	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	69.5	130.5				
trans-1,3-Dichloropropene	41.6	0.500	40.00	0	104	50	150				
Trichloroethene	46.8	0.500	40.00	0	117	66.5	133.5				
Trichlorofluoromethane	46.2	0.500	40.00	0	116	48	152				
Vinyl chloride	46.2	0.500	40.00	0	115	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41298</b>				
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	0.860	0.500									
m,p-Xylene	ND	1.00									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530722</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	0.730	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	101		100.0		101	83.4	126				
Surr: 4-Bromofluorobenzene	101		100.0		101	80.9	127				
Surr: Dibromofluoromethane	101		100.0		101	81.1	122				
Surr: Toluene-d8	98.4		100.0		98.4	80	120				

Sample ID: <b>2107227-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41298</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530723</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.3	0.500	40.00	0	98.2	70	130				
1,1,1-Trichloroethane	52.1	0.500	40.00	0	130	52	162				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530723					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	40.2	0.500	40.00	0	100	46	157				
1,1,2-Trichloroethane	38.9	0.500	40.00	0	97.3	52	150				
1,1-Dichloroethane	52.1	0.500	40.00	0	130	59	155				
1,1-Dichloroethene	52.9	0.500	40.00	0	132	47.8	165				
1,2-Dichlorobenzene	36.6	0.500	40.00	0	91.4	18	190				
1,2-Dichloroethane	48.9	0.500	40.00	0	122	49	155				
1,2-Dichloropropane	52.1	0.500	40.00	0	130	0.01	210				
1,3-Dichlorobenzene	36.7	0.500	40.00	0	91.7	59	156				
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.2	18	190				
2-Butanone	112	5.00	80.00	4.390	135	50	150				
2-Chloroethyl vinyl ether	52.1	10.0	40.00	0	130	0.01	305				
4-Methyl-2-pentanone	85.0	5.00	80.00	0	106	50	150				
Acrylonitrile	53.6	2.00	40.00	0	134	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	52.1	0.500	40.00	0	130	35	155				
Bromoform	37.8	0.500	40.00	1.150	91.7	45	169				
Bromomethane	39.8	0.500	40.00	0	99.6	0.01	242				
Carbon tetrachloride	53.2	0.500	40.00	0	133	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.7	37	160				
Chloroethane	54.0	0.500	40.00	0	135	14	230				
Chloroform	54.0	0.500	40.00	1.970	130	51	138				
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	53.5	0.500	40.00	0	134	0.01	227				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530723					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	39.8	0.500	40.00	0	99.5	53	149				
Ethylbenzene	39.1	0.500	40.00	0.8200	95.8	37	162				
m,p-Xylene	74.1	1.00	80.00	1.960	90.2	50	150				
Methylene chloride	37.8	20.0	40.00	0	94.5	0.01	221				
o-Xylene	39.8	0.500	40.00	0	99.6	50	150				
Styrene	39.6	0.500	40.00	0	99.1	70	130				
Tetrachloroethene	35.9	0.500	40.00	0	89.8	64	148				
Toluene	43.0	0.500	40.00	1.310	104	47	150				
trans-1,2-Dichloroethene	53.0	0.500	40.00	0	132	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	52.2	0.500	40.00	0	131	71	157				
Trichlorofluoromethane	52.5	0.500	40.00	0	131	17	181				
Vinyl chloride	47.1	0.500	40.00	0	118	0.01	251				

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530724					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.7	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	41.1	0.500	40.00	0	103	46	157				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530724							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	40.0	0.500	40.00	0	99.9	52	150				
1,1-Dichloroethane	43.5	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	40.7	0.500	40.00	0	102	18	190				
1,2-Dichloroethane	41.4	0.500	40.00	0	103	49	155				
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	41.1	0.500	40.00	0	103	59	156				
1,4-Dichlorobenzene	41.1	0.500	40.00	0	103	18	190				
2-Butanone	91.0	5.00	80.00	0	114	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	46.1	2.00	40.00	0	115	20	150				
Benzene	39.2	0.500	40.00	0	98.0	37	151				
Bromodichloromethane	43.3	0.500	40.00	0	108	35	155				
Bromoform	39.6	0.500	40.00	1.120	96.1	45	169				
Bromomethane	26.8	0.500	40.00	0	67.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	112	70	140				
Chlorobenzene	41.1	0.500	40.00	0	103	37	160				
Chloroethane	46.2	0.500	40.00	0	116	14	230				
Chloroform	42.7	0.500	40.00	0	107	51	138				
Chloromethane	32.0	0.500	40.00	0	80.0	0.01	273				
cis-1,3-Dichloropropene	44.8	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	41.3	0.500	40.00	0	103	53	149				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530724					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	41.2	0.500	40.00	0	103	37	162				
m,p-Xylene	79.7	1.00	80.00	1.950	97.2	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.0	0.01	221				
o-Xylene	42.4	0.500	40.00	0	106	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	38.8	0.500	40.00	0	97.1	64	148				
Toluene	43.6	0.500	40.00	1.180	106	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.2	0.500	40.00	0	108	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	42.8	0.500	40.00	0	107	17	181				
Vinyl chloride	29.2	0.500	40.00	0	73.1	0.01	251				

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530725					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.0	0.500	40.00	0	97.4	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	46	157				
1,1,2-Trichloroethane	37.8	0.500	40.00	0	94.5	52	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530725							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.8	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	37.3	0.500	40.00	0	93.3	18	190				
1,2-Dichloroethane	47.6	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	42.2	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	37.7	0.500	40.00	0	94.3	59	156				
1,4-Dichlorobenzene	38.5	0.500	40.00	0.8100	94.3	18	190				
2-Butanone	86.8	5.00	80.00	0	108	50	150				
2-Chloroethyl vinyl ether	42.2	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	85.3	5.00	80.00	1.520	105	50	150				
Acrylonitrile	41.5	2.00	40.00	0	104	20	150				
Benzene	54.9	0.500	40.00	0	137	37	151				
Bromodichloromethane	42.3	0.500	40.00	0.5500	104	35	155				
Bromoform	37.3	0.500	40.00	1.150	90.3	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	39.5	0.500	40.00	0	98.8	37	160				
Chloroethane	39.6	0.500	40.00	0	99.1	14	230				
Chloroform	44.2	0.500	40.00	4.210	99.9	51	138				
Chloromethane	30.6	0.500	40.00	0	76.4	0.01	273				
cis-1,3-Dichloropropene	43.0	0.500	40.00	0	108	0.01	227				
Dibromochloromethane	39.1	0.500	40.00	0	97.9	53	149				
Ethylbenzene	39.4	0.500	40.00	0	98.5	37	162				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530725		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	75.3	1.00	80.00	1.960	91.6	50	150				
Methylene chloride	25.5	20.0	40.00	0	63.6	0.01	221				
o-Xylene	40.4	0.500	40.00	0	101	50	150				
Styrene	40.0	0.500	40.00	0	100	70	130				
Tetrachloroethene	36.6	0.500	40.00	0	91.6	64	148				
Toluene	42.5	0.500	40.00	0.8700	104	47	150				
trans-1,2-Dichloroethene	41.7	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	41.1	0.500	40.00	0	103	17	183				
Trichloroethene	42.5	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	103	17	181				
Vinyl chloride	32.1	0.500	40.00	0	80.2	0.01	251				

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41298		
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1				Analysis Date: 7/30/2021			SeqNo: 530726		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	37.9	0.500	40.00	0	94.7	70	130				
1,1,1-Trichloroethane	41.1	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	46	157				
1,1,2-Trichloroethane	38.0	0.500	40.00	0	94.9	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41298					
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1			Analysis Date: 7/30/2021	SeqNo: 530726					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	41.5	0.500	40.00	0	104	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.4	18	190				
1,2-Dichloroethane	39.0	0.500	40.00	0	97.4	49	155				
1,2-Dichloropropane	41.7	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.0	59	156				
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	88.6	5.00	80.00	2.360	108	50	150				
2-Chloroethyl vinyl ether	41.7	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	83.7	5.00	80.00	0	105	50	150				
Acrylonitrile	44.1	2.00	40.00	0	110	20	150				
Benzene	37.8	0.500	40.00	0	94.6	37	151				
Bromodichloromethane	41.7	0.500	40.00	0	104	35	155				
Bromoform	37.4	0.500	40.00	1.160	90.6	45	169				
Bromomethane	31.3	0.500	40.00	0	78.3	0.01	242				
Carbon tetrachloride	41.3	0.500	40.00	0	103	70	140				
Chlorobenzene	38.5	0.500	40.00	0	96.4	37	160				
Chloroethane	38.9	0.500	40.00	0	97.2	14	230				
Chloroform	42.0	0.500	40.00	1.430	101	51	138				
Chloromethane	32.0	0.500	40.00	0	79.9	0.01	273				
cis-1,3-Dichloropropene	42.9	0.500	40.00	0	107	0.01	227				
Dibromochloromethane	39.0	0.500	40.00	0	97.5	53	149				
Ethylbenzene	37.8	0.500	40.00	0	94.6	37	162				
m,p-Xylene	71.3	1.00	80.00	1.940	86.7	50	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107227-007EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: BatchQC	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530726							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	25.6	20.0	40.00	0	64.0	0.01	221				
o-Xylene	38.7	0.500	40.00	0	96.8	50	150				
Styrene	38.6	0.500	40.00	0	96.6	70	130				
Tetrachloroethene	34.5	0.500	40.00	0	86.2	64	148				
Toluene	41.4	0.500	40.00	0.7800	102	47	150				
trans-1,2-Dichloroethene	42.3	0.500	40.00	0	106	54	156				
trans-1,3-Dichloropropene	41.2	0.500	40.00	0	103	17	183				
Trichloroethene	41.8	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	39.9	0.500	40.00	0	99.7	17	181				
Vinyl chloride	27.2	0.500	40.00	0	68.1	0.01	251				

Sample ID: CCV1	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531041							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	80	120				
1,1,1-Trichloroethane	44.2	0.500	40.00	0	111	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.2	60.5	139.5				
1,1,2-Trichloroethane	39.5	0.500	40.00	0	98.7	71	129				
1,1-Dichloroethane	44.7	0.500	40.00	0	112	72.5	127.5				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	50.5	149.5				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41325</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531041</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,2-Dichlorobenzene	40.3	0.500	40.00	0	101	63	137					
1,2-Dichloroethane	41.8	0.500	40.00	0	105	68	132					
1,2-Dichloropropane	43.9	0.500	40.00	0	110	34	166					
1,3-Dichlorobenzene	41.0	0.500	40.00	0	103	73	127					
1,4-Dichlorobenzene	40.4	0.500	40.00	0	101	63	137					
2-Butanone	91.9	5.00	80.00	0	115	60	140					
2-Chloroethyl vinyl ether	43.9	10.0	40.00	0	110	0.01	224					
4-Methyl-2-pentanone	83.5	5.00	80.00	0	104	60	140					
Acrylonitrile	45.5	2.00	40.00	0	114	50	150					
Benzene	40.6	0.500	40.00	0	101	64	136					
Bromodichloromethane	43.7	0.500	40.00	0	109	65.5	134.5					
Bromoform	38.6	0.500	40.00	0	96.6	71	129					
Bromomethane	38.9	0.500	40.00	0	97.3	14	186					
Carbon tetrachloride	44.5	0.500	40.00	0	111	73	127					
Chlorobenzene	40.8	0.500	40.00	0	102	66	134					
Chloroethane	43.5	0.500	40.00	0	109	38	162					
Chloroform	44.0	0.500	40.00	0	110	67.5	132.5					
Chloromethane	32.6	0.500	40.00	0	81.4	0.01	204					
cis-1,3-Dichloropropene	45.9	0.500	40.00	0	115	24	176					
Dibromochloromethane	40.1	0.500	40.00	0	100	67.5	132.5					
Ethylbenzene	41.1	0.500	40.00	0	103	59	141					
m,p-Xylene	77.2	1.00	80.00	0	96.5	80	120					
Methylene chloride	43.5	20.0	40.00	0	109	60.5	139.5					

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV1</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.2	0.500	40.00	0	105	80	120				
Styrene	41.8	0.500	40.00	0	104	80	120				
Tetrachloroethene	39.2	0.500	40.00	0	98.1	73.5	126.5				
Toluene	42.6	0.500	40.00	0	106	74.5	125.5				
trans-1,2-Dichloroethene	45.1	0.500	40.00	0	113	69.5	130.5				
trans-1,3-Dichloropropene	42.7	0.500	40.00	0	107	50	150				
Trichloroethene	45.1	0.500	40.00	0	113	66.5	133.5				
Trichlorofluoromethane	43.2	0.500	40.00	0	108	48	152				
Vinyl chloride	26.4	0.500	40.00	0	66.0	4	196				
Surr: 1,2-Dichloroethane-d4	97.4		100.0		97.4	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	93.0		100.0		93.0	80	120				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	1.09	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531042</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	0.820	0.500									
m,p-Xylene	1.94	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	100		100.0		100	83.4	126				
Surr: 4-Bromofluorobenzene	99.8		100.0		99.8	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	93.1		100.0		93.1	80	120				

Sample ID: <b>2107246-002EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41325</b>						
Client ID: <b>Parkway Grab</b>	Batch ID: <b>18287</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531046</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: Parkway Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.8	0.500	40.00	0	99.4	70	130				
1,1,1-Trichloroethane	45.8	0.500	40.00	0	114	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	97.0	46	157				
1,1,2-Trichloroethane	38.8	0.500	40.00	0	97.0	52	150				
1,1-Dichloroethane	45.8	0.500	40.00	0	114	59	155				
1,1-Dichloroethene	45.2	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	18	190				
1,2-Dichloroethane	42.9	0.500	40.00	0	107	49	155				
1,2-Dichloropropane	45.2	0.500	40.00	0	113	0.01	210				
1,3-Dichlorobenzene	37.4	0.500	40.00	0	93.5	59	156				
1,4-Dichlorobenzene	38.3	0.500	40.00	0.8100	93.7	18	190				
2-Butanone	99.5	5.00	80.00	0	124	50	150				
2-Chloroethyl vinyl ether	45.2	10.0	40.00	0	113	0.01	305				
4-Methyl-2-pentanone	84.2	5.00	80.00	0	105	50	150				
Acrylonitrile	45.7	2.00	40.00	0	114	20	150				
Benzene	41.9	0.500	40.00	0	105	37	151				
Bromodichloromethane	45.5	0.500	40.00	0	114	35	155				
Bromoform	38.0	0.500	40.00	1.120	92.1	45	169				
Bromomethane	32.3	0.500	40.00	0	80.8	0.01	242				
Carbon tetrachloride	46.7	0.500	40.00	0	117	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	43.8	0.500	40.00	0	109	14	230				
Chloroform	47.8	0.500	40.00	2.650	113	51	138				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2107246-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: Parkway Grab	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	35.1	0.500	40.00	0	87.8	0.01	273				
cis-1,3-Dichloropropene	46.8	0.500	40.00	0	117	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	40.4	0.500	40.00	0	101	37	162				
m,p-Xylene	76.8	1.00	80.00	0	96.0	50	150				
Methylene chloride	30.1	20.0	40.00	0	75.4	0.01	221				
o-Xylene	41.2	0.500	40.00	0	103	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.4	64	148				
Toluene	45.2	0.500	40.00	3.220	105	47	150				
trans-1,2-Dichloroethene	46.1	0.500	40.00	0	115	54	156				
trans-1,3-Dichloropropene	42.4	0.500	40.00	0	106	17	183				
Trichloroethene	45.8	0.500	40.00	0	114	71	157				
Trichlorofluoromethane	44.8	0.500	40.00	0	112	17	181				
Vinyl chloride	32.8	0.500	40.00	0	82.0	0.01	251				
Surr: 1,2-Dichloroethane-d4	98.3		100.0		98.3	83.4	126				
Surr: 4-Bromofluorobenzene	103		100.0		103	80.9	127				
Surr: Dibromofluoromethane	103		100.0		103	81.1	122				
Surr: Toluene-d8	94.3		100.0		94.3	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.7	0.500	20.00	0	104	80	120				
1,2-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,2-Diphenylhydrazine	20.6	0.500	20.00	0	103	80	120				
1,3-Dichlorobenzene	20.6	0.500	20.00	0	103	80	120				
1,4-Dichlorobenzene	19.1	0.500	20.00	0	95.6	80	120				
2,4,6-Trichlorophenol	19.4	0.500	20.00	0	97.2	80	120				
2,4-Dichlorophenol	21.2	0.500	20.00	0	106	80	120				
2,4-Dimethylphenol	20.2	0.500	20.00	0	101	80	120				
2,4-Dinitrophenol	16.2	0.500	20.00	0	81.0	80	120				
2,4-Dinitrotoluene	21.2	0.500	20.00	0	106	80	120				
2,6-Dinitrotoluene	20.8	0.500	20.00	0	104	80	120				
2-Chloronaphthalene	20.6	0.500	20.00	0	103	80	120				
2-Chlorophenol	19.8	0.500	20.00	0	98.9	80	120				
2-Methylphenol	19.8	0.500	20.00	0	99.2	80	120				
2-Nitrophenol	20.3	0.500	20.00	0	101	80	120				
3,3'-Dichlorobenzidine	20.9	0.500	20.00	0	105	80	120				
3,4-Methylphenol	20.2	1.00	20.00	0	101	80	120				
4-Bromophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Chloro-3-methylphenol	20.4	0.500	20.00	0	102	80	120				
4-Chlorophenyl phenyl ether	21.5	0.500	20.00	0	107	80	120				
4-Nitrophenol	20.5	0.500	20.00	0	103	80	120				
Acenaphthene	20.6	0.500	20.00	0	103	80	120				
Acenaphthylene	20.7	0.500	20.00	0	104	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	21.1	0.500	20.00	0	106	80	120				
Anthracene	20.6	0.500	20.00	0	103	80	120				
Azobenzene	20.6	0.500	20.00	0	103	80	120				
Benz(a)anthracene	20.7	0.500	20.00	0	103	80	120				
Benzydine	19.5	0.500	20.00	0	97.4	80	120				
Benzo(a)pyrene	20.9	0.500	20.00	0	105	80	120				
Benzo(b)fluoranthene	20.9	0.500	20.00	0	104	80	120				
Benzo(g,h,i)perylene	21.0	0.500	20.00	0	105	80	120				
Benzo(k)fluoranthene	20.6	0.500	20.00	0	103	80	120				
Benzoic Acid	17.7	5.00	20.00	0	88.6	80	120				
Bis(2-chloroethoxy)methane	20.0	0.500	20.00	0	100	80	120				
Bis(2-chloroethyl)ether	20.8	0.500	20.00	0	104	80	120				
Bis(2-chloroisopropyl)ether	19.2	0.500	20.00	0	96.2	80	120				
Bis(2-ethylhexyl)phthalate	18.2	0.500	20.00	0	91.1	80	120				
Butyl benzyl phthalate	20.9	0.500	20.00	0	105	80	120				
Carbazole	20.8	0.500	20.00	0	104	80	120				
Chrysene	20.6	0.500	20.00	0	103	80	120				
Dibenz(a,h)anthracene	20.8	0.500	20.00	0	104	80	120				
Diethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Dimethyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-butyl phthalate	20.8	0.500	20.00	0	104	80	120				
Di-n-octyl phthalate	20.7	0.500	20.00	0	104	80	120				
Fluoranthene	20.7	0.500	20.00	0	103	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CAL20</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>532490</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobenzene	20.6	0.500	20.00	0	103	80	120				
Hexachlorobutadiene	20.8	0.500	20.00	0	104	80	120				
Hexachlorocyclopentadiene	19.7	0.500	20.00	0	98.7	80	120				
Hexachloroethane	19.8	0.500	20.00	0	99.0	80	120				
Indeno(1,2,3-cd)pyrene	21.0	0.500	20.00	0	105	80	120				
Isophorone	20.9	0.500	20.00	0	105	80	120				
Naphthalene	20.6	0.500	20.00	0	103	80	120				
Nitrobenzene	21.0	0.500	20.00	0	105	80	120				
N-Nitrosodimethylamine	21.6	0.500	20.00	0	108	80	120				
N-Nitrosodi-n-propylamine	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodiphenylamine	20.6	0.500	20.00	0	103	80	120				
Pentachlorophenol	19.1	0.500	20.00	0	95.7	80	120				
Phenanthrene	20.6	0.500	20.00	0	103	80	120				
Phenol	21.4	0.500	20.00	0	107	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	21.0	0.500	20.00	0	105	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	103		100.0		103	33.1	129.7				
Surr: 2-Fluorobiphenyl	109		100.0		109	33.1	126.2				
Surr: 2-Fluorophenol	47.6		100.0		47.6	13.4	127.1				
Surr: 4-Terphenyl-d14	121		100.0		121	41	122				
Surr: Nitrobenzene-d5	91.6		100.0		91.6	28.9	129.9				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18275</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532491</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	31.6		100.0		31.6	10.6	128.5				

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	34.1	0.500	40.00	0	85.2	44	142				
1,2-Dichlorobenzene	37.3	0.500	40.00	0	93.2	32	129				
1,2-Diphenylhydrazine	38.7	0.500	40.00	0	96.7	40	140				
1,3-Dichlorobenzene	37.6	0.500	40.00	0	93.9	0.01	172				
1,4-Dichlorobenzene	37.8	0.500	40.00	0	94.4	20	124				
2,4,6-Trichlorophenol	37.2	0.500	40.00	0	93.1	37	144				
2,4-Dichlorophenol	34.6	0.500	40.00	0	86.4	39	135				
2,4-Dimethylphenol	34.5	0.500	40.00	0	86.3	32	119				
2,4-Dinitrophenol	36.9	0.500	40.00	0	92.2	0.01	191				
2,4-Dinitrotoluene	42.6	0.500	40.00	0	107	39	139				
2,6-Dinitrotoluene	42.8	0.500	40.00	0	107	30	158				
2-Chloronaphthalene	38.5	0.500	40.00	0	96.3	30	118				
2-Chlorophenol	39.4	0.500	40.00	0	98.5	23	134				
2-Methylphenol	34.5	0.500	40.00	0	86.3	30	120				
2-Nitrophenol	33.2	0.500	40.00	0	82.9	29	182				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	40.4	0.500	40.00	0	101	0.01	262				
3,4-Methylphenol	34.7	1.00	40.00	0	86.9	30	120				
4,6-Dinitro-2-methylphenol	28.8	0.500	40.00	0	71.9	0.01	181				
4-Bromophenyl phenyl ether	29.6	0.500	40.00	0	73.9	33	127				
4-Chloro-3-methylphenol	35.0	0.500	40.00	0	87.4	22	147				
4-Chlorophenyl phenyl ether	31.2	0.500	40.00	0	78.1	25	158				
4-Nitrophenol	19.8	0.500	40.00	0	49.6	0.01	132				
Acenaphthene	39.6	0.500	40.00	0	98.9	37	145				
Acenaphthylene	38.7	0.500	40.00	0	96.7	33	145				
Aniline	34.7	0.500	40.00	0	86.7	16	134				
Anthracene	40.7	0.500	40.00	0	102	27	133				
Azobenzene	38.7	0.500	40.00	0	96.7	70	130				
Benz(a)anthracene	39.9	0.500	40.00	0	99.7	33	143				
Benzdine	10.6	0.500	40.00	0	26.6	0.1	140				
Benzo(a)pyrene	38.9	0.500	40.00	0	97.2	17	163				
Benzo(b)fluoranthene	38.4	0.500	40.00	0	96.0	24	159				
Benzo(g,h,i)perylene	38.8	0.500	40.00	0	97.1	0.01	219				
Benzo(k)fluoranthene	38.7	0.500	40.00	0	96.8	11	162				
Benzoic Acid	6.73	5.00	40.00	0	16.8	0	250				
Bis(2-chloroethoxy)methane	30.1	0.500	40.00	0	75.3	33	184				
Bis(2-chloroethyl)ether	40.2	0.500	40.00	0	101	12	158				
Bis(2-chloroisopropyl)ether	31.1	0.500	40.00	0	77.8	20	140				
Bis(2-ethylhexyl)phthalate	29.3	0.500	40.00	0	73.3	8	158				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	44.4	0.500	40.00	0	111	0.01	152				
Carbazole	40.1	0.500	40.00	0	100	23	131				
Chrysene	40.4	0.500	40.00	0	101	17	168				
Dibenz(a,h)anthracene	40.8	0.500	40.00	0	102	0.01	224				
Diethyl phthalate	41.8	0.500	40.00	0	105	0.01	114				
Dimethyl phthalate	41.7	0.500	40.00	0	104	0.01	112				
Di-n-butyl phthalate	42.0	0.500	40.00	0	105	1	118				
Di-n-octyl phthalate	43.7	0.500	40.00	0	109	4	146				
Fluoranthene	42.9	0.500	40.00	0	107	26	137				
Fluorene	39.9	0.500	40.00	0	99.7	19	121				
Hexachlorobenzene	40.4	0.500	40.00	0	101	0.01	152				
Hexachlorobutadiene	33.9	0.500	40.00	0	84.8	24	116				
Hexachlorocyclopentadiene	34.5	0.500	40.00	0	86.3	10	110				
Hexachloroethane	36.7	0.500	40.00	0	91.8	40	143				
Indeno(1,2,3-cd)pyrene	40.7	0.500	40.00	0	102	0.01	171				
Isophorone	37.5	0.500	40.00	0	93.8	21	196				
Naphthalene	34.7	0.500	40.00	0	86.8	35	133				
Nitrobenzene	37.7	0.500	40.00	0	94.3	14	150				
N-Nitrosodimethylamine	24.4	0.500	40.00	0	60.9	0.01	250				
N-Nitrosodi-n-propylamine	30.4	0.500	40.00	0	76.1	0.01	230				
N-Nitrosodiphenylamine	40.7	0.500	40.00	0	102	0.01	133				
Pentachlorophenol	23.0	0.500	40.00	0	57.6	24	176				
Phenanthrene	40.7	0.500	40.00	0	102	5	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532493</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	18.9	0.500	40.00	0	47.2	12	112				
Pyrene	39.5	0.500	40.00	0	98.8	12	115				
Pyridine	9.05	0.500	40.00	0	22.6	13	158				

Sample ID: <b>LCS-18275</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	35.8	0.500	40.00	0	89.5	44	142	34.09	4.92	20	
1,2-Dichlorobenzene	33.6	0.500	40.00	0	84.0	32	129	37.27	10.4	20	
1,2-Diphenylhydrazine	39.3	0.500	40.00	0	98.2	40	140	38.68	1.51	20	
1,3-Dichlorobenzene	33.0	0.500	40.00	0	82.4	0.01	172	37.56	13.0	20	
1,4-Dichlorobenzene	35.6	0.500	40.00	0	89.1	20	124	37.76	5.75	20	
2,4,6-Trichlorophenol	44.5	0.500	40.00	0	111	37	144	37.23	17.9	20	
2,4-Dichlorophenol	38.1	0.500	40.00	0	95.2	39	135	34.56	9.74	20	
2,4-Dimethylphenol	37.0	0.500	40.00	0	92.5	32	119	34.53	6.88	20	
2,4-Dinitrophenol	39.2	0.500	40.00	0	98.0	0.01	191	36.88	6.12	20	
2,4-Dinitrotoluene	44.3	0.500	40.00	0	111	39	139	42.64	3.80	20	
2,6-Dinitrotoluene	45.6	0.500	40.00	0	114	30	158	42.77	6.36	20	
2-Chloronaphthalene	40.2	0.500	40.00	0	100	30	118	38.52	4.24	20	
2-Chlorophenol	38.2	0.500	40.00	0	95.5	23	134	39.40	3.07	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18275	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: LCSS02	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	33.2	0.500	40.00	0	82.9	30	120	34.53	4.05	20	
2-Nitrophenol	34.9	0.500	40.00	0	87.3	29	182	33.16	5.17	20	
3,3'-Dichlorobenzidine	43.0	0.500	40.00	0	108	0.01	262	40.43	6.23	20	
3,4-Methylphenol	29.8	1.00	40.00	0	74.6	30	120	34.74	15.1	20	
4,6-Dinitro-2-methylphenol	31.5	0.500	40.00	0	78.7	0.01	181	28.77	8.96	20	
4-Bromophenyl phenyl ether	30.6	0.500	40.00	0	76.5	33	127	29.56	3.42	20	
4-Chloro-3-methylphenol	34.4	0.500	40.00	0	85.9	22	147	34.97	1.76	20	
4-Chlorophenyl phenyl ether	31.1	0.500	40.00	0	77.7	25	158	31.24	0.513	20	
4-Nitrophenol	21.4	0.500	40.00	0	53.5	0.01	132	19.83	7.62	20	
Acenaphthene	42.5	0.500	40.00	0	106	37	145	39.55	7.19	20	
Acenaphthylene	40.1	0.500	40.00	0	100	33	145	38.67	3.53	20	
Aniline	31.6	0.500	40.00	0	79.0	16	134	34.67	9.33	20	
Anthracene	42.1	0.500	40.00	0	105	27	133	40.68	3.45	20	
Azobenzene	39.3	0.500	40.00	0	98.2	70	130	38.68	1.51	0	
Benz(a)anthracene	41.6	0.500	40.00	0	104	33	143	39.87	4.34	20	
Benzidine	9.35	0.500	40.00	0	23.4	0.1	140	10.63	12.8	20	
Benzo(a)pyrene	39.8	0.500	40.00	0	99.4	17	163	38.87	2.26	20	
Benzo(b)fluoranthene	40.6	0.500	40.00	0	101	24	159	38.39	5.52	20	
Benzo(g,h,i)perylene	40.6	0.500	40.00	0	102	0.01	219	38.83	4.58	20	
Benzo(k)fluoranthene	36.3	0.500	40.00	0	90.8	11	162	38.72	6.37	20	
Benzoic Acid	6.52	5.00	40.00	0	16.3	0	250	6.730	3.17	20	
Bis(2-chloroethoxy)methane	31.2	0.500	40.00	0	77.9	33	184	30.11	3.43	20	
Bis(2-chloroethyl)ether	36.8	0.500	40.00	0	92.0	12	158	40.22	8.83	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCSD-18275</b>	SampType: <b>LCSD</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	30.2	0.500	40.00	0	75.5	20	140	31.14	3.03	20	
Bis(2-ethylhexyl)phthalate	29.8	0.500	40.00	0	74.6	8	158	29.32	1.79	20	
Butyl benzyl phthalate	46.0	0.500	40.00	0	115	0.01	152	44.41	3.54	20	
Carbazole	41.8	0.500	40.00	0	104	23	131	40.08	4.08	20	
Chrysene	42.0	0.500	40.00	0	105	17	168	40.36	3.91	20	
Dibenz(a,h)anthracene	42.7	0.500	40.00	0	107	0.01	224	40.83	4.48	20	
Diethyl phthalate	43.0	0.500	40.00	0	108	0.01	114	41.81	2.88	20	
Dimethyl phthalate	42.6	0.500	40.00	0	106	0.01	112	41.67	2.09	20	
Di-n-butyl phthalate	42.5	0.500	40.00	0	106	1	118	42.05	1.09	20	
Di-n-octyl phthalate	46.2	0.500	40.00	0	115	4	146	43.70	5.48	20	
Fluoranthene	44.4	0.500	40.00	0	111	26	137	42.88	3.57	20	
Fluorene	41.5	0.500	40.00	0	104	19	121	39.86	3.96	20	
Hexachlorobenzene	43.0	0.500	40.00	0	108	0.01	152	40.38	6.38	20	
Hexachlorobutadiene	34.7	0.500	40.00	0	86.7	24	116	33.90	2.27	20	
Hexachlorocyclopentadiene	34.0	0.500	40.00	0	85.0	10	110	34.53	1.49	20	
Hexachloroethane	32.8	0.500	40.00	0	82.0	40	143	36.72	11.3	20	
Indeno(1,2,3-cd)pyrene	42.3	0.500	40.00	0	106	0.01	171	40.74	3.66	20	
Isophorone	37.9	0.500	40.00	0	94.6	21	196	37.51	0.929	20	
Naphthalene	36.1	0.500	40.00	0	90.2	21	133	34.70	3.93	20	
Nitrobenzene	40.8	0.500	40.00	0	102	35	180	37.70	7.97	20	
N-Nitrosodimethylamine	26.0	0.500	40.00	0	65.0	0.01	230	24.37	6.40	20	
N-Nitrosodi-n-propylamine	31.4	0.500	40.00	0	78.6	0.01	250	30.45	3.20	20	
N-Nitrosodiphenylamine	44.0	0.500	40.00	0	110	0.01	250	40.69	7.88	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCSD-18275</b>	SampType: <b>LCSD</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532494</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	25.3	0.500	40.00	0	63.3	14	176	23.02	9.56	20	
Phenanthrene	42.3	0.500	40.00	0	106	24	120	40.70	3.88	20	
Phenol	18.0	0.500	40.00	0	44.9	5	112	18.88	4.99	20	
Pyrene	41.0	0.500	40.00	0	102	12	115	39.50	3.70	20	
Pyridine	9.43	0.500	40.00	0	23.6	13	158	9.050	4.11	20	

Sample ID: <b>2107227-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	40.1	0.613	49.02	0	81.8	44	142				
1,2-Dichlorobenzene	37.2	0.613	49.02	0	75.9	32	129				
1,2-Diphenylhydrazine	44.9	0.613	49.02	0	91.7	40	140				
1,3-Dichlorobenzene	36.8	0.613	49.02	0	75.1	0.01	172				
1,4-Dichlorobenzene	38.2	0.613	49.02	0	77.8	20	124				
2,4,6-Trichlorophenol	47.2	0.613	49.02	0	96.3	37	144				
2,4-Dichlorophenol	40.0	0.613	49.02	0	81.5	39	135				
2,4-Dimethylphenol	36.6	0.613	49.02	0	74.7	32	119				
2,4-Dinitrophenol	39.4	0.613	49.02	0	80.3	0.01	191				
2,4-Dinitrotoluene	52.9	0.613	49.02	0	108	39	139				
2,6-Dinitrotoluene	52.5	0.613	49.02	0	107	30	158				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2107227-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloronaphthalene	42.7	0.613	49.02	0	87.0	30	118				
2-Chlorophenol	40.3	0.613	49.02	0	82.2	23	134				
2-Methylphenol	34.8	0.613	49.02	0	71.1	30	120				
2-Nitrophenol	42.4	0.613	49.02	0	86.5	29	182				
3,3'-Dichlorobenzidine	46.8	0.613	49.02	0	95.4	0.01	262				
3,4-Methylphenol	31.5	1.23	49.02	0	64.2	30	120				
4,6-Dinitro-2-methylphenol	36.6	0.613	49.02	0	74.7	0.01	181				
4-Bromophenyl phenyl ether	34.9	0.613	49.02	0	71.3	33	127				
4-Chloro-3-methylphenol	40.9	0.613	49.02	0	83.4	22	147				
4-Chlorophenyl phenyl ether	33.7	0.613	49.02	0	68.7	25	158				
4-Nitrophenol	31.6	0.613	49.02	0	64.6	0.01	132				
Acenaphthene	43.8	0.613	49.02	0	89.4	37	145				
Acenaphthylene	42.6	0.613	49.02	0	86.8	33	145				
Aniline	36.4	0.613	49.02	0	74.2	16	134				
Anthracene	49.4	0.613	49.02	0	101	27	133				
Azobenzene	44.9	0.613	49.02	0	91.7	70	130				
Benz(a)anthracene	48.5	0.613	49.02	0	99.0	33	143				
Benzidine	11.7	0.613	49.02	0	23.8	0.1	140				
Benzo(a)pyrene	46.5	0.613	49.02	0	94.8	17	163				
Benzo(b)fluoranthene	46.3	0.613	49.02	0	94.4	24	159				
Benzo(g,h,i)perylene	47.7	0.613	49.02	0	97.3	0.01	219				
Benzo(k)fluoranthene	43.4	0.613	49.02	0	88.6	11	162				
Benzoic Acid	8.08	6.13	49.02	0	16.5	0	250				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107227-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532497						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	37.0	0.613	49.02	0	75.4	33	184				
Bis(2-chloroethyl)ether	40.4	0.613	49.02	0	82.5	12	158				
Bis(2-chloroisopropyl)ether	39.5	0.613	49.02	0	80.6	20	140				
Bis(2-ethylhexyl)phthalate	38.2	0.613	49.02	0	78.0	8	158				
Butyl benzyl phthalate	55.1	0.613	49.02	0	112	0.01	152				
Carbazole	49.3	0.613	49.02	0	100	23	131				
Chrysene	49.4	0.613	49.02	0	101	17	168				
Dibenz(a,h)anthracene	49.5	0.613	49.02	0	101	0.01	224				
Diethyl phthalate	50.7	0.613	49.02	0	104	0.01	114				
Dimethyl phthalate	48.0	0.613	49.02	0	97.9	0.01	112				
Di-n-butyl phthalate	51.3	0.613	49.02	0	105	1	118				
Di-n-octyl phthalate	56.1	0.613	49.02	0	114	4	146				
Fluoranthene	51.6	0.613	49.02	0	105	26	137				
Fluorene	46.6	0.613	49.02	0	95.1	19	121				
Hexachlorobenzene	48.2	0.613	49.02	0	98.4	0.01	152				
Hexachlorobutadiene	40.1	0.613	49.02	0	81.8	24	116				
Hexachlorocyclopentadiene	47.9	0.613	49.02	0	97.7	10	110				
Hexachloroethane	36.2	0.613	49.02	0	73.8	40	143				
Indeno(1,2,3-cd)pyrene	48.8	0.613	49.02	0	99.5	0.01	171				
Isophorone	39.8	0.613	49.02	0	81.3	21	196				
Naphthalene	42.0	0.613	49.02	0	85.7	21	133				
Nitrobenzene	43.2	0.613	49.02	0	88.0	35	180				
N-Nitrosodimethylamine	25.5	0.613	49.02	0	51.9	0.01	230				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2107227-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/28/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532497</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	37.5	0.613	49.02	0	76.5	0.01	250				
N-Nitrosodiphenylamine	50.0	0.613	49.02	0	102	0.01	250				
Pentachlorophenol	45.2	0.613	49.02	0	92.3	14	176				
Phenanthrene	49.2	0.613	49.02	0	100	24	120				
Phenol	16.8	0.613	49.02	0	34.2	5	112				
Pyrene	46.9	0.613	49.02	0	95.8	12	115				
Pyridine	21.4	0.613	49.02	0	43.6	13	158				

Sample ID: <b>2107226-002DMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>7/29/2021</b>	RunNo: <b>41432</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532498</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	29.5	0.502	40.12	0	73.6	44	142				
1,2-Dichlorobenzene	26.1	0.502	40.12	0	65.1	32	129				
1,2-Diphenylhydrazine	37.3	0.502	40.12	0	93.0	40	140				
1,3-Dichlorobenzene	25.5	0.502	40.12	0	63.6	0.01	172				
1,4-Dichlorobenzene	26.7	0.502	40.12	0	66.6	20	124				
2,4,6-Trichlorophenol	43.6	0.502	40.12	0	109	37	144				
2,4-Dichlorophenol	37.8	0.502	40.12	0	94.1	39	135				
2,4-Dimethylphenol	28.9	0.502	40.12	0	72.0	32	119				
2,4-Dinitrophenol	32.3	0.502	40.12	0	80.4	0.01	191				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	44.0	0.502	40.12	0	110	39	139				
2,6-Dinitrotoluene	39.6	0.502	40.12	0	98.6	30	158				
2-Chloronaphthalene	34.8	0.502	40.12	0	86.8	30	118				
2-Chlorophenol	32.3	0.502	40.12	0	80.4	23	134				
2-Methylphenol	26.0	0.502	40.12	0	64.7	30	120				
2-Nitrophenol	37.2	0.502	40.12	0	92.7	29	182				
3,3'-Dichlorobenzidine	40.0	0.502	40.12	0	99.6	0.01	262				
3,4-Methylphenol	22.2	1.00	40.12	0	55.3	30	120				
4,6-Dinitro-2-methylphenol	30.7	0.502	40.12	0	76.4	0.01	181				
4-Bromophenyl phenyl ether	31.2	0.502	40.12	0	77.9	33	127				
4-Chloro-3-methylphenol	34.1	0.502	40.12	0	85.1	22	147				
4-Chlorophenyl phenyl ether	29.6	0.502	40.12	0	73.9	25	158				
4-Nitrophenol	18.0	0.502	40.12	0	44.8	0.01	132				
Acenaphthene	38.4	0.502	40.12	0	95.6	37	145				
Acenaphthylene	35.9	0.502	40.12	0	89.5	33	145				
Aniline	25.5	0.502	40.12	0	63.6	16	134				
Anthracene	41.1	0.502	40.12	0	103	27	133				
Azobenzene	37.3	0.502	40.12	0	93.0	70	130				
Benz(a)anthracene	40.5	0.502	40.12	0	101	33	143				
Benzidine	8.20	0.502	40.12	0	20.4	0.1	140				
Benzo(a)pyrene	37.7	0.502	40.12	0	94.0	17	163				
Benzo(b)fluoranthene	38.7	0.502	40.12	0	96.5	24	159				
Benzo(g,h,i)perylene	38.8	0.502	40.12	0	96.7	0.01	219				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	38.9	0.502	40.12	0	96.9	11	162				
Benzoic Acid	5.51	5.02	40.12	0	13.7	0	250				
Bis(2-chloroethoxy)methane	30.4	0.502	40.12	0	75.8	33	184				
Bis(2-chloroethyl)ether	31.6	0.502	40.12	0	78.8	12	158				
Bis(2-chloroisopropyl)ether	31.1	0.502	40.12	0	77.6	20	140				
Bis(2-ethylhexyl)phthalate	32.6	0.502	40.12	0	81.2	8	158				
Butyl benzyl phthalate	46.3	0.502	40.12	0	115	0.01	152				
Carbazole	40.0	0.502	40.12	0	99.7	23	131				
Chrysene	41.0	0.502	40.12	0	102	17	168				
Dibenz(a,h)anthracene	40.7	0.502	40.12	0	102	0.01	224				
Diethyl phthalate	41.8	0.502	40.12	0	104	0.01	114				
Dimethyl phthalate	41.1	0.502	40.12	0	102	0.01	112				
Di-n-butyl phthalate	41.7	0.502	40.12	0	104	1	118				
Di-n-octyl phthalate	47.2	0.502	40.12	0	118	4	146				
Fluoranthene	42.1	0.502	40.12	0	105	26	137				
Fluorene	39.0	0.502	40.12	0	97.3	19	121				
Hexachlorobenzene	41.5	0.502	40.12	0	103	0.01	152				
Hexachlorobutadiene	27.0	0.502	40.12	0	67.2	24	116				
Hexachlorocyclopentadiene	38.9	0.502	40.12	0	97.0	10	110				
Hexachloroethane	24.4	0.502	40.12	0	60.9	40	143				
Indeno(1,2,3-cd)pyrene	40.2	0.502	40.12	0	100	0.01	171				
Isophorone	33.3	0.502	40.12	0	83.0	21	196				
Naphthalene	30.7	0.502	40.12	0	76.4	21	133				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2107226-002DMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/29/2021	RunNo: 41432						
Client ID: BatchQC	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532498						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	35.2	0.502	40.12	0	87.9	35	180				
N-Nitrosodimethylamine	18.8	0.502	40.12	0	46.8	0.01	230				
N-Nitrosodi-n-propylamine	30.0	0.502	40.12	0	74.7	0.01	250				
N-Nitrosodiphenylamine	42.4	0.502	40.12	0	106	0.01	250				
Pentachlorophenol	40.5	0.502	40.12	0	101	14	176				
Phenanthrene	40.9	0.502	40.12	0	102	24	120				
Phenol	12.8	0.502	40.12	0	32.0	5	112				
Pyrene	39.6	0.502	40.12	0	98.8	12	115				
Pyridine	8.10	0.502	40.12	0	20.2	13	158				

Sample ID: CCV MSSWS-2000	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCV	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532509						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Dichlorobenzene	20.0	0.500	20.00	0	100	80	120				
1,2-Diphenylhydrazine	20.0	0.500	20.00	0	100	80	120				
1,3-Dichlorobenzene	20.2	0.500	20.00	0	101	80	120				
1,4-Dichlorobenzene	20.0	0.500	20.00	0	99.8	80	120				
2,4,6-Trichlorophenol	19.2	0.500	20.00	0	95.9	80	120				
2,4-Dichlorophenol	19.4	0.500	20.00	0	97.0	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dimethylphenol	19.8	0.500	20.00	0	99.0	80	120				
2,4-Dinitrophenol	20.1	0.500	20.00	0	101	80	120				
2,4-Dinitrotoluene	20.0	0.500	20.00	0	99.9	80	120				
2,6-Dinitrotoluene	19.9	0.500	20.00	0	99.4	80	120				
2-Chloronaphthalene	20.0	0.500	20.00	0	100	80	120				
2-Chlorophenol	20.0	0.500	20.00	0	99.8	80	120				
2-Methylphenol	20.1	0.500	20.00	0	101	80	120				
2-Nitrophenol	20.0	0.500	20.00	0	100	80	120				
3,3'-Dichlorobenzidine	19.6	0.500	20.00	0	97.9	80	120				
3,4-Methylphenol	20.1	1.00	20.00	0	100	80	120				
4-Bromophenyl phenyl ether	19.1	0.500	20.00	0	95.6	80	120				
4-Chloro-3-methylphenol	19.8	0.500	20.00	0	99.1	80	120				
4-Chlorophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Nitrophenol	19.4	0.500	20.00	0	96.8	80	120				
Acenaphthene	20.0	0.500	20.00	0	99.9	80	120				
Acenaphthylene	19.9	0.500	20.00	0	99.7	80	120				
Aniline	20.2	0.500	20.00	0	101	80	120				
Anthracene	20.0	0.500	20.00	0	100	80	120				
Azobenzene	20.0	0.500	20.00	0	100	80	120				
Benz(a)anthracene	20.1	0.500	20.00	0	100	80	120				
Benzidine	18.9	0.500	20.00	0	94.4	80	120				
Benzo(a)pyrene	20.0	0.500	20.00	0	100	80	120				
Benzo(b)fluoranthene	19.6	0.500	20.00	0	97.8	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	19.6	0.500	20.00	0	98.1	80	120				
Benzo(k)fluoranthene	19.9	0.500	20.00	0	99.7	80	120				
Benzoic Acid	21.1	5.00	20.00	0	105	80	120				
Bis(2-chloroethoxy)methane	20.0	0.500	20.00	0	100	80	120				
Bis(2-chloroethyl)ether	19.9	0.500	20.00	0	99.4	80	120				
Bis(2-chloroisopropyl)ether	21.3	0.500	20.00	0	107	80	120				
Bis(2-ethylhexyl)phthalate	20.6	0.500	20.00	0	103	80	120				
Butyl benzyl phthalate	20.0	0.500	20.00	0	100	80	120				
Carbazole	19.9	0.500	20.00	0	99.7	80	120				
Chrysene	20.1	0.500	20.00	0	101	80	120				
Dibenz(a,h)anthracene	19.5	0.500	20.00	0	97.5	80	120				
Diethyl phthalate	20.0	0.500	20.00	0	99.9	80	120				
Dimethyl phthalate	19.8	0.500	20.00	0	99.2	80	120				
Di-n-butyl phthalate	20.2	0.500	20.00	0	101	80	120				
Di-n-octyl phthalate	19.7	0.500	20.00	0	98.6	80	120				
Fluoranthene	20.2	0.500	20.00	0	101	80	120				
Fluorene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobenzene	19.9	0.500	20.00	0	99.6	80	120				
Hexachlorobutadiene	19.7	0.500	20.00	0	98.4	80	120				
Hexachlorocyclopentadiene	19.0	0.500	20.00	0	95.0	80	120				
Hexachloroethane	19.6	0.500	20.00	0	98.2	80	120				
Indeno(1,2,3-cd)pyrene	19.6	0.500	20.00	0	98.1	80	120				
Isophorone	19.9	0.500	20.00	0	99.6	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSSWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532509</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	19.9	0.500	20.00	0	99.4	80	120				
Nitrobenzene	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodimethylamine	19.7	0.500	20.00	0	98.7	80	120				
N-Nitrosodi-n-propylamine	18.8	0.500	20.00	0	93.8	80	120				
N-Nitrosodiphenylamine	20.0	0.500	20.00	0	100	80	120				
Pentachlorophenol	19.5	0.500	20.00	0	97.3	80	120				
Phenanthrene	20.0	0.500	20.00	0	100	80	120				
Phenol	20.7	0.500	20.00	0	104	80	120				
Pyrene	20.4	0.500	20.00	0	102	80	120				
Pyridine	19.3	0.500	20.00	0	96.5	80	120				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41432</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18275</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>7/31/2021</b>	SeqNo: <b>532510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	100		100.0		100	33.1	125				
Surr: 2-Fluorobiphenyl	92.0		100.0		92.0	33.1	96.2				
Surr: 2-Fluorophenol	48.0		100.0		48.0	13.4	57.1				
Surr: 4-Terphenyl-d14	125		100.0		125	41	135				
Surr: Nitrobenzene-d5	90.9		100.0		90.9	28.9	99.9				
Surr: Phenol-d6	26.0		100.0		26.0	10.6	38.5				

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>CCV1-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530890</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	255	10.0	250.0	0	102	90	110				

Sample ID: <b>MB-R41311</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530891</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>LCS-R41311</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530892</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	251	10.0	250.0	0	100	87.5	111				

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	243	10.0	100.0	147.0	96.0	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107151-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530895</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107151-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530896</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	250	10.0	100.0	147.0	103	80	120	243.0	2.84	20	

Sample ID: <b>CCV2-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530901</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	215	10.0	200.0	0	108	90	110				

Sample ID: <b>2107227-004CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530904</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	178.0	97.0	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-004CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530905</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	280	10.0	100.0	178.0	102	80	120	275.0	1.80	20	

Sample ID: <b>CCV3-R41311</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41311</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41311</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	210	10.0	200.0	0	105	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41331</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41331</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41331</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531114</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41331</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41331</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41331</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531115</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	160	2.00	171.0	0	93.9	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41333</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41333</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41333</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531117</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41333</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41333</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41333</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>531118</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	176.8	2.0	198.0	0	89.3	84	116				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41306</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530837</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0547	0.00500	0.05000	0	109	90	110				

Sample ID: <b>MB-R41306</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530839</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41306</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530840</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0906	0.00500	0.1000	0	90.6	80	120				

Sample ID: <b>2107216-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0506	0.00500	0.05000	0.005898	89.5	67.9	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530841</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530842</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0490	0.00500	0.05000	0.005898	86.2	67.9	120	0.05065	3.35	20	

Sample ID: <b>CCV1-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530846</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0982	0.00500	0.1000	0	98.2	90	110				

Sample ID: <b>CCV2-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530857</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0969	0.00500	0.1000	0	96.9	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2107264-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530858</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0574	0.00500	0.05000	0.01904	76.7	67.9	120				

Sample ID: <b>2107264-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530859</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0577	0.00500	0.05000	0.01904	77.3	67.9	120	0.05739	0.540	20	

Sample ID: <b>CCV4-R41306</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41306</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41306</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/3/2021</b>	SeqNo: <b>530864</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0979	0.00500	0.1000	0	97.9	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41458</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532907</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41458</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	90	110				

Sample ID: <b>2107226-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532911</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	10.35	80.3	75	125				

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	43.4	5.00	50.00	10.35	66.0	75	125	50.49	15.2	20	SMI

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107207-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532914</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	4.105	85.6	75	125				

Sample ID: <b>2107207-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532915</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	4.105	89.2	75	125	46.92	3.73	20	

Sample ID: <b>CCV1-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532917</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107219-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532922</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	51.4	5.00	50.00	4.105	94.6	75	125				

Sample ID: <b>2107219-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532923</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	53.2	5.00	50.00	4.105	98.1	75	125	51.38	3.41	20	

Sample ID: <b>CCV2-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532928</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	49.6	5.00	50.00	0	99.2	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531596</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.3	0.200	33.08	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531597</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	32.8	0.200	33.08	0	99.3	90	110				

Sample ID: <b>MB-18305</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531598</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	29.4	0.200	33.08	0	89.0	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18305</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531599</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107216-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531601</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	58.7	0.200						58.00	1.22	20	

Sample ID: <b>2107216-004AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531602</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	91.2	0.200	33.08	58.00	100	80	120				

Sample ID: <b>2107216-004AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41357</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531603</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	89.6	0.200	33.08	58.00	95.5	80	120	91.24	1.81	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531606</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.5	0.200	33.08	0	101	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41357</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18305</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531612</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.3	0.200	33.08	0	101	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.982	0.0200	1.000	0	98.2	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode: P-TOTAL**

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41261</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530309</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41261</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530310</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	114	1.00	100.0	0	114	85	115				

Sample ID: <b>2107227-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41261</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41261</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>7/29/2021</b>	SeqNo: <b>530312</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	3.20	1.00						3.040	5.13	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV3-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532272</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246

8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41301</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530760</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41301</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530761</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1120	5.00	1000	0	112	80	120				

Sample ID: <b>2107216-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41301</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41301</b>	TestNo: <b>E1684</b>	Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530763</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	624	5.00						625.0	0.160	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2107246  
8/24/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41278</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41278</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41278</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530477</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41278</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41278</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41278</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530478</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	88.0	10.0	100.0	0	88.0	80	105				

Sample ID: <b>2107246-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41278</b>						
Client ID: <b>Parkway Comp</b>	Batch ID: <b>R41278</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>7/30/2021</b>	SeqNo: <b>530480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	270	10.0						240.0	11.8	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



Specialty Analytical  
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# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2107246

RcptNo: 1

Date and Time Received 7/29/2021 11:58:17 AM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date: 7/29/2021

Reviewed Date: 7/30/2021 7:46:56 AM

Carrier name: SA

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To          | 2.3 °C                              |
| Water - Were bubbles absent in VOC vials?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | No Vials    | <input type="checkbox"/>            |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



Specialty Analytical  
9011 SE Jannsen Rd  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: 2107246**

**Work Order Number: 2107495**

August 24, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 1 sample(s) on 7/30/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager



Date: 08/24/2021

---

**CLIENT:** Specialty Analytical  
**Project:** 2107246  
**Work Order:** 2107495

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2107495-001	Parkway Camp	07/29/2021 9:00 AM	07/30/2021 9:20 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

Original



---

**CLIENT:** Specialty Analytical

**Project:** 2107246

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2107495-001A

M-1631-W has been Sub Contracted.





18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2107495

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received one (1) water sample. The sample was logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall".

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2107495-001A	Parkway Camp	2108109-01	Wastewater	Sample	07/29/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922

## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2107495-001A, Parkway Camp</b>										
2108109-01	Hg	Wastewater	TR	80.1		3.42	10.5	ng/L	B212210	S210922



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS5	Matrix Spike (2108109-01) Hg	80.10	526.3	572.0	ng/L	93% 71-125	
B212210-MSD5	Matrix Spike Duplicate (2108109-01) Hg	80.10	526.3	573.6	ng/L	94% 71-125	0.3% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	<b>0.08</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.03</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	

**Project ID:** FMA-SE2101  
**PM:** Amy Goodall



BAL Report 2108109  
**Client PM:** Brianna Barnes  
**Client Project:** Omega COCID 1099

## Sample Containers

**Lab ID:** 2108109-01  
**Sample:** 2107495-001A

**Report Matrix:** Wastewater  
**Sample Type:** Sample

**Collected:** 07/29/2021  
**Received:** 08/09/2021

<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b>	<b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108109

## Shipping Containers

### Cooler - 2108109

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



CHAIN OF CUSTODY RECORD

Omega COCID 1099 PAGE: 1 OF: 1

ADDRESS BAL Report 2108109

Fremont Analytical, Inc.  
3600 Fremont Ave. N.  
Seattle, WA 98103  
TEL: 206-352-3790  
FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>		Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w/brcl.</i>		
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>				
PHONE:	FAX:			EMAIL:
ACCOUNT #:				

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2107495-001A M-1631-W	Parkway Camp	AMBER GLASS 5	Wastewater	7/29/2021 9:00:00 AM	1	

Relinquished By: <i>mmams</i>	Date: <i>8/19/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/19/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	<input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard <input type="checkbox"/> RUSH: Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						Temp of samples _____ °C Attempt to Cool? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	



Client Name: <b>SPECIAL</b>	Work Order Number: <b>2107495</b>
Logged by: <b>Gabrielle Coeuille</b>	Date Received: <b>7/30/2021 9:20:00 AM</b>

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* Unknown prior to receipt Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample 1	22.9

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Dient: Specialty Analytical

Address:

City, State, Zip:

Telephone:

Date: \_\_\_\_\_ Page: 1 of 1

Project Name: 2107246

Project No: \_\_\_\_\_ PO No: \_\_\_\_\_

Collected by:

State Collected: OR WA OTHER

Report To (PM): Judie Day + Martin French

AP Email: mandy@specialtyanalytical.com PM Email: Judie@specialtyanalytical.com / Marty@specialtyanalytical.com

Laboratory Project No (Internal): 2107495

Temperature on Receipt: \_\_\_\_\_ °C

Cooling: \_\_\_\_\_ Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

MDL TIER IV EDD

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 Parkway Camp	7-21-21	9AM	WW	1	X	
2						
3						
4						
5						
6						
7						
8						
9						
10						

\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, S = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business): X 3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
Expedited turn-around requests should be coordinated in advance

Relinquished Mia Pam Date/Time 7/29/2021 10:15 am Received Marty Date/Time 7/30 9:20

Relinquished X Date/Time \_\_\_\_\_ Received X Date/Time \_\_\_\_\_

Relinquished X Date/Time \_\_\_\_\_ Received X Date/Time \_\_\_\_\_



9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Chain of Custody Record

Client: Willsonville  
Address:  
City, State, Zip:  
Telephone:

Date: 7.29.21 Page: of  
Project Name: Willsonville  
Project No: 2107246  
PO No: 123°C

Collected by:  
State Collected:  OR  WA  OTHER  
Report To (PM):  
AP Email:  
PM Email:

Laboratory Project No (Internal): 2107246  
Temperature on Receipt:  
Cooling: ice Shipped Via: SA  
Custody Seal: Y / (N) Intact / Broken Cooler / Bottle  
MDL  TIER IV  EDD   
Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G- grab C - composite						
1 Parkway camp	7.29.21	9AM	WW	4	EPA 200.8 Metals <del>SM 3500 CrB</del> Mercury SM 3500 CrB Hex Chrom SM 4500 CN SM 4500 NH3+P EPA 351.1 TRN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S2O Sulfides SM 5210B BOD CBOD SM 25400 TSS EPA 624 VOC VOAS PH, Total, Vol % Solids	
2						
3						
4 TRIP BLANK						
5						
6						
7						
8						
9						
10						

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, S = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
Expedited turn-around requests should be coordinated in advance  
Retinquished: 1-1 Date/Time: 7-29-21 12:21 Date/Time: 7-29-21 10:05am Date/Time: 7-29-21 12:45



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2107246  
Date: 8/24/2021

---

### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT:  At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Definition Only

WO#: 2107246  
Date: 8/24/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

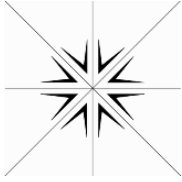
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
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August 27, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2108006

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-001  
**Client Sample ID** 080121LLIG

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
1,2-Dichlorobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
1,2-Diphenylhydrazine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
1,3-Dichlorobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
1,4-Dichlorobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,4,6-Trichlorophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,4-Dichlorophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,4-Dimethylphenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,4-Dinitrophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,4-Dinitrotoluene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2,6-Dinitrotoluene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2-Chloronaphthalene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2-Chlorophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2-Methylphenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
2-Nitrophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
3,3'-Dichlorobenzidine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
3,4-Methylphenol	106	1.23		µg/L	1	8/18/2021 9:24:00 PM
4,6-Dinitro-2-methylphenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
4-Bromophenyl phenyl ether	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
4-Chloro-3-methylphenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
4-Chlorophenyl phenyl ether	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
4-Nitrophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Acenaphthene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Acenaphthylene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Aniline	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Anthracene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Azobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benz(a)anthracene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzidine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzo(a)pyrene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzo(b)fluoranthene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzo(g,h,i)perylene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzo(k)fluoranthene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Benzoic Acid	121	6.17		µg/L	1	8/18/2021 9:24:00 PM
Bis(2-chloroethoxy)methane	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Bis(2-chloroethyl)ether	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Bis(2-chloroisopropyl)ether	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Bis(2-ethylhexyl)phthalate	4.86	0.617		µg/L	1	8/18/2021 9:24:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-001  
**Client Sample ID** 080121LLIG

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1 E625 Analyst: CK**

Butyl benzyl phthalate	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Carbazole	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Chrysene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Dibenz(a,h)anthracene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Diethyl phthalate	2.31	0.617		µg/L	1	8/18/2021 9:24:00 PM
Dimethyl phthalate	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Di-n-butyl phthalate	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Di-n-octyl phthalate	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Fluoranthene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Fluorene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Hexachlorobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Hexachlorobutadiene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Hexachlorocyclopentadiene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Hexachloroethane	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Isophorone	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Naphthalene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Nitrobenzene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
N-Nitrosodimethylamine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
N-Nitrosodi-n-propylamine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
N-Nitrosodiphenylamine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Pentachlorophenol	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Phenanthrene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Phenol	16.1	0.617		µg/L	1	8/18/2021 9:24:00 PM
Pyrene	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Pyridine	ND	0.617		µg/L	1	8/18/2021 9:24:00 PM
Surr: 2,4,6-Tribromophenol	97.4	33.1 - 129.7		%Rec	1	8/18/2021 9:24:00 PM
Surr: 2-Fluorobiphenyl	116	33.1 - 126.2		%Rec	1	8/18/2021 9:24:00 PM
Surr: 2-Fluorophenol	44.7	13.4 - 127.1		%Rec	1	8/18/2021 9:24:00 PM
Surr: 4-Terphenyl-d14	98.2	41 - 122		%Rec	1	8/18/2021 9:24:00 PM
Surr: Nitrobenzene-d5	113	28.9 - 129.9		%Rec	1	8/18/2021 9:24:00 PM
Surr: Phenol-d6	34.3	10.6 - 128.5		%Rec	1	8/18/2021 9:24:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1 Analyst: CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville

**Collection Date:** 8/1/2021 9:00:00 AM

**Project:** Wilsonville

**Lab ID:** 2108006-001

**Matrix:** WASTE WATER

**Client Sample ID** 080121LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 6:36:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 6:36:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 6:36:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 6:36:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Chloroform	1.29	0.500		µg/L	1	8/9/2021 6:36:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
m,p-Xylene	1.99	1.00		µg/L	1	8/9/2021 6:36:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 6:36:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Toluene	1.94	0.500		µg/L	1	8/9/2021 6:36:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 6:36:00 PM
Surr: 1,2-Dichloroethane-d4	85.4	83.4 - 126		%Rec	1	8/9/2021 6:36:00 PM
Surr: 4-Bromofluorobenzene	104	80.9 - 127		%Rec	1	8/9/2021 6:36:00 PM
Surr: Dibromofluoromethane	96.3	81.1 - 122		%Rec	1	8/9/2021 6:36:00 PM
Surr: Toluene-d8	89.9	80 - 120		%Rec	1	8/9/2021 6:36:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-001  
**Client Sample ID** 080121LLIG

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:32:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00714	0.00500		mg/L	1	8/12/2021 3:07:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:06:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	639	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-002  
**Client Sample ID** 080221LLIC

**Collection Date:** 8/2/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	310	10.0		µg/L	1	8/5/2021 10:24:37 AM
Antimony	0.841	0.500		µg/L	1	8/5/2021 10:24:37 AM
Arsenic	1.14	0.100		µg/L	1	8/5/2021 10:24:37 AM
Cadmium	0.138	0.100		µg/L	1	8/5/2021 10:24:37 AM
Chromium	1.36	0.100		µg/L	1	8/5/2021 10:24:37 AM
Copper	42.9	0.500		µg/L	1	8/5/2021 10:24:37 AM
Iron	416	50.0		µg/L	1	8/5/2021 10:24:37 AM
Lead	0.929	0.100		µg/L	1	8/5/2021 10:24:37 AM
Molybdenum	3.24	0.500		µg/L	1	8/5/2021 10:24:37 AM
Nickel	2.43	0.500		µg/L	1	8/5/2021 10:24:37 AM
Potassium	14200	100		µg/L	1	8/5/2021 10:24:37 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:24:37 AM
Silver	0.215	0.100		µg/L	1	8/5/2021 10:24:37 AM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:24:37 AM
Zinc	150	2.00		µg/L	1	8/5/2021 10:24:37 AM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	57.1	0.200		mg/L	1	8/5/2021 10:24:37 AM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	256	2.00		mg/L	1	8/3/2021 4:23:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	236.0	2.0		mg/L	1	8/3/2021 12:10:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	200	10.0		mg/L CaCO3	1	8/5/2021 1:00:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	39.3	0.400		mg/L	20	8/6/2021 12:35:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	5.03	0.200		mg/L	10	8/6/2021 3:46:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	58.0	1.00		mg/L	5	8/11/2021 5:03:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	246	10.0		mg/L	1	8/4/2021 12:07:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-003  
**Client Sample ID** 080121LLEG

**Collection Date:** 8/1/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
1,2-Dichlorobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
1,2-Diphenylhydrazine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
1,3-Dichlorobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
1,4-Dichlorobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,4,6-Trichlorophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,4-Dichlorophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,4-Dimethylphenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,4-Dinitrophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,4-Dinitrotoluene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2,6-Dinitrotoluene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2-Chloronaphthalene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2-Chlorophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2-Methylphenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
2-Nitrophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
3,3'-Dichlorobenzidine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
3,4-Methylphenol	ND	1.23		µg/L	1	8/18/2021 8:23:00 PM
4,6-Dinitro-2-methylphenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
4-Bromophenyl phenyl ether	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
4-Chloro-3-methylphenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
4-Chlorophenyl phenyl ether	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
4-Nitrophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Acenaphthene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Acenaphthylene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Aniline	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Anthracene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Azobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benz(a)anthracene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzidine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzo(a)pyrene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzo(b)fluoranthene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzo(g,h,i)perylene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzo(k)fluoranthene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Benzoic Acid	ND	6.13		µg/L	1	8/18/2021 8:23:00 PM
Bis(2-chloroethoxy)methane	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Bis(2-chloroethyl)ether	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Bis(2-chloroisopropyl)ether	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Bis(2-ethylhexyl)phthalate	1.10	0.613		µg/L	1	8/18/2021 8:23:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-003  
**Client Sample ID** 080121LLEG

**Collection Date:** 8/1/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Carbazole	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Chrysene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Dibenz(a,h)anthracene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Diethyl phthalate	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Dimethyl phthalate	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Di-n-butyl phthalate	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Di-n-octyl phthalate	1.38	0.613		µg/L	1	8/18/2021 8:23:00 PM
Fluoranthene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Fluorene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Hexachlorobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Hexachlorobutadiene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Hexachlorocyclopentadiene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Hexachloroethane	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Isophorone	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Naphthalene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Nitrobenzene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
N-Nitrosodimethylamine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
N-Nitrosodi-n-propylamine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
N-Nitrosodiphenylamine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Pentachlorophenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Phenanthrene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Phenol	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Pyrene	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Pyridine	ND	0.613		µg/L	1	8/18/2021 8:23:00 PM
Surr: 2,4,6-Tribromophenol	61.6	33.1 - 129.7		%Rec	1	8/18/2021 8:23:00 PM
Surr: 2-Fluorobiphenyl	17.2	33.1 - 126.2	SMI	%Rec	1	8/18/2021 8:23:00 PM
Surr: 2-Fluorophenol	31.8	13.4 - 127.1		%Rec	1	8/18/2021 8:23:00 PM
Surr: 4-Terphenyl-d14	61.8	41 - 122		%Rec	1	8/18/2021 8:23:00 PM
Surr: Nitrobenzene-d5	59.4	28.9 - 129.9		%Rec	1	8/18/2021 8:23:00 PM
Surr: Phenol-d6	27.6	10.6 - 128.5		%Rec	1	8/18/2021 8:23:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-003  
**Client Sample ID** 080121LLEG

**Collection Date:** 8/1/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 6:58:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 6:58:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 6:58:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 6:58:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 6:58:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 6:58:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Toluene	1.28	0.500		µg/L	1	8/9/2021 6:58:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 6:58:00 PM
Surr: 1,2-Dichloroethane-d4	87.7	83.4 - 126		%Rec	1	8/9/2021 6:58:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 6:58:00 PM
Surr: Dibromofluoromethane	98.3	81.1 - 122		%Rec	1	8/9/2021 6:58:00 PM
Surr: Toluene-d8	89.0	80 - 120		%Rec	1	8/9/2021 6:58:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville

**Collection Date:** 8/1/2021 9:30:00 AM

**Project:** Wilsonville

**Lab ID:** 2108006-003

**Matrix:** WASTE WATER

**Client Sample ID** 080121LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:33:19 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 3:12:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:16:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	242	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-004  
**Client Sample ID** 080221LLEC

**Collection Date:** 8/2/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	ND	10.0		µg/L	1	8/5/2021 10:28:02 AM
Antimony	ND	0.500		µg/L	1	8/5/2021 10:28:02 AM
Arsenic	0.579	0.100		µg/L	1	8/5/2021 10:28:02 AM
Cadmium	ND	0.100		µg/L	1	8/5/2021 10:28:02 AM
Chromium	0.197	0.100		µg/L	1	8/5/2021 10:28:02 AM
Copper	2.08	0.500		µg/L	1	8/5/2021 10:28:02 AM
Iron	ND	50.0		µg/L	1	8/5/2021 10:28:02 AM
Lead	0.529	0.100		µg/L	1	8/5/2021 10:28:02 AM
Molybdenum	1.91	0.500		µg/L	1	8/5/2021 10:28:02 AM
Nickel	1.60	0.500		µg/L	1	8/5/2021 10:28:02 AM
Potassium	13100	100		µg/L	1	8/5/2021 10:28:02 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:28:02 AM
Silver	ND	0.100		µg/L	1	8/5/2021 10:28:02 AM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:28:02 AM
Zinc	120	2.00		µg/L	1	8/5/2021 10:28:02 AM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	53.9	0.200		mg/L	1	8/5/2021 10:28:02 AM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	ND	2.00		mg/L	1	8/3/2021 4:23:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	ND	2.0		mg/L	1	8/3/2021 12:10:00 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/5/2021 1:10:25 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	0.366	0.0200		mg/L	1	8/18/2021 1:09:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	0.480	0.200		mg/L	10	8/6/2021 3:47:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG E</b>		Analyst: <b>NK</b>
TKN as N	1.68	0.200		mg/L	1	8/11/2021 3:23:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	8/4/2021 12:09:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
1,2-Dichlorobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
1,2-Diphenylhydrazine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
1,3-Dichlorobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
1,4-Dichlorobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,4,6-Trichlorophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,4-Dichlorophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,4-Dimethylphenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,4-Dinitrophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,4-Dinitrotoluene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2,6-Dinitrotoluene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2-Chloronaphthalene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2-Chlorophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2-Methylphenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
2-Nitrophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
3,3'-Dichlorobenzidine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
3,4-Methylphenol	82.9	1.15		µg/L	1	8/18/2021 9:54:00 PM
4,6-Dinitro-2-methylphenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
4-Bromophenyl phenyl ether	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
4-Chloro-3-methylphenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
4-Chlorophenyl phenyl ether	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
4-Nitrophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Acenaphthene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Acenaphthylene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Aniline	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Anthracene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Azobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benz(a)anthracene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzidine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzo(a)pyrene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzo(b)fluoranthene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzo(g,h,i)perylene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzo(k)fluoranthene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Benzoic Acid	105	5.73		µg/L	1	8/18/2021 9:54:00 PM
Bis(2-chloroethoxy)methane	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Bis(2-chloroethyl)ether	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Bis(2-chloroisopropyl)ether	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Bis(2-ethylhexyl)phthalate	5.32	0.573		µg/L	1	8/18/2021 9:54:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	0.722	0.573		µg/L	1	8/18/2021 9:54:00 PM
Carbazole	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Chrysene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Dibenz(a,h)anthracene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Diethyl phthalate	5.87	0.573		µg/L	1	8/18/2021 9:54:00 PM
Dimethyl phthalate	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Di-n-butyl phthalate	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Di-n-octyl phthalate	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Fluoranthene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Fluorene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Hexachlorobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Hexachlorobutadiene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Hexachlorocyclopentadiene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Hexachloroethane	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Isophorone	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Naphthalene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Nitrobenzene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
N-Nitrosodimethylamine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
N-Nitrosodi-n-propylamine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
N-Nitrosodiphenylamine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Pentachlorophenol	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Phenanthrene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Phenol	10.1	0.573		µg/L	1	8/18/2021 9:54:00 PM
Pyrene	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Pyridine	ND	0.573		µg/L	1	8/18/2021 9:54:00 PM
Surr: 2,4,6-Tribromophenol	91.9	33.1 - 129.7		%Rec	1	8/18/2021 9:54:00 PM
Surr: 2-Fluorobiphenyl	71.1	33.1 - 126.2		%Rec	1	8/18/2021 9:54:00 PM
Surr: 2-Fluorophenol	27.7	13.4 - 127.1		%Rec	1	8/18/2021 9:54:00 PM
Surr: 4-Terphenyl-d14	96.2	41 - 122		%Rec	1	8/18/2021 9:54:00 PM
Surr: Nitrobenzene-d5	57.0	28.9 - 129.9		%Rec	1	8/18/2021 9:54:00 PM
Surr: Phenol-d6	20.3	10.6 - 128.5		%Rec	1	8/18/2021 9:54:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
1,4-Dichlorobenzene	1.19	0.500		µg/L	1	8/9/2021 7:21:00 PM
2-Butanone	12.6	5.00		µg/L	1	8/9/2021 7:21:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 7:21:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 7:21:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 7:21:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Chloroform	3.28	0.500		µg/L	1	8/9/2021 7:21:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 7:21:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 7:21:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 7:21:00 PM
Surr: 1,2-Dichloroethane-d4	104	83.4 - 126		%Rec	1	8/9/2021 7:21:00 PM
Surr: 4-Bromofluorobenzene	105	80.9 - 127		%Rec	1	8/9/2021 7:21:00 PM
Surr: Dibromofluoromethane	119	81.1 - 122		%Rec	1	8/9/2021 7:21:00 PM
Surr: Toluene-d8	89.4	80 - 120		%Rec	1	8/9/2021 7:21:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/1/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:29:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00697	0.00500		mg/L	1	8/12/2021 3:27:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 12:21:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	518	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/1/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	<b>Analyst: CK</b>
1,2,4-Trichlorobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
1,2-Dichlorobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
1,2-Diphenylhydrazine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
1,3-Dichlorobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
1,4-Dichlorobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,4,6-Trichlorophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,4-Dichlorophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,4-Dimethylphenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,4-Dinitrophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,4-Dinitrotoluene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2,6-Dinitrotoluene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2-Chloronaphthalene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2-Chlorophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2-Methylphenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
2-Nitrophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
3,3'-Dichlorobenzidine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
3,4-Methylphenol	62.1	4.89		µg/L	5	8/18/2021 10:25:00 PM
4,6-Dinitro-2-methylphenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
4-Bromophenyl phenyl ether	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
4-Chloro-3-methylphenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
4-Chlorophenyl phenyl ether	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
4-Nitrophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Acenaphthene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Acenaphthylene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Aniline	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Anthracene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Azobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benz(a)anthracene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzidine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzo(a)pyrene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzo(b)fluoranthene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzo(g,h,i)perylene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzo(k)fluoranthene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Benzoic Acid	303	24.4		µg/L	5	8/18/2021 10:25:00 PM
Bis(2-chloroethoxy)methane	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Bis(2-chloroethyl)ether	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Bis(2-chloroisopropyl)ether	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Bis(2-ethylhexyl)phthalate	9.92	2.44		µg/L	5	8/18/2021 10:25:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/1/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	<b>Analyst: CK</b>
Butyl benzyl phthalate	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Carbazole	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Chrysene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Dibenz(a,h)anthracene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Diethyl phthalate	3.62	2.44		µg/L	5	8/18/2021 10:25:00 PM
Dimethyl phthalate	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Di-n-butyl phthalate	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Di-n-octyl phthalate	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Fluoranthene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Fluorene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Hexachlorobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Hexachlorobutadiene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Hexachlorocyclopentadiene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Hexachloroethane	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Isophorone	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Naphthalene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Nitrobenzene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
N-Nitrosodimethylamine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
N-Nitrosodi-n-propylamine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
N-Nitrosodiphenylamine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Pentachlorophenol	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Phenanthrene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Phenol	7.33	2.44		µg/L	5	8/18/2021 10:25:00 PM
Pyrene	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Pyridine	ND	2.44	Q	µg/L	5	8/18/2021 10:25:00 PM
Surr: 2,4,6-Tribromophenol	77.8	33.1 - 129.7		%Rec	5	8/18/2021 10:25:00 PM
Surr: 2-Fluorobiphenyl	89.6	33.1 - 126.2		%Rec	5	8/18/2021 10:25:00 PM
Surr: 2-Fluorophenol	29.8	13.4 - 127.1		%Rec	5	8/18/2021 10:25:00 PM
Surr: 4-Terphenyl-d14	104	41 - 122		%Rec	5	8/18/2021 10:25:00 PM
Surr: Nitrobenzene-d5	75.8	28.9 - 129.9		%Rec	5	8/18/2021 10:25:00 PM
Surr: Phenol-d6	20.8	10.6 - 128.5		%Rec	5	8/18/2021 10:25:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		<b>Analyst: CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/1/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 7:43:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 7:43:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 7:43:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 7:43:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 7:43:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 7:43:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 7:43:00 PM
Surr: 1,2-Dichloroethane-d4	87.1	83.4 - 126		%Rec	1	8/9/2021 7:43:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 7:43:00 PM
Surr: Dibromofluoromethane	99.3	81.1 - 122		%Rec	1	8/9/2021 7:43:00 PM
Surr: Toluene-d8	87.7	80 - 120		%Rec	1	8/9/2021 7:43:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-006  
**Client Sample ID** Villabois G

**Collection Date:** 8/1/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:30:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00539	0.00500		mg/L	1	8/12/2021 3:32:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:26:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	525	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108006  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-007  
**Client Sample ID** Parkway C

**Collection Date:** 8/2/2021 9:15:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	622	10.0		µg/L	1	8/5/2021 10:46:08 AM
Antimony	0.857	0.500		µg/L	1	8/5/2021 10:46:08 AM
Arsenic	1.51	0.100		µg/L	1	8/5/2021 10:46:08 AM
Cadmium	0.124	0.100		µg/L	1	8/5/2021 10:46:08 AM
Chromium	2.90	0.100		µg/L	1	8/5/2021 10:46:08 AM
Copper	61.3	0.500		µg/L	1	8/5/2021 10:46:08 AM
Iron	1900	50.0		µg/L	1	8/5/2021 10:46:08 AM
Lead	2.20	0.100		µg/L	1	8/5/2021 10:46:08 AM
Molybdenum	2.71	0.500		µg/L	1	8/5/2021 10:46:08 AM
Nickel	5.10	0.500		µg/L	1	8/5/2021 10:46:08 AM
Potassium	31500	100		µg/L	1	8/5/2021 10:46:08 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:46:08 AM
Silver	0.198	0.100		µg/L	1	8/5/2021 3:13:46 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:46:08 AM
Zinc	177	2.00		µg/L	1	8/5/2021 10:46:08 AM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	57.1	0.200		mg/L	1	8/5/2021 10:46:08 AM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	226	2.00		mg/L	1	8/3/2021 4:23:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	308.6	2.0		mg/L	1	8/3/2021 12:10:00 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	278	10.0		mg/L CaCO3	1	8/5/2021 1:20:25 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	58.7	0.800		mg/L	40	8/6/2021 2:10:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	8.35	0.200		mg/L	10	8/6/2021 3:50:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	76.3	2.00		mg/L	10	8/11/2021 5:08:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	222	10.0		mg/L	1	8/4/2021 12:10:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108006

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108006-008  
**Client Sample ID** Villaboiss C

**Collection Date:** 8/2/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	266	10.0		µg/L	1	8/5/2021 10:49:33 AM
Antimony	0.761	0.500		µg/L	1	8/5/2021 10:49:33 AM
Arsenic	1.63	0.100		µg/L	1	8/5/2021 10:49:33 AM
Cadmium	0.106	0.100		µg/L	1	8/5/2021 10:49:33 AM
Chromium	1.42	0.100		µg/L	1	8/5/2021 10:49:33 AM
Copper	26.6	0.500		µg/L	1	8/5/2021 10:49:33 AM
Iron	250	50.0		µg/L	1	8/5/2021 10:49:33 AM
Lead	0.698	0.100		µg/L	1	8/5/2021 10:49:33 AM
Molybdenum	0.846	0.500		µg/L	1	8/5/2021 10:49:33 AM
Nickel	3.88	0.500		µg/L	1	8/5/2021 10:49:33 AM
Potassium	13800	100		µg/L	1	8/5/2021 10:49:33 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:49:33 AM
Silver	0.217	0.100		µg/L	1	8/5/2021 4:16:48 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:49:33 AM
Zinc	179	2.00		µg/L	1	8/5/2021 10:49:33 AM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	65.9	0.200		mg/L	1	8/5/2021 10:49:33 AM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	239	2.00		mg/L	1	8/3/2021 4:23:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	376.6	2.0		mg/L	1	8/3/2021 12:10:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	186	10.0		mg/L CaCO3	1	8/5/2021 1:30:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	31.3	0.400		mg/L	20	8/6/2021 12:45:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.17	0.200		mg/L	10	8/6/2021 3:51:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	46.7	0.800		mg/L	4	8/11/2021 5:13:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	178	10.0		mg/L	1	8/4/2021 12:11:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41337</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531142</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	10.0	500.0	0	104	90	110				
Antimony	51.1	0.500	50.00	0	102	90	110				
Arsenic	51.1	0.100	50.00	0	102	90	110				
Cadmium	51.9	0.100	50.00	0	104	90	110				
Chromium	51.4	0.100	50.00	0	103	90	110				
Copper	52.1	0.500	50.00	0	104	90	110				
Iron	5480	50.0	5000	0	110	90	110				
Lead	51.0	0.100	50.00	0	102	90	110				
Molybdenum	51.5	0.500	50.00	0	103	90	110				
Nickel	52.1	0.500	50.00	0	104	90	110				
Potassium	5210	100	5000	0	104	90	110				
Selenium	51.1	1.00	50.00	0	102	90	110				
Silver	54.9	0.100	50.00	0	110	90	110				
Thallium	51.8	0.100	50.00	0	104	90	110				
Zinc	51.3	2.00	50.00	0	103	90	110				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41337</b>					
Client ID: <b>CCB</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531143</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531143</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.500									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531148</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	514	10.0	500.0	0	103	90	110				
Antimony	49.8	0.500	50.00	0	99.6	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531148</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.4	0.100	50.00	0	101	90	110				
Cadmium	51.2	0.100	50.00	0	102	90	110				
Chromium	51.1	0.100	50.00	0	102	90	110				
Copper	52.2	0.500	50.00	0	104	90	110				
Iron	5410	50.0	5000	0	108	90	110				
Lead	50.7	0.100	50.00	0	101	90	110				
Molybdenum	50.4	0.500	50.00	0	101	90	110				
Nickel	51.9	0.500	50.00	0	104	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	49.8	1.00	50.00	0	99.5	90	110				
Silver	54.0	0.100	50.00	0	108	90	110				
Thallium	52.2	0.100	50.00	0	104	90	110				
Zinc	51.2	2.00	50.00	0	102	90	110				

Sample ID: <b>MB-18304</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531150</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									
Arsenic	ND	0.100									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18304</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531150</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18304</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531151</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	434	10.0	500.0	0	86.8	85	115				
Antimony	47.8	0.500	50.00	0	95.6	85	115				
Arsenic	47.0	0.100	50.00	0	94.0	85	115				
Cadmium	49.3	0.100	50.00	0	98.6	85	115				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>LCS-18304</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531151</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	45.6	0.100	50.00	0	91.3	85	115				
Copper	49.0	0.500	50.00	0	98.0	85	115				
Iron	4910	50.0	5000	0	98.2	85	115				
Lead	48.7	0.100	50.00	0	97.4	85	115				
Molybdenum	46.4	0.500	50.00	0	92.8	85	115				
Nickel	48.4	0.500	50.00	0	96.9	85	115				
Potassium	4410	100	5000	0	88.1	85	115				
Selenium	47.4	1.00	50.00	0	94.7	85	115				
Silver	55.6	0.100	50.00	0	111	85	115				
Thallium	49.2	0.100	50.00	0	98.5	85	115				
Zinc	50.2	2.00	50.00	0	100	85	115				

Sample ID: <b>2108018-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	13.7	10.0						13.83	1.09	20	
Antimony	ND	0.500						0	0	20	
Arsenic	1.08	0.100						1.105	1.79	20	
Cadmium	ND	0.100						0	0	20	
Chromium	0.200	0.100						0.2095	4.58	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108018-002ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: BatchQC	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531153						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.77	0.500						1.742	1.56	20	
Iron	276	50.0						277.0	0.402	20	
Lead	ND	0.100						0	0	20	RRF
Molybdenum	24.8	0.500						25.10	1.03	20	
Nickel	126	0.500						125.9	0.245	20	
Potassium	188000	100						184200	2.20	20	E
Selenium	ND	1.00						0	0	20	
Silver	ND	0.100						0	0	20	RRF
Thallium	ND	0.100						0	0	20	RRF
Zinc	5.26	2.00						5.144	2.15	20	

Sample ID: 2108018-002AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: BatchQC	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531154						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	440	10.0	500.0	13.83	85.3	70	130				
Antimony	49.3	0.500	50.00	0.1963	98.1	70	130				
Arsenic	54.3	0.100	50.00	1.105	106	70	130				
Cadmium	43.4	0.100	50.00	0.02463	86.8	70	130				
Chromium	46.3	0.100	50.00	0.2095	92.2	70	130				
Copper	46.9	0.500	50.00	1.742	90.3	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108018-002AMS		SampType: MS		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531154	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5010	50.0	5000	277.0	94.7	70	130				
Lead	52.7	0.100	50.00	0.03204	105	70	130				
Molybdenum	76.5	0.500	50.00	25.10	103	70	130				
Nickel	169	0.500	50.00	125.9	87.1	70	130				
Potassium	183000	100	5000	184200	-28.6	70	130				ESMC
Selenium	51.6	1.00	50.00	0.3008	103	70	130				
Silver	45.4	0.100	50.00	0.008943	90.9	70	130				
Thallium	54.8	0.100	50.00	0.04002	110	70	130				
Zinc	49.2	2.00	50.00	5.144	88.1	70	130				

Sample ID: 2108018-002AMSD		SampType: MSD		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531155	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443	10.0	500.0	13.83	85.9	70	130	440.4	0.624	20	
Antimony	49.3	0.500	50.00	0.1963	98.1	70	130	49.25	0.00978	20	
Arsenic	54.9	0.100	50.00	1.105	108	70	130	54.31	1.03	20	
Cadmium	43.5	0.100	50.00	0.02463	86.9	70	130	43.41	0.189	20	
Chromium	47.0	0.100	50.00	0.2095	93.6	70	130	46.32	1.43	20	
Copper	47.3	0.500	50.00	1.742	91.2	70	130	46.91	0.922	20	
Iron	5070	50.0	5000	277.0	95.9	70	130	5014	1.12	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: 2108018-002AMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: BatchQC	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531155						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	52.6	0.100	50.00	0.03204	105	70	130	52.66	0.103	20	
Molybdenum	77.1	0.500	50.00	25.10	104	70	130	76.53	0.753	20	
Nickel	170	0.500	50.00	125.9	89.2	70	130	169.4	0.623	20	
Potassium	186000	100	5000	184200	40.5	70	130	182800	1.87	20	ESMC
Selenium	52.4	1.00	50.00	0.3008	104	70	130	51.63	1.43	20	
Silver	44.4	0.100	50.00	0.008943	88.8	70	130	45.45	2.35	20	
Thallium	54.7	0.100	50.00	0.04002	109	70	130	54.82	0.225	20	
Zinc	50.5	2.00	50.00	5.144	90.8	70	130	49.18	2.68	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41337						
Client ID: CCV	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531161						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533	10.0	500.0	0	107	90	110				
Antimony	49.8	0.500	50.00	0	99.7	90	110				
Arsenic	50.8	0.100	50.00	0	102	90	110				
Cadmium	50.7	0.100	50.00	0	101	90	110				
Chromium	51.3	0.100	50.00	0	103	90	110				
Copper	52.6	0.500	50.00	0	105	90	110				
Iron	5410	50.0	5000	0	108	90	110				
Lead	51.1	0.100	50.00	0	102	90	110				

Qualifiers: E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531161</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	50.8	0.500	50.00	0	102	90	110				
Nickel	51.8	0.500	50.00	0	104	90	110				
Potassium	5170	100	5000	0	103	90	110				
Selenium	50.5	1.00	50.00	0	101	90	110				
Silver	54.7	0.100	50.00	0	109	90	110				
Thallium	52.4	0.100	50.00	0	105	90	110				
Zinc	51.4	2.00	50.00	0	103	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531177</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	511	10.0	500.0	0	102	90	110				
Antimony	47.6	0.500	50.00	0	95.2	90	110				
Arsenic	51.4	0.100	50.00	0	103	90	110				
Cadmium	48.8	0.100	50.00	0	97.6	90	110				
Chromium	49.4	0.100	50.00	0	98.7	90	110				
Copper	54.0	0.500	50.00	0	108	90	110				
Iron	5020	50.0	5000	0	100	90	110				
Lead	50.5	0.100	50.00	0	101	90	110				
Molybdenum	52.2	0.500	50.00	0	104	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531177</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	52.5	0.500	50.00	0	105	90	110				
Potassium	5370	100	5000	0	107	90	110				
Selenium	52.3	1.00	50.00	0	105	90	110				
Thallium	52.3	0.100	50.00	0	105	90	110				
Zinc	51.6	2.00	50.00	0	103	90	110				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531232</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	53.7	0.100	50.00	0	107	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531245</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	49.5	0.100	50.00	0	98.9	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	60.5	139.5				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	71	129				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	72.5	127.5				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	50.5	149.5				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	63	137				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	68	132				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	34	166				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	73	127				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	63	137				
2-Butanone	93.3	5.00	80.00	0	117	60	140				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	224				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	60	140				
Acrylonitrile	50.2	2.00	40.00	0	125	50	150				
Benzene	36.5	0.500	40.00	0	91.4	64	136				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	65.5	134.5				
Bromoform	35.5	0.500	40.00	0	88.8	71	129				
Bromomethane	29.4	0.500	40.00	0	73.5	14	186				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	73	127				
Chlorobenzene	33.5	0.500	40.00	0	83.7	66	134				
Chloroethane	29.4	0.500	40.00	0	73.6	38	162				
Chloroform	39.3	0.500	40.00	0	98.2	67.5	132.5				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	204				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	24	176				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	67.5	132.5				
Ethylbenzene	33.5	0.500	40.00	0	83.9	59	141				
m,p-Xylene	61.3	1.00	80.00	0	76.6	65	127				
Methylene chloride	28.2	20.0	40.00	0	70.6	60.5	139.5				
o-Xylene	34.6	0.500	40.00	0	86.6	80	120				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	73.5	126.5				
Toluene	35.8	0.500	40.00	0	89.4	74.5	125.5				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	69.5	130.5				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	50	150				
Trichloroethene	41.3	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	48	152				
Vinyl chloride	29.8	0.500	40.00	0	74.6	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	96.1		100.0		96.1	83.4	126				
Surr: 4-Bromofluorobenzene	105		100.0		105	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	89.7		100.0		89.7	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	46	157				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	52	150				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	59	155				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	0.01	234				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	18	190				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	49	155				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	59	156				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	18	190				
2-Butanone	93.3	5.00	80.00	0	117	50	150				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	305				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	50	150				
Acrylonitrile	50.2	2.00	40.00	0	125	30	150				
Benzene	36.5	0.500	40.00	0	91.4	37	151				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	35	155				
Bromoform	35.5	0.500	40.00	0	88.8	45	169				
Bromomethane	29.4	0.500	40.00	0	73.5	0.01	242				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	70	140				
Chlorobenzene	33.5	0.500	40.00	0	83.7	37	160				
Chloroethane	29.4	0.500	40.00	0	73.6	14	230				
Chloroform	39.3	0.500	40.00	0	98.2	51	138				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>		SampType: <b>LCS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>				SeqNo: <b>532083</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	53	149				
Ethylbenzene	33.5	0.500	40.00	0	83.9	37	162				
m,p-Xylene	61.3	1.00	80.00	0	76.6	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.6	0.01	221				
o-Xylene	34.6	0.500	40.00	0	86.6	50	150				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	64	148				
Toluene	35.8	0.500	40.00	0	89.4	47	150				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	54	156				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	17	183				
Trichloroethene	41.3	0.500	40.00	0	103	71	157				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	17	181				
Vinyl chloride	29.8	0.500	40.00	0	74.6	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532084</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.0	0.500	40.00	0	110	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	41.3	0.500	40.00	0	103	75	125				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	60.5	139.5				
1,1,2-Trichloroethane	43.5	0.500	40.00	0	109	71	129				
1,1-Dichloroethane	41.4	0.500	40.00	0	103	72.5	127.5				
1,1-Dichloroethene	42.0	0.500	40.00	0	105	50.5	149.5				
1,2-Dichlorobenzene	41.0	0.500	40.00	0	102	63	137				
1,2-Dichloroethane	40.0	0.500	40.00	0	100	68	132				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	34	166				
1,3-Dichlorobenzene	40.7	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.9	0.500	40.00	0	102	63	137				
2-Butanone	86.0	5.00	80.00	0	108	60	140				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	224				
4-Methyl-2-pentanone	90.4	5.00	80.00	0	113	60	140				
Acrylonitrile	43.1	2.00	40.00	0	108	50	150				
Benzene	38.0	0.500	40.00	0	95.1	64	136				
Bromodichloromethane	40.8	0.500	40.00	0	102	65.5	134.5				
Bromoform	44.4	0.500	40.00	0	111	71	129				
Bromomethane	28.6	0.500	40.00	0	71.4	14	186				
Carbon tetrachloride	42.1	0.500	40.00	0	105	73	127				
Chlorobenzene	44.2	0.500	40.00	0	111	66	134				
Chloroethane	49.4	0.500	40.00	0	123	38	162				
Chloroform	41.2	0.500	40.00	0	103	67.5	132.5				
Chloromethane	36.8	0.500	40.00	0	92.0	0.01	204				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	41.4	0.500	40.00	0	104	24	176				
Dibromochloromethane	45.0	0.500	40.00	0	112	67.5	132.5				
Ethylbenzene	47.9	0.500	40.00	0	120	59	141				
m,p-Xylene	94.4	1.00	80.00	0	118	80	120				
Methylene chloride	31.0	20.0	40.00	0	77.4	60.5	139.5				
o-Xylene	46.2	0.500	40.00	0	116	80	120				
Styrene	46.1	0.500	40.00	0	115	80	120				
Tetrachloroethene	46.7	0.500	40.00	0	117	73.5	126.5				
Toluene	45.4	0.500	40.00	0	114	74.5	125.5				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	105	69.5	130.5				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	50	150				
Trichloroethene	41.2	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	48	152				
Vinyl chloride	32.6	0.500	40.00	0	81.5	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	120		100.0		120	81.1	125				
Surr: Toluene-d8	84.3		100.0		84.3	75	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 080121LLIG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532086							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	50.7	0.500	40.00	0	127	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.5	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	51.3	0.500	40.00	0	128	59	155				
1,1-Dichloroethene	51.5	0.500	40.00	0	129	47.8	165				
1,2-Dichlorobenzene	34.4	0.500	40.00	0	86.0	18	190				
1,2-Dichloroethane	47.2	0.500	40.00	0	118	49	155				
1,2-Dichloropropane	48.5	0.500	40.00	0	121	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.6	0.500	40.00	0	86.5	18	190				
2-Butanone	109	5.00	80.00	3.350	132	50	150				
2-Chloroethyl vinyl ether	48.5	10.0	40.00	0	121	0.01	305				
4-Methyl-2-pentanone	87.1	5.00	80.00	0	109	50	150				
Acrylonitrile	51.8	2.00	40.00	0	129	20	150				
Benzene	46.8	0.500	40.00	0	117	37	151				
Bromodichloromethane	48.6	0.500	40.00	0	122	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	30.5	0.500	40.00	0	76.2	0.01	242				
Carbon tetrachloride	51.7	0.500	40.00	0	129	70	140				
Chlorobenzene	41.5	0.500	40.00	0	104	37	160				
Chloroethane	75.4	0.500	40.00	0	188	14	230				
Chloroform	52.1	0.500	40.00	1.290	127	51	138				

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: 080121LLIG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532086				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	48.4	0.500	40.00	0	121	0.01	273				
cis-1,3-Dichloropropene	48.4	0.500	40.00	0	121	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	1.990	107	50	150				
Methylene chloride	36.2	20.0	40.00	0	90.6	0.01	221				
o-Xylene	41.8	0.500	40.00	0	105	50	150				
Styrene	41.6	0.500	40.00	0	104	70	130				
Tetrachloroethene	38.2	0.500	40.00	0	95.5	64	148				
Toluene	44.5	0.500	40.00	1.940	106	47	150				
trans-1,2-Dichloroethene	51.6	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	42.0	0.500	40.00	0	105	17	183				
Trichloroethene	49.4	0.500	40.00	0	124	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	42.7	0.500	40.00	0	107	0.01	251				

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: 080121LLEG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532087				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.9	0.500	40.00	0	110	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 080121LLEG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	46	157				
1,1,2-Trichloroethane	42.7	0.500	40.00	0	107	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	39.6	0.500	40.00	0	99.1	18	190				
1,2-Dichloroethane	41.7	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	39.8	0.500	40.00	0	99.6	59	156				
1,4-Dichlorobenzene	39.7	0.500	40.00	0	99.3	18	190				
2-Butanone	89.0	5.00	80.00	0	111	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	90.0	5.00	80.00	0	112	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	40.2	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.0	0.500	40.00	0	105	35	155				
Bromoform	43.9	0.500	40.00	0	110	45	169				
Bromomethane	30.0	0.500	40.00	0	75.1	0.01	242				
Carbon tetrachloride	44.5	0.500	40.00	0	111	70	140				
Chlorobenzene	44.2	0.500	40.00	0	111	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	0	108	51	138				
Chloromethane	40.5	0.500	40.00	0	101	0.01	273				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: 080121LLEG	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532087					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	42.4	0.500	40.00	0	106	0.01	227				
Dibromochloromethane	44.2	0.500	40.00	0	111	53	149				
Ethylbenzene	47.8	0.500	40.00	0	120	37	162				
m,p-Xylene	94.1	1.00	80.00	0	118	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.2	0.01	221				
o-Xylene	45.5	0.500	40.00	0	114	50	150				
Styrene	45.1	0.500	40.00	0	113	70	130				
Tetrachloroethene	42.4	0.500	40.00	0	106	64	148				
Toluene	46.3	0.500	40.00	1.280	112	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	44.6	0.500	40.00	0	112	17	181				
Vinyl chloride	36.1	0.500	40.00	0	90.2	0.01	251				

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532088					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.6	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.9	0.500	40.00	0	105	52	162				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532088							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	38.7	0.500	40.00	0	96.7	46	157				
1,1,2-Trichloroethane	40.7	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.1	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.1	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.6	18	190				
1,2-Dichloroethane	39.4	0.500	40.00	0	98.5	49	155				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	1.190	88.5	18	190				
2-Butanone	98.9	5.00	80.00	12.59	108	50	150				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	305				
4-Methyl-2-pentanone	87.4	5.00	80.00	0	109	50	150				
Acrylonitrile	44.6	2.00	40.00	0	112	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.4	0.500	40.00	0	101	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	25.6	0.500	40.00	0	64.0	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.6	0.500	40.00	0	169	14	230				
Chloroform	45.0	0.500	40.00	3.280	104	51	138				
Chloromethane	45.4	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532088		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	42.2	0.500	40.00	0	106	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	0	110	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.6	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	43.3	0.500	40.00	0	108	54	156				
trans-1,3-Dichloropropene	42.8	0.500	40.00	0	107	17	183				
Trichloroethene	40.8	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	104	17	181				
Vinyl chloride	33.6	0.500	40.00	0	83.9	0.01	251				

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532089		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	41.2	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.4	46	157				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	41.0	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	40.7	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.4	18	190				
1,2-Dichloroethane	46.9	0.500	40.00	0	117	49	155				
1,2-Dichloropropane	41.5	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.5	0.500	40.00	0	86.4	18	190				
2-Butanone	83.9	5.00	80.00	2.380	102	50	150				
2-Chloroethyl vinyl ether	41.5	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	88.4	5.00	80.00	0	110	50	150				
Acrylonitrile	41.4	2.00	40.00	0	104	20	150				
Benzene	54.6	0.500	40.00	0	136	37	151				
Bromodichloromethane	41.6	0.500	40.00	0	104	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	23.3	0.500	40.00	0	58.2	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	41.6	0.500	40.00	0	104	37	160				
Chloroethane	48.2	0.500	40.00	0	120	14	230				
Chloroform	41.4	0.500	40.00	0	103	51	138				
Chloromethane	36.1	0.500	40.00	0	90.3	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532089				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.2	1.00	80.00	0	109	50	150				
Methylene chloride	25.1	20.0	40.00	0	62.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	37.5	0.500	40.00	0	93.8	64	148				
Toluene	43.9	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	42.2	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	42.6	0.500	40.00	0	106	17	181				
Vinyl chloride	34.7	0.500	40.00	0	86.9	0.01	251				

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532090				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	70	130				
1,1,1-Trichloroethane	39.6	0.500	40.00	0	99.0	52	162				
1,1,2,2-Tetrachloroethane	37.4	0.500	40.00	0	93.5	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.2	52	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532090					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.0	0.500	40.00	0	100	59	155				
1,1-Dichloroethene	41.1	0.500	40.00	0	103	47.8	165				
1,2-Dichlorobenzene	34.0	0.500	40.00	0	85.0	18	190				
1,2-Dichloroethane	37.2	0.500	40.00	0	92.9	49	155				
1,2-Dichloropropane	38.7	0.500	40.00	0	96.8	0.01	210				
1,3-Dichlorobenzene	33.9	0.500	40.00	0	84.8	59	156				
1,4-Dichlorobenzene	34.4	0.500	40.00	0	86.1	18	190				
2-Butanone	84.3	5.00	80.00	2.890	102	50	150				
2-Chloroethyl vinyl ether	38.7	10.0	40.00	0	96.8	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	41.3	2.00	40.00	0	103	20	150				
Benzene	36.5	0.500	40.00	0	91.2	37	151				
Bromodichloromethane	38.6	0.500	40.00	0	96.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	27.1	0.500	40.00	0	67.8	0.01	242				
Carbon tetrachloride	40.3	0.500	40.00	0	101	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	46.6	0.500	40.00	0	116	14	230				
Chloroform	40.9	0.500	40.00	1.480	98.4	51	138				
Chloromethane	36.5	0.500	40.00	0	91.2	0.01	273				
cis-1,3-Dichloropropene	39.0	0.500	40.00	0	97.5	0.01	227				
Dibromochloromethane	41.1	0.500	40.00	0	103	53	149				
Ethylbenzene	43.2	0.500	40.00	0	108	37	162				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108007-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532090</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	84.7	1.00	80.00	0	106	50	150				
Methylene chloride	24.8	20.0	40.00	0	62.0	0.01	221				
o-Xylene	41.0	0.500	40.00	0	102	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.1	64	148				
Toluene	43.0	0.500	40.00	1.470	104	47	150				
trans-1,2-Dichloroethene	41.0	0.500	40.00	0	102	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	39.3	0.500	40.00	0	98.3	71	157				
Trichlorofluoromethane	40.6	0.500	40.00	0	102	17	181				
Vinyl chloride	32.0	0.500	40.00	0	80.0	0.01	251				

Sample ID: <b>2108007-002EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532091</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.9	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	40.9	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.2	46	157				
1,1,2-Trichloroethane	41.8	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532091				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	42.4	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	38.3	0.500	40.00	0	95.8	18	190				
1,2-Dichloroethane	38.6	0.500	40.00	0	96.4	49	155				
1,2-Dichloropropane	39.8	0.500	40.00	0	99.6	0.01	210				
1,3-Dichlorobenzene	38.6	0.500	40.00	0	96.5	59	156				
1,4-Dichlorobenzene	38.4	0.500	40.00	0	96.0	18	190				
2-Butanone	85.4	5.00	80.00	0	107	50	150				
2-Chloroethyl vinyl ether	39.8	10.0	40.00	0	99.6	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	42.7	2.00	40.00	0	107	20	150				
Benzene	37.8	0.500	40.00	0	94.4	37	151				
Bromodichloromethane	39.5	0.500	40.00	0	98.8	35	155				
Bromoform	41.6	0.500	40.00	0	104	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	41.6	0.500	40.00	0	104	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	45.2	0.500	40.00	0	113	14	230				
Chloroform	40.7	0.500	40.00	0	102	51	138				
Chloromethane	38.2	0.500	40.00	0	95.6	0.01	273				
cis-1,3-Dichloropropene	40.3	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	46.1	0.500	40.00	0	115	37	162				
m,p-Xylene	90.7	1.00	80.00	0	113	50	150				

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532091					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	26.2	20.0	40.00	0	65.4	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	43.3	0.500	40.00	0	108	70	130				
Tetrachloroethene	40.3	0.500	40.00	0	101	64	148				
Toluene	44.2	0.500	40.00	1.230	107	47	150				
trans-1,2-Dichloroethene	42.0	0.500	40.00	0	105	54	156				
trans-1,3-Dichloropropene	43.0	0.500	40.00	0	107	17	183				
Trichloroethene	41.0	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.7	0.500	40.00	0	104	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.5	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	107	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	34.3	0.500	40.00	0	85.8	18	190				
1,2-Dichloroethane	39.2	0.500	40.00	0	97.9	49	155				
1,2-Dichloropropane	41.0	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	35.1	0.500	40.00	0	87.7	18	190				
2-Butanone	103	5.00	80.00	14.08	111	50	150				
2-Chloroethyl vinyl ether	41.0	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	88.9	5.00	80.00	0	111	50	150				
Acrylonitrile	45.1	2.00	40.00	0	113	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.3	0.500	40.00	0	101	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	32.8	0.500	40.00	0	81.9	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	42.2	0.500	40.00	0	105	37	160				
Chloroethane	46.6	0.500	40.00	0	117	14	230				
Chloroform	43.7	0.500	40.00	2.060	104	51	138				
Chloromethane	41.6	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.3	0.500	40.00	0	106	53	149				
Ethylbenzene	44.5	0.500	40.00	0	111	37	162				
m,p-Xylene	88.2	1.00	80.00	0	110	50	150				
Methylene chloride	27.4	20.0	40.00	0	68.5	0.01	221				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.6	64	148				
Toluene	44.4	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	43.8	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.6	0.500	40.00	0	109	17	183				
Trichloroethene	41.5	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	41.7	0.500	40.00	0	104	17	181				
Vinyl chloride	32.2	0.500	40.00	0	80.5	0.01	251				

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				
1,1,1-Trichloroethane	40.7	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.0	46	157				
1,1,2-Trichloroethane	40.0	0.500	40.00	0	100	52	150				
1,1-Dichloroethane	42.4	0.500	40.00	0	106	59	155				
1,1-Dichloroethene	42.8	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	32.4	0.500	40.00	0	80.9	18	190				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532093					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	38.3	0.500	40.00	0	95.8	49	155				
1,2-Dichloropropane	39.7	0.500	40.00	0	99.2	0.01	210				
1,3-Dichlorobenzene	32.1	0.500	40.00	0	80.4	59	156				
1,4-Dichlorobenzene	32.6	0.500	40.00	0	81.4	18	190				
2-Butanone	88.3	5.00	80.00	3.320	106	50	150				
2-Chloroethyl vinyl ether	39.7	10.0	40.00	0	99.2	0.01	305				
4-Methyl-2-pentanone	86.1	5.00	80.00	0	108	50	150				
Acrylonitrile	43.8	2.00	40.00	0	110	20	150				
Benzene	38.4	0.500	40.00	0	95.9	37	151				
Bromodichloromethane	39.8	0.500	40.00	0	99.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	32.8	0.500	40.00	0	82.1	0.01	242				
Carbon tetrachloride	40.9	0.500	40.00	0	102	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	45.5	0.500	40.00	0	114	14	230				
Chloroform	47.0	0.500	40.00	7.430	99.0	51	138				
Chloromethane	42.0	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	39.8	0.500	40.00	0	99.5	0.01	227				
Dibromochloromethane	41.4	0.500	40.00	0	104	53	149				
Ethylbenzene	42.6	0.500	40.00	0	107	37	162				
m,p-Xylene	84.0	1.00	80.00	0	105	50	150				
Methylene chloride	26.1	20.0	40.00	0	65.2	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	40.5	0.500	40.00	0	101	70	130				
Tetrachloroethene	35.5	0.500	40.00	0	88.8	64	148				
Toluene	42.9	0.500	40.00	0	107	47	150				
trans-1,2-Dichloroethene	42.8	0.500	40.00	0	107	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	40.2	0.500	40.00	0	100	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	33.0	0.500	40.00	0	82.5	0.01	251				

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.8	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	42.6	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	38.9	0.500	40.00	0	97.3	46	157				
1,1,2-Trichloroethane	40.4	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.1	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	34.5	0.500	40.00	0	86.2	18	190				
1,2-Dichloroethane	39.8	0.500	40.00	0	99.4	49	155				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.6	0.500	40.00	0	86.4	59	156				
1,4-Dichlorobenzene	34.9	0.500	40.00	0	87.3	18	190				
2-Butanone	93.1	5.00	80.00	3.520	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	87.7	5.00	80.00	0	110	50	150				
Acrylonitrile	44.9	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	27.8	0.500	40.00	0	69.6	0.01	242				
Carbon tetrachloride	43.0	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.0	0.500	40.00	0	167	14	230				
Chloroform	43.8	0.500	40.00	1.210	106	51	138				
Chloromethane	48.0	0.500	40.00	0	120	0.01	273				
cis-1,3-Dichloropropene	41.3	0.500	40.00	0	103	0.01	227				
Dibromochloromethane	41.9	0.500	40.00	0	105	53	149				
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.0	1.00	80.00	0	109	50	150				
Methylene chloride	28.3	20.0	40.00	0	70.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	41.8	0.500	40.00	0	104	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532094</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	37.6	0.500	40.00	0	93.9	64	148				
Toluene	44.5	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	44.4	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	42.5	0.500	40.00	0	106	17	183				
Trichloroethene	42.3	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	43.5	0.500	40.00	0	109	17	181				
Vinyl chloride	33.6	0.500	40.00	0	84.1	0.01	251				

Sample ID: <b>2108010-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532095</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.2	0.500	40.00	0	108	70	130				
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	39.3	0.500	40.00	0	98.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	38.7	0.500	40.00	0	96.7	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532095					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	39.0	0.500	40.00	0	97.5	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				
2-Butanone	89.3	5.00	80.00	0	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	89.2	5.00	80.00	0	112	50	150				
Acrylonitrile	44.8	2.00	40.00	0	112	20	150				
Benzene	39.4	0.500	40.00	0	98.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	43.2	0.500	40.00	0	108	45	169				
Bromomethane	26.7	0.500	40.00	0	66.8	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	43.4	0.500	40.00	0	109	37	160				
Chloroethane	55.5	0.500	40.00	0	139	14	230				
Chloroform	42.2	0.500	40.00	0	106	51	138				
Chloromethane	40.6	0.500	40.00	0	101	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	43.5	0.500	40.00	0	109	53	149				
Ethylbenzene	47.5	0.500	40.00	0	119	37	162				
m,p-Xylene	93.4	1.00	80.00	0	117	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.3	0.01	221				
o-Xylene	45.0	0.500	40.00	0	113	50	150				
Styrene	44.8	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.0	0.500	40.00	0	102	64	148				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532095</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.2	0.500	40.00	0	105	71	157				
Trichlorofluoromethane	42.9	0.500	40.00	0	107	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	80	120				
1,1,1-Trichloroethane	47.5	0.500	40.00	0	119	75	125				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	60.5	139.5				
1,1,2-Trichloroethane	41.4	0.500	40.00	0	104	71	129				
1,1-Dichloroethane	48.4	0.500	40.00	0	121	72.5	127.5				
1,1-Dichloroethane	50.1	0.500	40.00	0	125	50.5	149.5				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	63	137				
1,2-Dichloroethane	43.1	0.500	40.00	0	108	68	132				
1,2-Dichloropropane	45.0	0.500	40.00	0	112	34	166				
1,3-Dichlorobenzene	37.5	0.500	40.00	0	93.7	73	127				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>			SeqNo: <b>532096</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.4	63	137				
2-Butanone	91.6	5.00	80.00	0	114	60	140				
2-Chloroethyl vinyl ether	45.0	10.0	40.00	0	112	0.01	224				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	60	140				
Acrylonitrile	47.4	2.00	40.00	0	118	50	150				
Benzene	43.6	0.500	40.00	0	109	64	136				
Bromodichloromethane	44.2	0.500	40.00	0	110	65.5	134.5				
Bromoform	40.4	0.500	40.00	0	101	71	129				
Bromomethane	32.3	0.500	40.00	0	80.7	14	186				
Carbon tetrachloride	47.2	0.500	40.00	0	118	73	127				
Chlorobenzene	43.0	0.500	40.00	0	107	66	134				
Chloroethane	52.4	0.500	40.00	0	131	38	162				
Chloroform	46.8	0.500	40.00	0	117	67.5	132.5				
Chloromethane	47.0	0.500	40.00	0	118	0.01	204				
cis-1,3-Dichloropropene	45.8	0.500	40.00	0	114	24	176				
Dibromochloromethane	42.4	0.500	40.00	0	106	67.5	132.5				
Ethylbenzene	43.1	0.500	40.00	0	108	59	141				
m,p-Xylene	83.6	1.00	80.00	0	105	80	120				
Methylene chloride	37.7	20.0	40.00	0	94.2	60.5	139.5				
o-Xylene	43.9	0.500	40.00	0	110	80	120				
Styrene	43.2	0.500	40.00	0	108	80	120				
Tetrachloroethene	42.7	0.500	40.00	0	107	73.5	126.5				
Toluene	46.5	0.500	40.00	0	116	74.5	125.5				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	50.4	0.500	40.00	0	126	69.5	130.5				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	50	150				
Trichloroethene	47.5	0.500	40.00	0	119	66.5	133.5				
Trichlorofluoromethane	48.9	0.500	40.00	0	122	48	152				
Vinyl chloride	6.95	0.500	40.00	0	17.4	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	84.8		100.0		84.8	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	96.8		100.0		96.8	81.1	125				
Surr: Toluene-d8	92.0		100.0		92.0	75	120				

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	44.4	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	38.1	0.500	40.00	0	95.2	46	157				
1,1,2-Trichloroethane	41.6	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	44.8	0.500	40.00	0	112	59	155				
1,1-Dichloroethene	45.3	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	88.9	18	190				
1,2-Dichloroethane	41.3	0.500	40.00	0	103	49	155				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.4	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	0	91.9	18	190				
2-Butanone	97.0	5.00	80.00	10.06	109	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	88.5	5.00	80.00	0	111	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	40.8	0.500	40.00	0	102	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	32.6	0.500	40.00	0	81.5	0.01	242				
Carbon tetrachloride	45.4	0.500	40.00	0	113	70	140				
Chlorobenzene	42.6	0.500	40.00	0	107	37	160				
Chloroethane	46.9	0.500	40.00	0	117	14	230				
Chloroform	45.1	0.500	40.00	1.310	110	51	138				
Chloromethane	42.7	0.500	40.00	0	107	0.01	273				
cis-1,3-Dichloropropene	44.6	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	43.1	0.500	40.00	0	108	53	149				
Ethylbenzene	45.9	0.500	40.00	0	115	37	162				
m,p-Xylene	90.2	1.00	80.00	0	113	50	150				
Methylene chloride	29.3	20.0	40.00	0	73.2	0.01	221				
o-Xylene	43.4	0.500	40.00	0	108	50	150				
Styrene	43.0	0.500	40.00	0	108	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				
trans-1,2-Dichloroethene	45.5	0.500	40.00	0	114	54	156				
trans-1,3-Dichloropropene	44.8	0.500	40.00	0	112	17	183				
Trichloroethene	44.3	0.500	40.00	0	111	71	157				
Trichlorofluoromethane	45.9	0.500	40.00	0	115	17	181				
Vinyl chloride	38.3	0.500	40.00	0	95.7	0.01	251				

Sample ID: <b>2108010-008EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532099</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.3	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	94.9	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.9	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.8	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	34.8	0.500	40.00	0	87.0	18	190				
1,2-Dichloroethane	40.5	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	34.8	0.500	40.00	0	87.1	59	156				
1,4-Dichlorobenzene	35.0	0.500	40.00	0	87.5	18	190				
2-Butanone	93.2	5.00	80.00	2.820	113	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.3	5.00	80.00	0	110	50	150				
Acrylonitrile	45.3	2.00	40.00	0	113	20	150				
Benzene	40.0	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	106	35	155				
Bromoform	41.3	0.500	40.00	0	103	45	169				
Bromomethane	31.1	0.500	40.00	0	77.7	0.01	242				
Carbon tetrachloride	44.1	0.500	40.00	0	110	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	49.8	0.500	40.00	0	124	14	230				
Chloroform	43.8	0.500	40.00	0	109	51	138				
Chloromethane	43.7	0.500	40.00	0	109	0.01	273				
cis-1,3-Dichloropropene	43.8	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.7	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	96.0	64	148				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	43.8	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.2	0.500	40.00	0	111	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.1	0.500	40.00	0	82.8	0.01	251				

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.4	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.8	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.6	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	100	49	155				
1,2-Dichloropropane	42.4	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.1	59	156				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	93.2	5.00	80.00	4.490	111	50	150				
2-Chloroethyl vinyl ether	42.4	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.0	5.00	80.00	0	110	50	150				
Acrylonitrile	44.5	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	105	35	155				
Bromoform	41.4	0.500	40.00	0	103	45	169				
Bromomethane	25.9	0.500	40.00	0	64.9	0.01	242				
Carbon tetrachloride	43.8	0.500	40.00	0	109	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	69.3	0.500	40.00	0	173	14	230				
Chloroform	44.1	0.500	40.00	1.410	107	51	138				
Chloromethane	46.4	0.500	40.00	0	116	0.01	273				
cis-1,3-Dichloropropene	43.7	0.500	40.00	0	109	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.7	20.0	40.00	0	71.8	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.4	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.6	0.500	40.00	0	96.4	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532100</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	44.5	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.6	0.500	40.00	0	111	17	183				
Trichloroethene	43.6	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.0	0.500	40.00	0	110	17	181				
Vinyl chloride	34.1	0.500	40.00	0	85.3	0.01	251				

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.0	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethane	44.5	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.4	18	190				
1,2-Dichloroethane	40.9	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.2	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	90.1	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.0	5.00	80.00	0	111	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	43.0	0.500	40.00	0	108	45	169				
Bromomethane	24.8	0.500	40.00	0	62.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	111	70	140				
Chlorobenzene	43.8	0.500	40.00	0	109	37	160				
Chloroethane	47.9	0.500	40.00	0	120	14	230				
Chloroform	42.9	0.500	40.00	0	107	51	138				
Chloromethane	38.8	0.500	40.00	0	97.0	0.01	273				
cis-1,3-Dichloropropene	44.7	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	43.9	0.500	40.00	0	110	53	149				
Ethylbenzene	47.3	0.500	40.00	0	118	37	162				
m,p-Xylene	93.8	1.00	80.00	0	117	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.5	0.01	221				
o-Xylene	45.1	0.500	40.00	0	113	50	150				
Styrene	45.0	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.7	0.500	40.00	0	104	64	148				
Toluene	45.5	0.500	40.00	0	114	47	150				
trans-1,2-Dichloroethene	44.6	0.500	40.00	0	112	54	156				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	45.8	0.500	40.00	0	115	17	183				
Trichloroethene	43.9	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.2	0.500	40.00	0	111	17	181				
Vinyl chloride	32.5	0.500	40.00	0	81.2	0.01	251				

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.8	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,1,2-Tetrachloroethane	38.4	0.500	40.00	0	95.9	46	157				
1,1,2-Trichloroethane	41.3	0.500	40.00	0	103	52	150				
1,1-Dichloroethane	44.3	0.500	40.00	0	111	59	155				
1,1-Dichloroethene	44.9	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.5	18	190				
1,2-Dichloroethane	40.7	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.3	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.9	0.500	40.00	1.020	89.7	18	190				
2-Butanone	113	5.00	80.00	22.52	114	50	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532102					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	43.3	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.3	5.00	80.00	0	112	50	150				
Acrylonitrile	45.8	2.00	40.00	0	114	20	150				
Benzene	40.4	0.500	40.00	0	101	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	27.6	0.500	40.00	0	69.0	0.01	242				
Carbon tetrachloride	44.3	0.500	40.00	0	111	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	50.3	0.500	40.00	0	126	14	230				
Chloroform	45.2	0.500	40.00	2.100	108	51	138				
Chloromethane	40.6	0.500	40.00	0	102	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	42.7	0.500	40.00	0	107	53	149				
Ethylbenzene	45.4	0.500	40.00	0	114	37	162				
m,p-Xylene	89.8	1.00	80.00	0	112	50	150				
Methylene chloride	28.6	20.0	40.00	0	71.6	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	42.8	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.2	64	148				
Toluene	45.7	0.500	40.00	1.280	111	47	150				
trans-1,2-Dichloroethene	44.8	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.9	0.500	40.00	0	112	17	183				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	44.0	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.3	0.500	40.00	0	83.3	0.01	251				

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.0	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,1,2-Tetrachloroethane	38.2	0.500	40.00	0	95.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.7	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.5	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.8	0.500	40.00	0	107	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	34.7	0.500	40.00	0	86.8	18	190				
2-Butanone	91.7	5.00	80.00	2.100	112	50	150				
2-Chloroethyl vinyl ether	42.8	10.0	40.00	0	107	0.01	305				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532103				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	88.7	5.00	80.00	0	111	50	150				
Acrylonitrile	45.4	2.00	40.00	0	113	20	150				
Benzene	39.6	0.500	40.00	0	98.9	37	151				
Bromodichloromethane	42.6	0.500	40.00	0	106	35	155				
Bromoform	41.1	0.500	40.00	0	103	45	169				
Bromomethane	28.0	0.500	40.00	0	70.0	0.01	242				
Carbon tetrachloride	43.3	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	53.8	0.500	40.00	0	135	14	230				
Chloroform	43.3	0.500	40.00	0	108	51	138				
Chloromethane	41.9	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	44.1	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.0	0.500	40.00	0	105	53	149				
Ethylbenzene	44.6	0.500	40.00	0	111	37	162				
m,p-Xylene	87.4	1.00	80.00	0	109	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.1	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	44.1	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.1	0.500	40.00	0	110	17	183				
Trichloroethene	43.2	0.500	40.00	0	108	71	157				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	43.7	0.500	40.00	0	109	17	181				
Vinyl chloride	34.0	0.500	40.00	0	85.1	0.01	251				

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.6	0.500	40.00	0	106	70	130				
1,1,1-Trichloroethane	53.6	0.500	40.00	0	134	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	96.9	46	157				
1,1,2-Trichloroethane	41.9	0.500	40.00	0	105	52	150				
1,1-Dichloroethane	54.7	0.500	40.00	0	137	59	155				
1,1-Dichloroethene	55.4	0.500	40.00	0	138	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	89.0	18	190				
1,2-Dichloroethane	50.1	0.500	40.00	0	125	49	155				
1,2-Dichloropropane	52.9	0.500	40.00	0	132	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.6	59	156				
1,4-Dichlorobenzene	36.4	0.500	40.00	0	91.0	18	190				
2-Butanone	116	5.00	80.00	3.370	140	50	150				
2-Chloroethyl vinyl ether	52.9	10.0	40.00	0	132	0.01	305				
4-Methyl-2-pentanone	90.7	5.00	80.00	0	113	50	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532104					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	50.0	0.500	40.00	0	125	37	151				
Bromodichloromethane	52.4	0.500	40.00	0	131	35	155				
Bromoform	42.3	0.500	40.00	0	106	45	169				
Bromomethane	34.7	0.500	40.00	0	86.8	0.01	242				
Carbon tetrachloride	54.3	0.500	40.00	0	136	70	140				
Chlorobenzene	43.0	0.500	40.00	0	108	37	160				
Chloroethane	74.5	0.500	40.00	0	186	14	230				
Chloroform	55.1	0.500	40.00	1.340	134	51	138				
Chloromethane	55.6	0.500	40.00	0	139	0.01	273				
cis-1,3-Dichloropropene	54.0	0.500	40.00	0	135	0.01	227				
Dibromochloromethane	43.2	0.500	40.00	0	108	53	149				
Ethylbenzene	46.0	0.500	40.00	0	115	37	162				
m,p-Xylene	90.8	1.00	80.00	0	114	50	150				
Methylene chloride	40.1	20.0	40.00	0	100	0.01	221				
o-Xylene	43.5	0.500	40.00	0	109	50	150				
Styrene	43.4	0.500	40.00	0	109	70	130				
Tetrachloroethene	39.4	0.500	40.00	0	98.5	64	148				
Toluene	45.9	0.500	40.00	1.220	112	47	150				
trans-1,2-Dichloroethene	55.7	0.500	40.00	0	139	54	156				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	17	183				
Trichloroethene	53.4	0.500	40.00	0	134	71	157				
Trichlorofluoromethane	54.8	0.500	40.00	0	137	17	181				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.9	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	49.9	0.500	40.00	0	125	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	96.0	46	157				
1,1,2-Trichloroethane	42.2	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	50.3	0.500	40.00	0	126	59	155				
1,1-Dichloroethene	51.0	0.500	40.00	0	128	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.6	18	190				
1,2-Dichloroethane	47.5	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	49.7	0.500	40.00	0	124	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.4	59	156				
1,4-Dichlorobenzene	38.9	0.500	40.00	0	97.2	18	190				
2-Butanone	104	5.00	80.00	0	130	50	150				
2-Chloroethyl vinyl ether	49.7	10.0	40.00	0	124	0.01	305				
4-Methyl-2-pentanone	89.8	5.00	80.00	0	112	50	150				
Acrylonitrile	52.4	2.00	40.00	0	131	20	150				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532105							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.4	0.500	40.00	0	116	37	151				
Bromodichloromethane	49.2	0.500	40.00	0	123	35	155				
Bromoform	43.0	0.500	40.00	0	107	45	169				
Bromomethane	35.4	0.500	40.00	0	88.5	0.01	242				
Carbon tetrachloride	50.8	0.500	40.00	0	127	70	140				
Chlorobenzene	43.6	0.500	40.00	0	109	37	160				
Chloroethane	60.0	0.500	40.00	0	150	14	230				
Chloroform	49.6	0.500	40.00	0	124	51	138				
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	51.2	0.500	40.00	0	128	0.01	227				
Dibromochloromethane	43.6	0.500	40.00	0	109	53	149				
Ethylbenzene	47.6	0.500	40.00	0	119	37	162				
m,p-Xylene	94.2	1.00	80.00	0	118	50	150				
Methylene chloride	35.6	20.0	40.00	0	89.1	0.01	221				
o-Xylene	45.4	0.500	40.00	0	114	50	150				
Styrene	45.2	0.500	40.00	0	113	70	130				
Tetrachloroethene	41.3	0.500	40.00	0	103	64	148				
Toluene	45.3	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	51.4	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	46.0	0.500	40.00	0	115	17	183				
Trichloroethene	50.6	0.500	40.00	0	126	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	37.8	0.500	40.00	0	94.6	0.01	251				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532106</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	52.6	0.500	40.00	0	132	52	162				
1,1,2,2-Tetrachloroethane	37.8	0.500	40.00	0	94.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	53.3	0.500	40.00	0	133	59	155				
1,1-Dichloroethene	55.0	0.500	40.00	0	137	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.4	18	190				
1,2-Dichloroethane	49.0	0.500	40.00	0	123	49	155				
1,2-Dichloropropane	51.8	0.500	40.00	0	129	0.01	210				
1,3-Dichlorobenzene	35.3	0.500	40.00	0	88.3	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	1.280	88.8	18	190				
2-Butanone	125	5.00	80.00	12.67	141	50	150				
2-Chloroethyl vinyl ether	51.8	10.0	40.00	0	129	0.01	305				
4-Methyl-2-pentanone	88.2	5.00	80.00	0	110	50	150				
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	49.5	0.500	40.00	0	124	37	151				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	51.2	0.500	40.00	0	128	35	155				
Bromoform	40.2	0.500	40.00	0	101	45	169				
Bromomethane	36.8	0.500	40.00	0	91.9	0.01	242				
Carbon tetrachloride	53.6	0.500	40.00	0	134	70	140				
Chlorobenzene	42.1	0.500	40.00	0	105	37	160				
Chloroethane	66.0	0.500	40.00	0	165	14	230				
Chloroform	54.7	0.500	40.00	2.390	131	51	138				
Chloromethane	49.5	0.500	40.00	0	124	0.01	273				
cis-1,3-Dichloropropene	52.8	0.500	40.00	0	132	0.01	227				
Dibromochloromethane	41.7	0.500	40.00	0	104	53	149				
Ethylbenzene	45.2	0.500	40.00	0	113	37	162				
m,p-Xylene	89.2	1.00	80.00	0	111	50	150				
Methylene chloride	38.8	20.0	40.00	0	97.0	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	95.9	64	148				
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	55.1	0.500	40.00	0	138	54	156				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	17	183				
Trichloroethene	53.3	0.500	40.00	0	133	71	157				
Trichlorofluoromethane	53.6	0.500	40.00	0	134	17	181				
Vinyl chloride	39.7	0.500	40.00	0	99.2	0.01	251				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	51.2	0.500	40.00	0	128	52	162				
1,1,2,2-Tetrachloroethane	36.2	0.500	40.00	0	90.6	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	52.4	0.500	40.00	0	131	59	155				
1,1-Dichloroethene	53.0	0.500	40.00	0	133	47.8	165				
1,2-Dichlorobenzene	33.3	0.500	40.00	0	83.2	18	190				
1,2-Dichloroethane	48.0	0.500	40.00	0	120	49	155				
1,2-Dichloropropane	50.2	0.500	40.00	0	126	0.01	210				
1,3-Dichlorobenzene	33.4	0.500	40.00	0	83.6	59	156				
1,4-Dichlorobenzene	33.6	0.500	40.00	0	84.0	18	190				
2-Butanone	110	5.00	80.00	2.310	135	50	150				
2-Chloroethyl vinyl ether	50.2	10.0	40.00	0	126	0.01	305				
4-Methyl-2-pentanone	84.9	5.00	80.00	0	106	50	150				
Acrylonitrile	54.6	2.00	40.00	0	136	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	49.9	0.500	40.00	0	125	35	155				
Bromoform	39.3	0.500	40.00	0	98.2	45	169				
Bromomethane	35.1	0.500	40.00	0	87.8	0.01	242				
Carbon tetrachloride	51.8	0.500	40.00	0	130	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	60.6	0.500	40.00	0	152	14	230				
Chloroform	52.1	0.500	40.00	0	130	51	138				

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	51.9	0.500	40.00	0	130	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	43.1	0.500	40.00	0	108	37	162				
m,p-Xylene	85.3	1.00	80.00	0	107	50	150				
Methylene chloride	37.0	20.0	40.00	0	92.4	0.01	221				
o-Xylene	40.8	0.500	40.00	0	102	50	150				
Styrene	40.6	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.0	64	148				
Toluene	42.4	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	53.1	0.500	40.00	0	133	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	51.5	0.500	40.00	0	129	71	157				
Trichlorofluoromethane	51.7	0.500	40.00	0	129	17	181				
Vinyl chloride	39.3	0.500	40.00	0	98.3	0.01	251				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	19.8	0.500	20.00	0	98.8	80	120				
1,2-Dichlorobenzene	17.0	0.500	20.00	0	85.0	80	120				
1,2-Diphenylhydrazine	20.4	0.500	20.00	0	102	80	120				
1,3-Dichlorobenzene	17.2	0.500	20.00	0	86.1	80	120				
1,4-Dichlorobenzene	16.9	0.500	20.00	0	84.6	80	120				
2,4,6-Trichlorophenol	19.0	0.500	20.00	0	94.9	80	120				
2,4-Dichlorophenol	19.3	0.500	20.00	0	96.6	80	120				
2,4-Dimethylphenol	19.4	0.500	20.00	0	96.8	80	120				
2,4-Dinitrophenol	16.2	0.500	20.00	0	81.2	80	120				
2,4-Dinitrotoluene	19.5	0.500	20.00	0	97.6	80	120				
2,6-Dinitrotoluene	19.6	0.500	20.00	0	97.9	80	120				
2-Chloronaphthalene	19.9	0.500	20.00	0	99.7	80	120				
2-Chlorophenol	16.5	0.500	20.00	0	82.6	80	120				
2-Methylphenol	16.7	0.500	20.00	0	83.3	80	120				
2-Nitrophenol	19.4	0.500	20.00	0	96.8	80	120				
3,3'-Dichlorobenzidine	19.9	0.500	20.00	0	99.6	80	120				
3,4-Methylphenol	17.0	1.00	20.00	0	85.0	80	120				
4-Bromophenyl phenyl ether	20.3	0.500	20.00	0	102	80	120				
4-Chloro-3-methylphenol	19.4	0.500	20.00	0	96.9	80	120				
4-Chlorophenyl phenyl ether	22.0	0.500	20.00	0	110	80	120				
4-Nitrophenol	19.1	0.500	20.00	0	95.3	80	120				
Acenaphthene	19.8	0.500	20.00	0	98.8	80	120				
Acenaphthylene	20.1	0.500	20.00	0	100	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	16.9	0.500	20.00	0	84.4	80	120				
Anthracene	20.2	0.500	20.00	0	101	80	120				
Azobenzene	20.4	0.500	20.00	0	102	80	120				
Benz(a)anthracene	20.1	0.500	20.00	0	101	80	120				
Benzydine	18.7	0.500	20.00	0	93.5	80	120				
Benzo(a)pyrene	19.9	0.500	20.00	0	99.7	80	120				
Benzo(b)fluoranthene	19.8	0.500	20.00	0	99.2	80	120				
Benzo(g,h,i)perylene	19.7	0.500	20.00	0	98.7	80	120				
Benzo(k)fluoranthene	20.3	0.500	20.00	0	101	80	120				
Benzoic Acid	16.8	5.00	20.00	0	83.9	80	120				
Bis(2-chloroethoxy)methane	20.6	0.500	20.00	0	103	80	120				
Bis(2-chloroethyl)ether	17.1	0.500	20.00	0	85.4	80	120				
Bis(2-chloroisopropyl)ether	19.7	0.500	20.00	0	98.5	80	120				
Bis(2-ethylhexyl)phthalate	20.0	0.500	20.00	0	100	80	120				
Butyl benzyl phthalate	20.1	0.500	20.00	0	101	80	120				
Carbazole	20.1	0.500	20.00	0	100	80	120				
Chrysene	20.2	0.500	20.00	0	101	80	120				
Dibenz(a,h)anthracene	19.8	0.500	20.00	0	98.8	80	120				
Diethyl phthalate	20.9	0.500	20.00	0	104	80	120				
Dimethyl phthalate	19.5	0.500	20.00	0	97.7	80	120				
Di-n-butyl phthalate	20.7	0.500	20.00	0	104	80	120				
Di-n-octyl phthalate	20.6	0.500	20.00	0	103	80	120				
Fluoranthene	19.5	0.500	20.00	0	97.6	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	19.9	0.500	20.00	0	99.7	80	120				
Hexachlorobenzene	19.5	0.500	20.00	0	97.6	80	120				
Hexachlorobutadiene	19.7	0.500	20.00	0	98.6	80	120				
Hexachlorocyclopentadiene	18.2	0.500	20.00	0	90.8	80	120				
Hexachloroethane	17.5	0.500	20.00	0	87.3	80	120				
Indeno(1,2,3-cd)pyrene	19.9	0.500	20.00	0	99.5	80	120				
Isophorone	19.9	0.500	20.00	0	99.5	80	120				
Naphthalene	20.1	0.500	20.00	0	101	80	120				
Nitrobenzene	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodimethylamine	16.2	0.500	20.00	0	81.2	80	120				
N-Nitrosodi-n-propylamine	21.2	0.500	20.00	0	106	80	120				
N-Nitrosodiphenylamine	20.2	0.500	20.00	0	101	80	120				
Pentachlorophenol	18.8	0.500	20.00	0	93.8	80	120				
Phenanthrene	20.2	0.500	20.00	0	101	80	120				
Phenol	16.6	0.500	20.00	0	83.2	80	120				
Pyrene	20.1	0.500	20.00	0	100	80	120				
Pyridine	17.8	0.500	20.00	0	89.2	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	63.6		100.0		63.6	33.1	129.7				
Surr: 2-Fluorobiphenyl	63.6		100.0		63.6	33.1	126.2				
Surr: 2-Fluorophenol	31.3		100.0		31.3	13.4	127.1				
Surr: 4-Terphenyl-d14	87.5		100.0		87.5	41	122				
Surr: Nitrobenzene-d5	65.7		100.0		65.7	28.9	129.9				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	23.1		100.0		23.1	10.6	128.5				

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	24.6	0.500	40.00	0	61.4	44	142				
1,2-Dichlorobenzene	28.2	0.500	40.00	0	70.4	32	129				
1,2-Diphenylhydrazine	37.9	0.500	40.00	0	94.7	40	140				
1,3-Dichlorobenzene	27.3	0.500	40.00	0	68.2	0.01	172				
1,4-Dichlorobenzene	27.2	0.500	40.00	0	68.0	20	124				
2,4,6-Trichlorophenol	29.4	0.500	40.00	0	73.4	37	144				
2,4-Dichlorophenol	24.4	0.500	40.00	0	61.0	39	135				
2,4-Dimethylphenol	26.9	0.500	40.00	0	67.2	32	119				
2,4-Dinitrophenol	30.1	0.500	40.00	0	75.4	0.01	191				
2,4-Dinitrotoluene	36.6	0.500	40.00	0	91.6	39	139				
2,6-Dinitrotoluene	36.6	0.500	40.00	0	91.5	30	158				
2-Chloronaphthalene	31.6	0.500	40.00	0	79.1	30	118				
2-Chlorophenol	28.0	0.500	40.00	0	70.0	23	134				
2-Methylphenol	27.2	0.500	40.00	0	68.0	30	120				
2-Nitrophenol	22.5	0.500	40.00	0	56.2	29	182				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	34.0	0.500	40.00	0	85.1	0.01	262				
3,4-Methylphenol	25.2	1.00	40.00	0	62.9	30	120				
4,6-Dinitro-2-methylphenol	30.6	0.500	40.00	0	76.5	0.01	181				
4-Bromophenyl phenyl ether	29.9	0.500	40.00	0	74.7	33	127				
4-Chloro-3-methylphenol	30.7	0.500	40.00	0	76.7	22	147				
4-Chlorophenyl phenyl ether	31.4	0.500	40.00	0	78.6	25	158				
4-Nitrophenol	21.5	0.500	40.00	0	53.7	0.01	132				
Acenaphthene	34.2	0.500	40.00	0	85.6	37	145				
Acenaphthylene	34.1	0.500	40.00	0	85.4	33	145				
Aniline	25.4	0.500	40.00	0	63.5	16	134				
Anthracene	36.6	0.500	40.00	0	91.6	27	133				
Azobenzene	37.9	0.500	40.00	0	94.7	70	130				
Benz(a)anthracene	36.9	0.500	40.00	0	92.2	33	143				
Benzdine	7.66	0.500	40.00	0	19.2	0.1	140				
Benzo(a)pyrene	37.5	0.500	40.00	0	93.7	17	163				
Benzo(b)fluoranthene	38.8	0.500	40.00	0	96.9	24	159				
Benzo(g,h,i)perylene	37.0	0.500	40.00	0	92.6	0.01	219				
Benzo(k)fluoranthene	36.6	0.500	40.00	0	91.6	11	162				
Benzoic Acid	ND	5.00	40.00	0	7.65	0	250				
Bis(2-chloroethoxy)methane	34.0	0.500	40.00	0	84.9	33	184				
Bis(2-chloroethyl)ether	32.5	0.500	40.00	0	81.3	12	158				
Bis(2-chloroisopropyl)ether	32.3	0.500	40.00	0	80.6	20	140				
Bis(2-ethylhexyl)phthalate	31.5	0.500	40.00	0	78.7	8	158				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	38.1	0.500	40.00	0	95.2	0.01	152				
Carbazole	37.0	0.500	40.00	0	92.6	23	131				
Chrysene	37.3	0.500	40.00	0	93.2	17	168				
Dibenz(a,h)anthracene	37.9	0.500	40.00	0	94.7	0.01	224				
Diethyl phthalate	40.1	0.500	40.00	0	100	0.01	114				
Dimethyl phthalate	36.6	0.500	40.00	0	91.6	0.01	112				
Di-n-butyl phthalate	39.9	0.500	40.00	0	99.8	1	118				
Di-n-octyl phthalate	38.1	0.500	40.00	0	95.2	4	146				
Fluoranthene	38.4	0.500	40.00	0	95.9	26	137				
Fluorene	36.4	0.500	40.00	0	91.1	19	121				
Hexachlorobenzene	35.9	0.500	40.00	0	89.8	0.01	152				
Hexachlorobutadiene	22.8	0.500	40.00	0	57.0	24	116				
Hexachlorocyclopentadiene	22.2	0.500	40.00	0	55.5	10	110				
Hexachloroethane	26.8	0.500	40.00	0	66.9	40	143				
Indeno(1,2,3-cd)pyrene	38.1	0.500	40.00	0	95.4	0.01	171				
Isophorone	30.6	0.500	40.00	0	76.6	21	196				
Naphthalene	26.4	0.500	40.00	0	65.9	35	133				
Nitrobenzene	27.7	0.500	40.00	0	69.3	14	150				
N-Nitrosodimethylamine	19.8	0.500	40.00	0	49.5	0.01	250				
N-Nitrosodi-n-propylamine	30.2	0.500	40.00	0	75.5	0.01	230				
N-Nitrosodiphenylamine	37.4	0.500	40.00	0	93.4	0.01	133				
Pentachlorophenol	13.4	0.500	40.00	0	33.4	24	176				
Phenanthrene	37.0	0.500	40.00	0	92.4	5	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	11.0	0.500	40.00	0	27.6	12	112				
Pyrene	37.3	0.500	40.00	0	93.2	12	115				
Pyridine	19.2	0.500	40.00	0	48.0	13	158				

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.1	0.500	40.00	0	62.7	44	142	24.56	2.02	20	
1,2-Dichlorobenzene	24.7	0.500	40.00	0	61.8	32	129	28.15	13.0	20	
1,2-Diphenylhydrazine	37.9	0.500	40.00	0	94.8	40	140	37.87	0.0792	20	
1,3-Dichlorobenzene	22.4	0.500	40.00	0	56.0	0.01	172	27.30	19.7	20	
1,4-Dichlorobenzene	24.0	0.500	40.00	0	60.1	20	124	27.19	12.3	20	
2,4,6-Trichlorophenol	32.0	0.500	40.00	0	79.9	37	144	29.37	8.45	20	
2,4-Dichlorophenol	28.0	0.500	40.00	0	70.1	39	135	24.42	13.8	20	
2,4-Dimethylphenol	28.6	0.500	40.00	0	71.6	32	119	26.89	6.23	20	
2,4-Dinitrophenol	33.1	0.500	40.00	0	82.7	0.01	191	30.14	9.33	20	
2,4-Dinitrotoluene	38.3	0.500	40.00	0	95.8	39	139	36.62	4.54	20	
2,6-Dinitrotoluene	37.1	0.500	40.00	0	92.8	30	158	36.61	1.33	20	
2-Chloronaphthalene	31.0	0.500	40.00	0	77.6	30	118	31.63	1.92	20	
2-Chlorophenol	28.9	0.500	40.00	0	72.2	23	134	27.98	3.17	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18299	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSS02	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	26.6	0.500	40.00	0	66.4	30	120	27.19	2.38	20	
2-Nitrophenol	21.9	0.500	40.00	0	54.7	29	182	22.50	2.84	20	
3,3'-Dichlorobenzidine	35.3	0.500	40.00	0	88.3	0.01	262	34.05	3.69	20	
3,4-Methylphenol	24.9	1.00	40.00	0	62.2	30	120	25.16	1.16	20	
4,6-Dinitro-2-methylphenol	31.5	0.500	40.00	0	78.8	0.01	181	30.59	3.06	20	
4-Bromophenyl phenyl ether	30.3	0.500	40.00	0	75.7	33	127	29.87	1.40	20	
4-Chloro-3-methylphenol	32.4	0.500	40.00	0	80.9	22	147	30.68	5.30	20	
4-Chlorophenyl phenyl ether	33.0	0.500	40.00	0	82.5	25	158	31.44	4.78	20	
4-Nitrophenol	23.0	0.500	40.00	0	57.4	0.01	132	21.47	6.79	20	
Acenaphthene	33.6	0.500	40.00	0	84.0	37	145	34.24	1.92	20	
Acenaphthylene	33.3	0.500	40.00	0	83.4	33	145	34.14	2.37	20	
Aniline	25.3	0.500	40.00	0	63.3	16	134	25.40	0.315	20	
Anthracene	37.5	0.500	40.00	0	93.8	27	133	36.62	2.40	20	
Azobenzene	37.9	0.500	40.00	0	94.8	70	130	37.87	0.0792	0	
Benz(a)anthracene	38.2	0.500	40.00	0	95.4	33	143	36.88	3.39	20	
Benzidine	8.31	0.500	40.00	0	20.8	0.1	140	7.660	8.14	20	
Benzo(a)pyrene	38.0	0.500	40.00	0	95.1	17	163	37.49	1.43	20	
Benzo(b)fluoranthene	40.0	0.500	40.00	0	100	24	159	38.76	3.15	20	
Benzo(g,h,i)perylene	38.4	0.500	40.00	0	95.9	0.01	219	37.05	3.50	20	
Benzo(k)fluoranthene	30.4	0.500	40.00	0	75.9	11	162	36.64	18.7	20	
Benzoic Acid	ND	5.00	40.00	0	7.88	0	250	0	0	20	
Bis(2-chloroethoxy)methane	31.3	0.500	40.00	0	78.2	33	184	33.97	8.28	20	
Bis(2-chloroethyl)ether	30.0	0.500	40.00	0	74.9	12	158	32.52	8.19	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD-18299	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSS02	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	33.5	0.500	40.00	0	83.9	20	140	32.26	3.89	20	
Bis(2-ethylhexyl)phthalate	34.0	0.500	40.00	0	85.0	8	158	31.47	7.79	20	
Butyl benzyl phthalate	38.9	0.500	40.00	0	97.2	0.01	152	38.09	2.08	20	
Carbazole	38.0	0.500	40.00	0	95.0	23	131	37.05	2.56	20	
Chrysene	38.3	0.500	40.00	0	95.7	17	168	37.26	2.65	20	
Dibenz(a,h)anthracene	39.2	0.500	40.00	0	97.9	0.01	224	37.87	3.37	20	
Diethyl phthalate	40.1	0.500	40.00	0	100	0.01	114	40.06	0.175	20	
Dimethyl phthalate	37.2	0.500	40.00	0	92.9	0.01	112	36.64	1.44	20	
Di-n-butyl phthalate	40.0	0.500	40.00	0	99.9	1	118	39.92	0.100	20	
Di-n-octyl phthalate	38.8	0.500	40.00	0	97.0	4	146	38.06	1.90	20	
Fluoranthene	38.9	0.500	40.00	0	97.3	26	137	38.37	1.45	20	
Fluorene	36.1	0.500	40.00	0	90.2	19	121	36.44	1.05	20	
Hexachlorobenzene	36.8	0.500	40.00	0	91.9	0.01	152	35.90	2.34	20	
Hexachlorobutadiene	22.8	0.500	40.00	0	57.0	24	116	22.82	0.0877	20	
Hexachlorocyclopentadiene	23.9	0.500	40.00	0	59.7	10	110	22.21	7.29	20	
Hexachloroethane	22.8	0.500	40.00	0	57.1	40	143	26.77	15.8	20	
Indeno(1,2,3-cd)pyrene	39.0	0.500	40.00	0	97.5	0.01	171	38.14	2.18	20	
Isophorone	31.0	0.500	40.00	0	77.5	21	196	30.62	1.27	20	
Naphthalene	27.1	0.500	40.00	0	67.8	21	133	26.35	2.95	20	
Nitrobenzene	29.2	0.500	40.00	0	72.9	35	180	27.72	5.03	20	
N-Nitrosodimethylamine	16.5	0.500	40.00	0	41.2	0.01	230	19.80	18.2	20	
N-Nitrosodi-n-propylamine	31.8	0.500	40.00	0	79.4	0.01	250	30.21	5.07	20	
N-Nitrosodiphenylamine	37.5	0.500	40.00	0	93.8	0.01	250	37.36	0.454	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCSD-18299</b>	SampType: <b>LCSD</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	13.7	0.500	40.00	0	34.2	14	176	13.38	2.29	20	
Phenanthrene	37.4	0.500	40.00	0	93.6	24	120	36.97	1.26	20	
Phenol	12.2	0.500	40.00	0	30.5	5	112	11.02	10.2	20	
Pyrene	37.8	0.500	40.00	0	94.4	12	115	37.29	1.28	20	
Pyridine	19.9	0.500	40.00	0	49.7	13	158	19.21	3.38	20	

Sample ID: <b>2108006-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>080121LLEG</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	28.2	0.532	42.55	0	66.3	44	142				
1,2-Dichlorobenzene	32.6	0.532	42.55	0	76.6	32	129				
1,2-Diphenylhydrazine	41.4	0.532	42.55	0	97.2	40	140				
1,3-Dichlorobenzene	32.3	0.532	42.55	0	76.0	0.01	172				
1,4-Dichlorobenzene	31.7	0.532	42.55	0	74.5	20	124				
2,4,5-Trichlorophenol	36.1	2.13	42.55	0	84.9	40	130				
2,4,6-Trichlorophenol	36.7	0.532	42.55	0	86.2	37	144				
2,4-Dichlorophenol	30.9	0.532	42.55	0	72.6	39	135				
2,4-Dimethylphenol	30.9	0.532	42.55	0	72.6	32	119				
2,4-Dinitrophenol	35.8	0.532	42.55	0	84.0	0.01	191				
2,4-Dinitrotoluene	39.6	0.532	42.55	0	93.1	39	139				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: 080121LLEG	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	39.9	0.532	42.55	0	93.7	30	158				
2-Chloronaphthalene	34.2	0.532	42.55	0	80.3	30	118				
2-Chlorophenol	32.7	0.532	42.55	0	76.8	23	134				
2-Methylphenol	29.4	0.532	42.55	0	69.2	30	120				
2-Nitrophenol	29.4	0.532	42.55	0	69.0	29	182				
3,3'-Dichlorobenzidine	29.4	0.532	42.55	0	69.0	0.01	262				
3,4-Methylphenol	28.2	1.06	42.55	0	66.2	30	120				
4,6-Dinitro-2-methylphenol	34.1	0.532	42.55	0	80.2	0.01	181				
4-Bromophenyl phenyl ether	35.6	0.532	42.55	0	83.6	33	127				
4-Chloro-3-methylphenol	36.4	0.532	42.55	0	85.5	22	147				
4-Chlorophenyl phenyl ether	31.7	0.532	42.55	0	74.4	25	158				
4-Nitrophenol	14.9	0.532	42.55	0	35.1	0.01	132				
Acenaphthene	36.9	0.532	42.55	0	86.7	37	145				
Acenaphthylene	37.1	0.532	42.55	0	87.2	33	145				
Aniline	27.5	0.532	42.55	0	64.7	16	134				
Anthracene	40.2	0.532	42.55	0	94.6	27	133				
Azobenzene	41.4	0.532	42.55	0	97.2	70	130				
Benz(a)anthracene	40.3	0.532	42.55	0	94.7	33	143				
Benzidine	2.23	0.532	42.55	0	5.25	0.1	140				
Benzo(a)pyrene	39.9	0.532	42.55	0	93.8	17	163				
Benzo(b)fluoranthene	42.9	0.532	42.55	0	101	24	159				
Benzo(g,h,i)perylene	39.2	0.532	42.55	0	92.1	0.01	219				
Benzo(k)fluoranthene	42.0	0.532	42.55	0	98.7	11	162				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: 080121LLEG	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzoic Acid	7.31	5.32	42.55	0	17.2	0	250				
Bis(2-chloroethoxy)methane	32.1	0.532	42.55	0	75.5	33	184				
Bis(2-chloroethyl)ether	36.1	0.532	42.55	0	84.9	12	158				
Bis(2-chloroisopropyl)ether	38.2	0.532	42.55	0	89.7	20	140				
Bis(2-ethylhexyl)phthalate	35.6	0.532	42.55	1.103	81.1	8	158				
Butyl benzyl phthalate	41.1	0.532	42.55	0	96.7	0.01	152				
Carbazole	40.8	0.532	42.55	0	95.9	23	131				
Chrysene	40.7	0.532	42.55	0	95.7	17	168				
Dibenz(a,h)anthracene	40.3	0.532	42.55	0	94.7	0.01	224				
Diethyl phthalate	43.4	0.532	42.55	0	102	0.01	114				
Dimethyl phthalate	39.6	0.532	42.55	0	93.1	0.01	112				
Di-n-butyl phthalate	44.2	0.532	42.55	0	104	1	118				
Di-n-octyl phthalate	42.2	0.532	42.55	1.385	95.9	4	146				
Fluoranthene	42.2	0.532	42.55	0	99.3	26	137				
Fluorene	39.6	0.532	42.55	0	93.0	19	121				
Hexachlorobenzene	38.6	0.532	42.55	0	90.8	0.01	152				
Hexachlorobutadiene	26.6	0.532	42.55	0	62.5	24	116				
Hexachlorocyclopentadiene	24.8	0.532	42.55	0	58.4	10	110				
Hexachloroethane	31.7	0.532	42.55	0	74.5	40	143				
Indeno(1,2,3-cd)pyrene	40.6	0.532	42.55	0	95.3	0.01	171				
Isophorone	32.3	0.532	42.55	0	75.8	21	196				
Naphthalene	29.7	0.532	42.55	0	69.9	21	133				
Nitrobenzene	30.3	0.532	42.55	0	71.2	35	180				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2108006-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>080121LLEG</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodimethylamine	14.0	0.532	42.55	0	32.8	0.01	230				
N-Nitrosodi-n-propylamine	34.2	0.532	42.55	0	80.3	0.01	250				
N-Nitrosodiphenylamine	40.7	0.532	42.55	0	95.8	0.01	250				
Pentachlorophenol	31.8	0.532	42.55	0	74.7	14	176				
Phenanthrene	40.4	0.532	42.55	0	95.0	24	120				
Phenol	12.2	0.532	42.55	0	28.6	5	112				
Pyrene	39.6	0.532	42.55	0	93.2	12	115				
Pyridine	10.0	0.532	42.55	0	23.6	13	158				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-008CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531448</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	366	10.0	100.0	267.0	99.0	80	120				

Sample ID: <b>2107227-008CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531449</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	361	10.0	100.0	267.0	94.0	80	120	366.0	1.38	20	

Sample ID: <b>CCB-R41348</b>	SampType: <b>CCB</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531454</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	196.0	79.0	80	120				S

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108028-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531461</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	285	10.0	100.0	196.0	89.0	80	120	275.0	3.57	20	

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531465</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	196	10.0	200.0	0	98.0	90	110				

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531466</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	198	10.0	200.0	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>MBLK-R41348</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531468</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41372</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41372</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41372</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>531756</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41372</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41372</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41372</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>531757</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	213	2.00	171.0	0	125	70	130				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41370</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41370</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41370</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>531742</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41370</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41370</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41370</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/3/2021</b>	SeqNo: <b>531743</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	224.5	2.0	198.0	0	113	84	116				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41433</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0540	0.00500	0.05000	0	108	90	110				

Sample ID: <b>MB-R41433</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41433</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0896	0.00500	0.1000	0	89.6	80	120				

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>080121LLEG</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0477	0.00500	0.05000	0.003290	88.8	67.9	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>080121LLEG</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108006-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>080121LLEG</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0481	0.00500	0.05000	0.003290	89.6	67.9	120	0.04769	0.858	20	

Sample ID: <b>CCV1-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532521</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0972	0.00500	0.1000	0	97.2	90	110				

Sample ID: <b>2108010-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0460	0.00500	0.05000	0.003078	85.9	67.9	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108010-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0465	0.00500	0.05000	0.003078	86.8	67.9	120	0.04602	1.03	20	

Sample ID: <b>CCV3-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0998	0.00500	0.1000	0	99.8	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41458</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532907</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41458</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532908</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	0	101	90	110				

Sample ID: <b>2107226-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532911</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	50.5	5.00	50.00	10.35	80.3	75	125				

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	43.4	5.00	50.00	10.35	66.0	75	125	50.49	15.2	20	SMI

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107226-001EMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532912</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2107207-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532914</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	4.105	85.6	75	125				

Sample ID: <b>2107207-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532915</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	4.105	89.2	75	125	46.92	3.73	20	

Sample ID: <b>CCV1-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532917</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2107219-001FMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532922</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	51.4	5.00	50.00	4.105	94.6	75	125				

Sample ID: <b>2107219-001FMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532923</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	53.2	5.00	50.00	4.105	98.1	75	125	51.38	3.41	20	

Sample ID: <b>CCV2-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532928</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	48.7	5.00	50.00	0	97.4	90	110				

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	49.6	5.00	50.00	0	99.2	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41458</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41458</b>
Client ID: <b>CCV</b>	Batch ID: <b>R41458</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/16/2021</b>	SeqNo: <b>532937</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: <b>MB-R41471</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>
Client ID: <b>PBW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533006</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium, Hexavalent	ND	5.00			

Sample ID: <b>LCS-R41471</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>
Client ID: <b>LCSW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533007</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3 90 110

Sample ID: <b>2108007-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533013</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium, Hexavalent	47.8	5.00	50.00	0	95.6 75 125

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	0	93.8	75	125	47.81	1.88	20	

Sample ID: <b>CCV1-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533015</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	90	110				

Sample ID: <b>2108010-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533020</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	75	125				

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	44.2	5.00	50.00	0	88.5	75	125	46.03	3.95	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV3-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41338</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531178</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.4	0.200	33.08	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41338</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531179</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.2	0.200	33.08	0	103	90	110				

Sample ID: <b>MB-18306</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531180</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18306</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531181</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	29.4	0.200	33.08	0	88.9	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18306</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531181</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>A2108018-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531183</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	64.1	0.200						63.84	0.344	20	

Sample ID: <b>A2108018-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531184</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	89.6	0.200	33.08	63.84	78.0	80	120				SMI

Sample ID: <b>A2108018-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531185</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	90.6	0.200	33.08	63.84	80.9	80	120	89.65	1.04	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.982	0.0200	1.000	0	98.2	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

Sample ID: <b>ICV-R41488</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533223</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.512	0.0200	0.5000	0	102	90	110				

Sample ID: <b>ICB-R41488</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533224</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>MB-R41488</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533226</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41488</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533227</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0	101	80	120				

Sample ID: <b>2108030-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533230</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.19	0.0200	1.000	0.1950	99.9	68.7	124				

Sample ID: <b>2108030-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.20	0.0200	1.000	0.1950	101	68.7	124	1.194	0.501	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>2108030-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533231</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41488</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533241</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>080221LLEC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>080221LLEC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41359</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41359</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531648</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2108006-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>080121LLIG</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	1.44	1.00						1.440	0	20	

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00						0	0	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Specialty Analytical

WO#: 2108006

8/27/2021

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>080221LLEC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>080221LLEC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>080221LLEC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV3-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532272</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41375</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531786</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41375</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531787</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1110	5.00	1000	0	111	80	120				

Sample ID: <b>2108006-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>080121LLIG</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531789</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	659	5.00						639.0	3.08	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108006  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41341</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531221</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41341</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531222</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	93.0	10.0	100.0	0	93.0	80	105				

Sample ID: <b>2108006-002DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>080221LLIC</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531224</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	272	10.0						246.0	10.0	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108006

RcptNo: 1

Date and Time Received 8/2/2021 1:20:00 PM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date:

8/2/2021

Reviewed Date:

8/2/2021 4:33:37 PM

Carrier name: SA

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To          | 1.8°C                               |
| Water - Were bubbles absent in VOC vials?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | No Vials    | <input type="checkbox"/>            |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



*Specialty Analytical*  
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TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: 2108006**

**Work Order Number: 2108026**

August 24, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 4 sample(s) on 8/3/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager



---

**CLIENT:** Specialty Analytical  
**Project:** 2108006  
**Work Order:** 2108026

---

**Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
2108026-001	080221LLIC	08/02/2021 9:00 AM	08/03/2021 10:14 AM
2108026-002	080221LLEC	08/02/2021 9:30 AM	08/03/2021 10:14 AM
2108026-003	parkway C	08/02/2021 9:15 AM	08/03/2021 10:14 AM
2108026-004	villaboies C	08/02/2021 10:00 AM	08/03/2021 10:14 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Specialty Analytical  
**Project:** 2108006

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2108026-001A

M-1631-W has been Sub Contracted.

2108026-002A

M-1631-W has been Sub Contracted.

2108026-003A

M-1631-W has been Sub Contracted.

2108026-004A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2108026

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 2108026-002A (2108110-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210922.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall".

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com





## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2108026-001A	080221LLIC	2108110-01	Wastewater	Sample	08/02/2021	08/09/2021
2108026-002A	080221LLEC	2108110-02	Wastewater	Sample	08/02/2021	08/09/2021
2108026-003A	parkway C	2108110-03	Wastewater	Sample	08/02/2021	08/09/2021
2108026-004A	villaboix C	2108110-04	Wastewater	Sample	08/02/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922



## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2108026-001A, 080221LLIC</b> 2108110-01	Hg	Wastewater	TR	29.9		0.68	2.11	ng/L	B212210	S210907
<b>2108026-002A, 080221LLEC</b> 2108110-02	Hg	Wastewater	TR	0.69		0.14	0.42	ng/L	B212210	S210922
<b>2108026-003A, parkway C</b> 2108110-03	Hg	Wastewater	TR	40.5		0.68	2.11	ng/L	B212210	S210907
<b>2108026-004A, villabois C</b> 2108110-04	Hg	Wastewater	TR	15.4		0.68	2.11	ng/L	B212210	S210907



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS4	Matrix Spike (2108110-01) Hg	29.88	105.3	135.9	ng/L	101% 71-125	
B212210-MSD4	Matrix Spike Duplicate (2108110-01) Hg	29.88	105.3	132.7	ng/L	98% 71-125	2% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	<b>0.08</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.03</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	



## Sample Containers

<b>Lab ID:</b> 2108110-01 <b>Sample:</b> 2108026-001A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/02/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108110
<b>Lab ID:</b> 2108110-02 <b>Sample:</b> 2108026-002A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/02/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108110
<b>Lab ID:</b> 2108110-03 <b>Sample:</b> 2108026-003A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/02/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108110
<b>Lab ID:</b> 2108110-04 <b>Sample:</b> 2108026-004A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/02/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108110

## Shipping Containers

### Cooler - 2108110

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



**CHAIN OF CUSTODY RECORD**

Omega COCID 1098

PAGE: 1

OF: 1

ADDRESS: BAL Report 2108110

Fremont Analytical, Inc.  
3600 Fremont Ave. N.  
Seattle, WA 98103  
TEL: 206-352-3790  
FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS: Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w/BrCl.</i>	
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>			
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>			
PHONE:	FAX:		EMAIL:
ACCOUNT #:			

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2108026-001A M-1631-W	080221LLIC	AMBER GLASS 5	Wastewater	8/2/2021 9:00:00 AM	1	
2	2108026-002A M-1631-W	080221LLEC	AMBER GLASS 5	Wastewater	8/2/2021 9:30:00 AM	1	
3	2108026-003A M-1631-W	parkway C	AMBER GLASS 5	Wastewater	8/2/2021 9:15:00 AM	1	
4	2108026-004A M-1631-W	villaboix C	AMBER GLASS 5	Wastewater	8/2/2021 10:00:00 AM	1	

Relinquished By: <i>B. Barnes</i>	Date: <i>8/19/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/19/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE  FOR LAB USE ONLY Temp of samples _____ °C    Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT:    Standard <input type="checkbox"/> RUSH:    Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/> Note: RUSH requests will incur surcharges!						Page 4 of 4 Page 4 of 9



Client Name: **SPECIAL**

 Work Order Number: **2108026**

 Logged by: **Gabrielle Coeuille**

 Date Received: **8/3/2021 10:14:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* Unknown prior to receipt Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample 1	23.5

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Jannsen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-2-21 Page: 1 of 1

Project Name: 2108006

Project No: ~~2108006~~ 8221 PO No:

Laboratory Project No (internal): 2108006

Temperature on Receipt: °C

Cooling: Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

Address:

Collected by:

City, State, Zip:

State Collected:  OR  WA  OTHER

Telephone:

Report To (PM):

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

AP Email: mandy@specialtyanalytical.com

PM Email: Julie@specialtyanalytical.com

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 080221LLTC	8-2-21	0900	WW	1	Lowlevel Mercury	
2 080221LLTC	8-2-21	0930	WW	1		
3 Parkway C	8-2-21	9:15	WW	1		
4 Millabois C	8-2-21	10:00	WW	1		
5						
6						
7						
8						
9						
10						

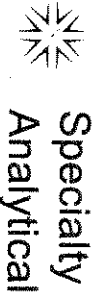
\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
Expedited turn-around requests should be coordinated in advance

Relinquished  Date/Time 8-2-21 1109 Received  Date/Time 8/3/21 1014

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_



**Specialty Analytical**  
 9011 SE Jannsen Rd  
 Clackamas, OR 97015  
 Phone: 503-607-1331  
 Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-2-21 Page: 1 of 1  
 Project Name: 2108006  
 Project No: 2108006  
 PO No: 2108006  
 Collected by: [Signature]  
 State Collected: OR  WA  OTHER   
 Report To (PM): [Signature]  
 Laboratory Project No (Internal): 2108006  
 Temperature on Receipt: 18 °C  
 Cooling: ICE Shipped Via: SA  
 Custody Seal: Y/N  Intact / Broken Cooler / Bottle  
 MDL  TIER IV  EDD   
 Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	EPA 200.8 Metals	SM 3500 CrB Hex Chrom	SM 4500 CN	Requested Tests	SM 4500 NH <sub>3</sub> EPA 351.1 TRN	EPA 1684 TS EPA 310.2 AIK	EPA 625	SM 4500 S20 Sulfides	SM 5210 B BOD CBOD	SM 25400 TSS	EPA 624 VOC VOAS	Comments
G- grab C - Composite I - Influent	080121	0900	WW													* 48hr TAT 624 625
E - Effluent	08021	0900	WW	1												
	080121	0930	WW													* 48hr TAT 624 625
	08022	0930	WW	1												
Parkway G	8-1-21	9:00	WW													
Villabos G	8-1-21	10:00	WW													
Parkway C	8-2-21	9:15	WW	1												
Villabos C	8-2-21	10:00	WW	1												

\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, S = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
 Expedited turn-around requests should be coordinated in advance

Retrieved: 8-2-21 11:10  
 Received: [Signature]  
 Date/Time: 8-2-21 12:35

Retrieved: 8-2-21 12:35  
 Received: [Signature]  
 Date/Time: 8-2-21 13:20



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2108006  
Date: 8/27/2021

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### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

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## Definition Only

WO#: 2108006  
Date: 8/27/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

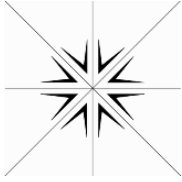
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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August 27, 2021

City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE:

Order No.: 2108007

Dear :

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-001  
**Client Sample ID** 080221LLIG

**Collection Date:** 8/2/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>					<b>E625.1</b>	<b>E625</b>
						<b>Analyst: CK</b>
1,2,4-Trichlorobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
1,2-Dichlorobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
1,2-Diphenylhydrazine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
1,3-Dichlorobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
1,4-Dichlorobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,4,6-Trichlorophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,4-Dichlorophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,4-Dimethylphenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,4-Dinitrophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,4-Dinitrotoluene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2,6-Dinitrotoluene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2-Chloronaphthalene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2-Chlorophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2-Methylphenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
2-Nitrophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
3,3'-Dichlorobenzidine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
3,4-Methylphenol	77.2	5.83		µg/L	5	8/18/2021 10:55:00 PM
4,6-Dinitro-2-methylphenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
4-Bromophenyl phenyl ether	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
4-Chloro-3-methylphenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
4-Chlorophenyl phenyl ether	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
4-Nitrophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Acenaphthene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Acenaphthylene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Aniline	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Anthracene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Azobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benz(a)anthracene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzidine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzo(a)pyrene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzo(b)fluoranthene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzo(g,h,i)perylene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzo(k)fluoranthene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Benzoic Acid	325	29.2		µg/L	5	8/18/2021 10:55:00 PM
Bis(2-chloroethoxy)methane	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Bis(2-chloroethyl)ether	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Bis(2-chloroisopropyl)ether	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Bis(2-ethylhexyl)phthalate	7.29	2.92		µg/L	5	8/18/2021 10:55:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-001  
**Client Sample ID** 080221LLIG

**Collection Date:** 8/2/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Carbazole	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Chrysene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Dibenz(a,h)anthracene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Diethyl phthalate	3.27	2.92		µg/L	5	8/18/2021 10:55:00 PM
Dimethyl phthalate	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Di-n-butyl phthalate	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Di-n-octyl phthalate	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Fluoranthene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Fluorene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Hexachlorobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Hexachlorobutadiene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Hexachlorocyclopentadiene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Hexachloroethane	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Isophorone	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Naphthalene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Nitrobenzene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
N-Nitrosodimethylamine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
N-Nitrosodi-n-propylamine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
N-Nitrosodiphenylamine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Pentachlorophenol	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Phenanthrene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Phenol	10.9	2.92		µg/L	5	8/18/2021 10:55:00 PM
Pyrene	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Pyridine	ND	2.92	Q	µg/L	5	8/18/2021 10:55:00 PM
Surr: 2,4,6-Tribromophenol	83.6	33.1 - 129.7		%Rec	5	8/18/2021 10:55:00 PM
Surr: 2-Fluorobiphenyl	88.4	33.1 - 126.2		%Rec	5	8/18/2021 10:55:00 PM
Surr: 2-Fluorophenol	31.0	13.4 - 127.1		%Rec	5	8/18/2021 10:55:00 PM
Surr: 4-Terphenyl-d14	109	41 - 122		%Rec	5	8/18/2021 10:55:00 PM
Surr: Nitrobenzene-d5	67.7	28.9 - 129.9		%Rec	5	8/18/2021 10:55:00 PM
Surr: Phenol-d6	21.8	10.6 - 128.5		%Rec	5	8/18/2021 10:55:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-001  
**Client Sample ID** 080221LLIG

**Collection Date:** 8/2/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 8:05:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 8:05:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 8:05:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 8:05:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Chloroform	1.48	0.500		µg/L	1	8/9/2021 8:05:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 8:05:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 8:05:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Toluene	1.47	0.500		µg/L	1	8/9/2021 8:05:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 8:05:00 PM
Surr: 1,2-Dichloroethane-d4	89.0	83.4 - 126		%Rec	1	8/9/2021 8:05:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 8:05:00 PM
Surr: Dibromofluoromethane	102	81.1 - 122		%Rec	1	8/9/2021 8:05:00 PM
Surr: Toluene-d8	89.0	80 - 120		%Rec	1	8/9/2021 8:05:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville

**Collection Date:** 8/2/2021 9:00:00 AM

**Project:**

**Lab ID:** 2108007-001

**Matrix:** WASTEWATER

**Client Sample ID** 080221LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:31:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00664	0.00500		mg/L	1	8/12/2021 3:37:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	114	1.00		mg/L	1	8/6/2021 12:31:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	577	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-002  
**Client Sample ID** 080221LLEG

**Collection Date:** 8/2/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>					<b>E625.1</b>	<b>E625</b>
						<b>Analyst: CK</b>
1,2,4-Trichlorobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
1,2-Dichlorobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
1,2-Diphenylhydrazine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
1,3-Dichlorobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
1,4-Dichlorobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,4,6-Trichlorophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,4-Dichlorophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,4-Dimethylphenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,4-Dinitrophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,4-Dinitrotoluene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2,6-Dinitrotoluene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2-Chloronaphthalene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2-Chlorophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2-Methylphenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
2-Nitrophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
3,3'-Dichlorobenzidine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
3,4-Methylphenol	ND	1.04		µg/L	1	8/18/2021 8:53:00 PM
4,6-Dinitro-2-methylphenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
4-Bromophenyl phenyl ether	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
4-Chloro-3-methylphenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
4-Chlorophenyl phenyl ether	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
4-Nitrophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Acenaphthene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Acenaphthylene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Aniline	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Anthracene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Azobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benz(a)anthracene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzidine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzo(a)pyrene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzo(b)fluoranthene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzo(g,h,i)perylene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzo(k)fluoranthene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Benzoic Acid	ND	5.18		µg/L	1	8/18/2021 8:53:00 PM
Bis(2-chloroethoxy)methane	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Bis(2-chloroethyl)ether	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Bis(2-chloroisopropyl)ether	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Bis(2-ethylhexyl)phthalate	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-002  
**Client Sample ID** 080221LLEG

**Collection Date:** 8/2/2021 9:30:00 AM  
**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Carbazole	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Chrysene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Dibenz(a,h)anthracene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Diethyl phthalate	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Dimethyl phthalate	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Di-n-butyl phthalate	0.549	0.518		µg/L	1	8/18/2021 8:53:00 PM
Di-n-octyl phthalate	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Fluoranthene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Fluorene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Hexachlorobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Hexachlorobutadiene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Hexachlorocyclopentadiene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Hexachloroethane	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Isophorone	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Naphthalene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Nitrobenzene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
N-Nitrosodimethylamine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
N-Nitrosodi-n-propylamine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
N-Nitrosodiphenylamine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Pentachlorophenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Phenanthrene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Phenol	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Pyrene	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Pyridine	ND	0.518		µg/L	1	8/18/2021 8:53:00 PM
Surr: 2,4,6-Tribromophenol	71.1	33.1 - 129.7		%Rec	1	8/18/2021 8:53:00 PM
Surr: 2-Fluorobiphenyl	73.0	33.1 - 126.2		%Rec	1	8/18/2021 8:53:00 PM
Surr: 2-Fluorophenol	24.2	13.4 - 127.1		%Rec	1	8/18/2021 8:53:00 PM
Surr: 4-Terphenyl-d14	89.6	41 - 122		%Rec	1	8/18/2021 8:53:00 PM
Surr: Nitrobenzene-d5	66.3	28.9 - 129.9		%Rec	1	8/18/2021 8:53:00 PM
Surr: Phenol-d6	18.4	10.6 - 128.5		%Rec	1	8/18/2021 8:53:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-002  
**Client Sample ID** 080221LLEG

**Collection Date:** 8/2/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 8:27:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 8:27:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 8:27:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 8:27:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 8:27:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 8:27:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Toluene	1.23	0.500		µg/L	1	8/9/2021 8:27:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 8:27:00 PM
Surr: 1,2-Dichloroethane-d4	88.6	83.4 - 126		%Rec	1	8/9/2021 8:27:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 8:27:00 PM
Surr: Dibromofluoromethane	99.0	81.1 - 122		%Rec	1	8/9/2021 8:27:00 PM
Surr: Toluene-d8	88.3	80 - 120		%Rec	1	8/9/2021 8:27:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-002  
**Client Sample ID** 080221LLEG

**Collection Date:** 8/2/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:32:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 3:47:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 12:36:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	145	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-003  
**Client Sample ID** Parkway G

**Collection Date:** 8/2/2021 9:15:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>					<b>E625.1</b>	<b>E625</b>
						<b>Analyst: CK</b>
1,2,4-Trichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
1,2-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
1,2-Diphenylhydrazine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
1,3-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
1,4-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,4,6-Trichlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,4-Dichlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,4-Dimethylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,4-Dinitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,4-Dinitrotoluene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2,6-Dinitrotoluene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2-Chloronaphthalene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2-Chlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2-Methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
2-Nitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
3,3'-Dichlorobenzidine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
3,4-Methylphenol	50.1	4.95		µg/L	5	8/18/2021 11:26:00 PM
4,6-Dinitro-2-methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
4-Bromophenyl phenyl ether	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
4-Chloro-3-methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
4-Chlorophenyl phenyl ether	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
4-Nitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Acenaphthene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Acenaphthylene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Aniline	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Azobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benz(a)anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzidine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzo(a)pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzo(b)fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzo(g,h,i)perylene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzo(k)fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Benzoic Acid	93.3	24.7		µg/L	5	8/18/2021 11:26:00 PM
Bis(2-chloroethoxy)methane	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Bis(2-chloroethyl)ether	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Bis(2-chloroisopropyl)ether	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Bis(2-ethylhexyl)phthalate	5.79	2.47		µg/L	5	8/18/2021 11:26:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-003  
**Client Sample ID** Parkway G

**Collection Date:** 8/2/2021 9:15:00 AM  
**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Carbazole	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Chrysene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Dibenz(a,h)anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Diethyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Dimethyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Di-n-butyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Di-n-octyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Fluorene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Hexachlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Hexachlorobutadiene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Hexachlorocyclopentadiene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Hexachloroethane	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Isophorone	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Naphthalene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Nitrobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
N-Nitrosodimethylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
N-Nitrosodi-n-propylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
N-Nitrosodiphenylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Pentachlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Phenanthrene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Phenol	5.84	2.47		µg/L	5	8/18/2021 11:26:00 PM
Pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Pyridine	ND	2.47	Q	µg/L	5	8/18/2021 11:26:00 PM
Surr: 2,4,6-Tribromophenol	76.7	33.1 - 129.7		%Rec	5	8/18/2021 11:26:00 PM
Surr: 2-Fluorobiphenyl	87.4	33.1 - 126.2		%Rec	5	8/18/2021 11:26:00 PM
Surr: 2-Fluorophenol	20.0	13.4 - 127.1		%Rec	5	8/18/2021 11:26:00 PM
Surr: 4-Terphenyl-d14	102	41 - 122		%Rec	5	8/18/2021 11:26:00 PM
Surr: Nitrobenzene-d5	67.4	28.9 - 129.9		%Rec	5	8/18/2021 11:26:00 PM
Surr: Phenol-d6	18.2	10.6 - 128.5		%Rec	5	8/18/2021 11:26:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-003  
**Client Sample ID** Parkway G

**Collection Date:** 8/2/2021 9:15:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
2-Butanone	14.1	5.00		µg/L	1	8/9/2021 8:49:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 8:49:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 8:49:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 8:49:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Chloroform	2.06	0.500		µg/L	1	8/9/2021 8:49:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 8:49:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 8:49:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 8:49:00 PM
Surr: 1,2-Dichloroethane-d4	86.6	83.4 - 126		%Rec	1	8/9/2021 8:49:00 PM
Surr: 4-Bromofluorobenzene	105	80.9 - 127		%Rec	1	8/9/2021 8:49:00 PM
Surr: Dibromofluoromethane	98.8	81.1 - 122		%Rec	1	8/9/2021 8:49:00 PM
Surr: Toluene-d8	89.1	80 - 120		%Rec	1	8/9/2021 8:49:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-003  
**Client Sample ID** Parkway G

**Collection Date:** 8/2/2021 9:15:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:36:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00570	0.00500		mg/L	1	8/12/2021 3:52:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 12:41:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	684	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-004  
**Client Sample ID** Villabois G

**Collection Date:** 8/2/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>					<b>E625.1</b>	<b>E625</b>
						<b>Analyst: CK</b>
1,2,4-Trichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
1,2-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
1,2-Diphenylhydrazine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
1,3-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
1,4-Dichlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,4,6-Trichlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,4-Dichlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,4-Dimethylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,4-Dinitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,4-Dinitrotoluene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2,6-Dinitrotoluene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2-Chloronaphthalene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2-Chlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2-Methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
2-Nitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
3,3'-Dichlorobenzidine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
3,4-Methylphenol	46.2	4.93		µg/L	5	8/18/2021 11:56:00 PM
4,6-Dinitro-2-methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
4-Bromophenyl phenyl ether	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
4-Chloro-3-methylphenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
4-Chlorophenyl phenyl ether	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
4-Nitrophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Acenaphthene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Acenaphthylene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Aniline	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Azobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benz(a)anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzidine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzo(a)pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzo(b)fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzo(g,h,i)perylene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzo(k)fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Benzoic Acid	107	24.7		µg/L	5	8/18/2021 11:56:00 PM
Bis(2-chloroethoxy)methane	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Bis(2-chloroethyl)ether	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Bis(2-chloroisopropyl)ether	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Bis(2-ethylhexyl)phthalate	5.03	2.47		µg/L	5	8/18/2021 11:56:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-004  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/2/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Carbazole	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Chrysene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Dibenz(a,h)anthracene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Diethyl phthalate	2.51	2.47		µg/L	5	8/18/2021 11:56:00 PM
Dimethyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Di-n-butyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Di-n-octyl phthalate	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Fluoranthene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Fluorene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Hexachlorobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Hexachlorobutadiene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Hexachlorocyclopentadiene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Hexachloroethane	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Isophorone	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Naphthalene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Nitrobenzene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
N-Nitrosodimethylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
N-Nitrosodi-n-propylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
N-Nitrosodiphenylamine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Pentachlorophenol	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Phenanthrene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Phenol	5.08	2.47		µg/L	5	8/18/2021 11:56:00 PM
Pyrene	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Pyridine	ND	2.47	Q	µg/L	5	8/18/2021 11:56:00 PM
Surr: 2,4,6-Tribromophenol	76.4	33.1 - 129.7		%Rec	5	8/18/2021 11:56:00 PM
Surr: 2-Fluorobiphenyl	88.8	33.1 - 126.2		%Rec	5	8/18/2021 11:56:00 PM
Surr: 2-Fluorophenol	33.1	13.4 - 127.1		%Rec	5	8/18/2021 11:56:00 PM
Surr: 4-Terphenyl-d14	101	41 - 122		%Rec	5	8/18/2021 11:56:00 PM
Surr: Nitrobenzene-d5	73.2	28.9 - 129.9		%Rec	5	8/18/2021 11:56:00 PM
Surr: Phenol-d6	23.1	10.6 - 128.5		%Rec	5	8/18/2021 11:56:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007  
Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville  
**Project:**  
**Lab ID:** 2108007-004  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/2/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 9:11:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 9:11:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 9:11:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 9:11:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Chloroform	7.43	0.500		µg/L	1	8/9/2021 9:11:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 9:11:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 9:11:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 9:11:00 PM
Surr: 1,2-Dichloroethane-d4	106	83.4 - 126		%Rec	1	8/9/2021 9:11:00 PM
Surr: 4-Bromofluorobenzene	104	80.9 - 127		%Rec	1	8/9/2021 9:11:00 PM
Surr: Dibromofluoromethane	120	81.1 - 122		%Rec	1	8/9/2021 9:11:00 PM
Surr: Toluene-d8	88.1	80 - 120		%Rec	1	8/9/2021 9:11:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108007

Date Reported: 8/27/2021

**CLIENT:** City of Wilsonville

**Collection Date:** 8/2/2021 10:00:00 AM

**Project:**

**Lab ID:** 2108007-004

**Matrix:** WASTEWATER

**Client Sample ID** Villabois G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	9.46	5.00		µg/L	1	8/17/2021 12:37:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00644	0.00500		mg/L	1	8/12/2021 3:57:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:46:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	557	5.00		mg/L	1	8/6/2021 12:02:34 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	60.5	139.5				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	71	129				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	72.5	127.5				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	50.5	149.5				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	63	137				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	68	132				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	34	166				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	73	127				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	63	137				
2-Butanone	93.3	5.00	80.00	0	117	60	140				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	224				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	60	140				
Acrylonitrile	50.2	2.00	40.00	0	125	50	150				
Benzene	36.5	0.500	40.00	0	91.4	64	136				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	65.5	134.5				
Bromoform	35.5	0.500	40.00	0	88.8	71	129				
Bromomethane	29.4	0.500	40.00	0	73.5	14	186				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	73	127				
Chlorobenzene	33.5	0.500	40.00	0	83.7	66	134				
Chloroethane	29.4	0.500	40.00	0	73.6	38	162				
Chloroform	39.3	0.500	40.00	0	98.2	67.5	132.5				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	204				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	24	176				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	67.5	132.5				
Ethylbenzene	33.5	0.500	40.00	0	83.9	59	141				
m,p-Xylene	61.3	1.00	80.00	0	76.6	65	127				
Methylene chloride	28.2	20.0	40.00	0	70.6	60.5	139.5				
o-Xylene	34.6	0.500	40.00	0	86.6	80	120				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	73.5	126.5				
Toluene	35.8	0.500	40.00	0	89.4	74.5	125.5				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	69.5	130.5				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	50	150				
Trichloroethene	41.3	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	48	152				
Vinyl chloride	29.8	0.500	40.00	0	74.6	4	196				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	96.1		100.0		96.1	83.4	126				
Surr: 4-Bromofluorobenzene	105		100.0		105	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	89.7		100.0		89.7	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	46	157				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	52	150				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	59	155				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	0.01	234				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	18	190				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	49	155				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	59	156				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	18	190				
2-Butanone	93.3	5.00	80.00	0	117	50	150				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	305				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	50	150				
Acrylonitrile	50.2	2.00	40.00	0	125	30	150				
Benzene	36.5	0.500	40.00	0	91.4	37	151				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	35	155				
Bromoform	35.5	0.500	40.00	0	88.8	45	169				
Bromomethane	29.4	0.500	40.00	0	73.5	0.01	242				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	70	140				
Chlorobenzene	33.5	0.500	40.00	0	83.7	37	160				
Chloroethane	29.4	0.500	40.00	0	73.6	14	230				
Chloroform	39.3	0.500	40.00	0	98.2	51	138				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>		SampType: <b>LCS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>				SeqNo: <b>532083</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	53	149				
Ethylbenzene	33.5	0.500	40.00	0	83.9	37	162				
m,p-Xylene	61.3	1.00	80.00	0	76.6	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.6	0.01	221				
o-Xylene	34.6	0.500	40.00	0	86.6	50	150				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	64	148				
Toluene	35.8	0.500	40.00	0	89.4	47	150				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	54	156				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	17	183				
Trichloroethene	41.3	0.500	40.00	0	103	71	157				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	17	181				
Vinyl chloride	29.8	0.500	40.00	0	74.6	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532084</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.0	0.500	40.00	0	110	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 624\_W**

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	41.3	0.500	40.00	0	103	75	125				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	60.5	139.5				
1,1,2-Trichloroethane	43.5	0.500	40.00	0	109	71	129				
1,1-Dichloroethane	41.4	0.500	40.00	0	103	72.5	127.5				
1,1-Dichloroethene	42.0	0.500	40.00	0	105	50.5	149.5				
1,2-Dichlorobenzene	41.0	0.500	40.00	0	102	63	137				
1,2-Dichloroethane	40.0	0.500	40.00	0	100	68	132				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	34	166				
1,3-Dichlorobenzene	40.7	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.9	0.500	40.00	0	102	63	137				
2-Butanone	86.0	5.00	80.00	0	108	60	140				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	224				
4-Methyl-2-pentanone	90.4	5.00	80.00	0	113	60	140				
Acrylonitrile	43.1	2.00	40.00	0	108	50	150				
Benzene	38.0	0.500	40.00	0	95.1	64	136				
Bromodichloromethane	40.8	0.500	40.00	0	102	65.5	134.5				
Bromoform	44.4	0.500	40.00	0	111	71	129				
Bromomethane	28.6	0.500	40.00	0	71.4	14	186				
Carbon tetrachloride	42.1	0.500	40.00	0	105	73	127				
Chlorobenzene	44.2	0.500	40.00	0	111	66	134				
Chloroethane	49.4	0.500	40.00	0	123	38	162				
Chloroform	41.2	0.500	40.00	0	103	67.5	132.5				
Chloromethane	36.8	0.500	40.00	0	92.0	0.01	204				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	41.4	0.500	40.00	0	104	24	176				
Dibromochloromethane	45.0	0.500	40.00	0	112	67.5	132.5				
Ethylbenzene	47.9	0.500	40.00	0	120	59	141				
m,p-Xylene	94.4	1.00	80.00	0	118	80	120				
Methylene chloride	31.0	20.0	40.00	0	77.4	60.5	139.5				
o-Xylene	46.2	0.500	40.00	0	116	80	120				
Styrene	46.1	0.500	40.00	0	115	80	120				
Tetrachloroethene	46.7	0.500	40.00	0	117	73.5	126.5				
Toluene	45.4	0.500	40.00	0	114	74.5	125.5				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	105	69.5	130.5				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	50	150				
Trichloroethene	41.2	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	48	152				
Vinyl chloride	32.6	0.500	40.00	0	81.5	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	120		100.0		120	81.1	125				
Surr: Toluene-d8	84.3		100.0		84.3	75	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532086							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	50.7	0.500	40.00	0	127	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.5	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	51.3	0.500	40.00	0	128	59	155				
1,1-Dichloroethene	51.5	0.500	40.00	0	129	47.8	165				
1,2-Dichlorobenzene	34.4	0.500	40.00	0	86.0	18	190				
1,2-Dichloroethane	47.2	0.500	40.00	0	118	49	155				
1,2-Dichloropropane	48.5	0.500	40.00	0	121	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.6	0.500	40.00	0	86.5	18	190				
2-Butanone	109	5.00	80.00	3.350	132	50	150				
2-Chloroethyl vinyl ether	48.5	10.0	40.00	0	121	0.01	305				
4-Methyl-2-pentanone	87.1	5.00	80.00	0	109	50	150				
Acrylonitrile	51.8	2.00	40.00	0	129	20	150				
Benzene	46.8	0.500	40.00	0	117	37	151				
Bromodichloromethane	48.6	0.500	40.00	0	122	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	30.5	0.500	40.00	0	76.2	0.01	242				
Carbon tetrachloride	51.7	0.500	40.00	0	129	70	140				
Chlorobenzene	41.5	0.500	40.00	0	104	37	160				
Chloroethane	75.4	0.500	40.00	0	188	14	230				
Chloroform	52.1	0.500	40.00	1.290	127	51	138				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532086				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	48.4	0.500	40.00	0	121	0.01	273				
cis-1,3-Dichloropropene	48.4	0.500	40.00	0	121	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	1.990	107	50	150				
Methylene chloride	36.2	20.0	40.00	0	90.6	0.01	221				
o-Xylene	41.8	0.500	40.00	0	105	50	150				
Styrene	41.6	0.500	40.00	0	104	70	130				
Tetrachloroethene	38.2	0.500	40.00	0	95.5	64	148				
Toluene	44.5	0.500	40.00	1.940	106	47	150				
trans-1,2-Dichloroethene	51.6	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	42.0	0.500	40.00	0	105	17	183				
Trichloroethene	49.4	0.500	40.00	0	124	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	42.7	0.500	40.00	0	107	0.01	251				

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532087				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.9	0.500	40.00	0	110	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	46	157				
1,1,2-Trichloroethane	42.7	0.500	40.00	0	107	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	39.6	0.500	40.00	0	99.1	18	190				
1,2-Dichloroethane	41.7	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	39.8	0.500	40.00	0	99.6	59	156				
1,4-Dichlorobenzene	39.7	0.500	40.00	0	99.3	18	190				
2-Butanone	89.0	5.00	80.00	0	111	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	90.0	5.00	80.00	0	112	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	40.2	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.0	0.500	40.00	0	105	35	155				
Bromoform	43.9	0.500	40.00	0	110	45	169				
Bromomethane	30.0	0.500	40.00	0	75.1	0.01	242				
Carbon tetrachloride	44.5	0.500	40.00	0	111	70	140				
Chlorobenzene	44.2	0.500	40.00	0	111	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	0	108	51	138				
Chloromethane	40.5	0.500	40.00	0	101	0.01	273				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532087		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	42.4	0.500	40.00	0	106	0.01	227				
Dibromochloromethane	44.2	0.500	40.00	0	111	53	149				
Ethylbenzene	47.8	0.500	40.00	0	120	37	162				
m,p-Xylene	94.1	1.00	80.00	0	118	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.2	0.01	221				
o-Xylene	45.5	0.500	40.00	0	114	50	150				
Styrene	45.1	0.500	40.00	0	113	70	130				
Tetrachloroethene	42.4	0.500	40.00	0	106	64	148				
Toluene	46.3	0.500	40.00	1.280	112	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	44.6	0.500	40.00	0	112	17	181				
Vinyl chloride	36.1	0.500	40.00	0	90.2	0.01	251				

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532088		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.6	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.9	0.500	40.00	0	105	52	162				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532088					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	38.7	0.500	40.00	0	96.7	46	157				
1,1,2-Trichloroethane	40.7	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.1	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.1	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.6	18	190				
1,2-Dichloroethane	39.4	0.500	40.00	0	98.5	49	155				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	1.190	88.5	18	190				
2-Butanone	98.9	5.00	80.00	12.59	108	50	150				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	305				
4-Methyl-2-pentanone	87.4	5.00	80.00	0	109	50	150				
Acrylonitrile	44.6	2.00	40.00	0	112	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.4	0.500	40.00	0	101	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	25.6	0.500	40.00	0	64.0	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.6	0.500	40.00	0	169	14	230				
Chloroform	45.0	0.500	40.00	3.280	104	51	138				
Chloromethane	45.4	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532088		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	42.2	0.500	40.00	0	106	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	0	110	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.6	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	43.3	0.500	40.00	0	108	54	156				
trans-1,3-Dichloropropene	42.8	0.500	40.00	0	107	17	183				
Trichloroethene	40.8	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	104	17	181				
Vinyl chloride	33.6	0.500	40.00	0	83.9	0.01	251				

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532089		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	41.2	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.4	46	157				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	41.0	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	40.7	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.4	18	190				
1,2-Dichloroethane	46.9	0.500	40.00	0	117	49	155				
1,2-Dichloropropane	41.5	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.5	0.500	40.00	0	86.4	18	190				
2-Butanone	83.9	5.00	80.00	2.380	102	50	150				
2-Chloroethyl vinyl ether	41.5	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	88.4	5.00	80.00	0	110	50	150				
Acrylonitrile	41.4	2.00	40.00	0	104	20	150				
Benzene	54.6	0.500	40.00	0	136	37	151				
Bromodichloromethane	41.6	0.500	40.00	0	104	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	23.3	0.500	40.00	0	58.2	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	41.6	0.500	40.00	0	104	37	160				
Chloroethane	48.2	0.500	40.00	0	120	14	230				
Chloroform	41.4	0.500	40.00	0	103	51	138				
Chloromethane	36.1	0.500	40.00	0	90.3	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532089		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.2	1.00	80.00	0	109	50	150				
Methylene chloride	25.1	20.0	40.00	0	62.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	37.5	0.500	40.00	0	93.8	64	148				
Toluene	43.9	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	42.2	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	42.6	0.500	40.00	0	106	17	181				
Vinyl chloride	34.7	0.500	40.00	0	86.9	0.01	251				

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: 080221LLIG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532090		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	70	130				
1,1,1-Trichloroethane	39.6	0.500	40.00	0	99.0	52	162				
1,1,2,2-Tetrachloroethane	37.4	0.500	40.00	0	93.5	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.2	52	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: 080221LLIG	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532090					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.0	0.500	40.00	0	100	59	155				
1,1-Dichloroethene	41.1	0.500	40.00	0	103	47.8	165				
1,2-Dichlorobenzene	34.0	0.500	40.00	0	85.0	18	190				
1,2-Dichloroethane	37.2	0.500	40.00	0	92.9	49	155				
1,2-Dichloropropane	38.7	0.500	40.00	0	96.8	0.01	210				
1,3-Dichlorobenzene	33.9	0.500	40.00	0	84.8	59	156				
1,4-Dichlorobenzene	34.4	0.500	40.00	0	86.1	18	190				
2-Butanone	84.3	5.00	80.00	2.890	102	50	150				
2-Chloroethyl vinyl ether	38.7	10.0	40.00	0	96.8	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	41.3	2.00	40.00	0	103	20	150				
Benzene	36.5	0.500	40.00	0	91.2	37	151				
Bromodichloromethane	38.6	0.500	40.00	0	96.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	27.1	0.500	40.00	0	67.8	0.01	242				
Carbon tetrachloride	40.3	0.500	40.00	0	101	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	46.6	0.500	40.00	0	116	14	230				
Chloroform	40.9	0.500	40.00	1.480	98.4	51	138				
Chloromethane	36.5	0.500	40.00	0	91.2	0.01	273				
cis-1,3-Dichloropropene	39.0	0.500	40.00	0	97.5	0.01	227				
Dibromochloromethane	41.1	0.500	40.00	0	103	53	149				
Ethylbenzene	43.2	0.500	40.00	0	108	37	162				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: 080221LLIG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532090		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	84.7	1.00	80.00	0	106	50	150				
Methylene chloride	24.8	20.0	40.00	0	62.0	0.01	221				
o-Xylene	41.0	0.500	40.00	0	102	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.1	64	148				
Toluene	43.0	0.500	40.00	1.470	104	47	150				
trans-1,2-Dichloroethene	41.0	0.500	40.00	0	102	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	39.3	0.500	40.00	0	98.3	71	157				
Trichlorofluoromethane	40.6	0.500	40.00	0	102	17	181				
Vinyl chloride	32.0	0.500	40.00	0	80.0	0.01	251				

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: 080221LLEG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532091		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.9	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	40.9	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.2	46	157				
1,1,2-Trichloroethane	41.8	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 080221LLEG	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532091						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	42.4	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	38.3	0.500	40.00	0	95.8	18	190				
1,2-Dichloroethane	38.6	0.500	40.00	0	96.4	49	155				
1,2-Dichloropropane	39.8	0.500	40.00	0	99.6	0.01	210				
1,3-Dichlorobenzene	38.6	0.500	40.00	0	96.5	59	156				
1,4-Dichlorobenzene	38.4	0.500	40.00	0	96.0	18	190				
2-Butanone	85.4	5.00	80.00	0	107	50	150				
2-Chloroethyl vinyl ether	39.8	10.0	40.00	0	99.6	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	42.7	2.00	40.00	0	107	20	150				
Benzene	37.8	0.500	40.00	0	94.4	37	151				
Bromodichloromethane	39.5	0.500	40.00	0	98.8	35	155				
Bromoform	41.6	0.500	40.00	0	104	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	41.6	0.500	40.00	0	104	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	45.2	0.500	40.00	0	113	14	230				
Chloroform	40.7	0.500	40.00	0	102	51	138				
Chloromethane	38.2	0.500	40.00	0	95.6	0.01	273				
cis-1,3-Dichloropropene	40.3	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	46.1	0.500	40.00	0	115	37	162				
m,p-Xylene	90.7	1.00	80.00	0	113	50	150				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: 080221LLEG	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532091					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	26.2	20.0	40.00	0	65.4	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	43.3	0.500	40.00	0	108	70	130				
Tetrachloroethene	40.3	0.500	40.00	0	101	64	148				
Toluene	44.2	0.500	40.00	1.230	107	47	150				
trans-1,2-Dichloroethene	42.0	0.500	40.00	0	105	54	156				
trans-1,3-Dichloropropene	43.0	0.500	40.00	0	107	17	183				
Trichloroethene	41.0	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.7	0.500	40.00	0	104	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.5	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	107	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	34.3	0.500	40.00	0	85.8	18	190				
1,2-Dichloroethane	39.2	0.500	40.00	0	97.9	49	155				
1,2-Dichloropropane	41.0	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	35.1	0.500	40.00	0	87.7	18	190				
2-Butanone	103	5.00	80.00	14.08	111	50	150				
2-Chloroethyl vinyl ether	41.0	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	88.9	5.00	80.00	0	111	50	150				
Acrylonitrile	45.1	2.00	40.00	0	113	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.3	0.500	40.00	0	101	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	32.8	0.500	40.00	0	81.9	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	42.2	0.500	40.00	0	105	37	160				
Chloroethane	46.6	0.500	40.00	0	117	14	230				
Chloroform	43.7	0.500	40.00	2.060	104	51	138				
Chloromethane	41.6	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.3	0.500	40.00	0	106	53	149				
Ethylbenzene	44.5	0.500	40.00	0	111	37	162				
m,p-Xylene	88.2	1.00	80.00	0	110	50	150				
Methylene chloride	27.4	20.0	40.00	0	68.5	0.01	221				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532092						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.6	64	148				
Toluene	44.4	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	43.8	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.6	0.500	40.00	0	109	17	183				
Trichloroethene	41.5	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	41.7	0.500	40.00	0	104	17	181				
Vinyl chloride	32.2	0.500	40.00	0	80.5	0.01	251				

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532093						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				
1,1,1-Trichloroethane	40.7	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.0	46	157				
1,1,2-Trichloroethane	40.0	0.500	40.00	0	100	52	150				
1,1-Dichloroethane	42.4	0.500	40.00	0	106	59	155				
1,1-Dichloroethene	42.8	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	32.4	0.500	40.00	0	80.9	18	190				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532093						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	38.3	0.500	40.00	0	95.8	49	155				
1,2-Dichloropropane	39.7	0.500	40.00	0	99.2	0.01	210				
1,3-Dichlorobenzene	32.1	0.500	40.00	0	80.4	59	156				
1,4-Dichlorobenzene	32.6	0.500	40.00	0	81.4	18	190				
2-Butanone	88.3	5.00	80.00	3.320	106	50	150				
2-Chloroethyl vinyl ether	39.7	10.0	40.00	0	99.2	0.01	305				
4-Methyl-2-pentanone	86.1	5.00	80.00	0	108	50	150				
Acrylonitrile	43.8	2.00	40.00	0	110	20	150				
Benzene	38.4	0.500	40.00	0	95.9	37	151				
Bromodichloromethane	39.8	0.500	40.00	0	99.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	32.8	0.500	40.00	0	82.1	0.01	242				
Carbon tetrachloride	40.9	0.500	40.00	0	102	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	45.5	0.500	40.00	0	114	14	230				
Chloroform	47.0	0.500	40.00	7.430	99.0	51	138				
Chloromethane	42.0	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	39.8	0.500	40.00	0	99.5	0.01	227				
Dibromochloromethane	41.4	0.500	40.00	0	104	53	149				
Ethylbenzene	42.6	0.500	40.00	0	107	37	162				
m,p-Xylene	84.0	1.00	80.00	0	105	50	150				
Methylene chloride	26.1	20.0	40.00	0	65.2	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	40.5	0.500	40.00	0	101	70	130				
Tetrachloroethene	35.5	0.500	40.00	0	88.8	64	148				
Toluene	42.9	0.500	40.00	0	107	47	150				
trans-1,2-Dichloroethene	42.8	0.500	40.00	0	107	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	40.2	0.500	40.00	0	100	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	33.0	0.500	40.00	0	82.5	0.01	251				

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.8	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	42.6	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	38.9	0.500	40.00	0	97.3	46	157				
1,1,2-Trichloroethane	40.4	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.1	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	34.5	0.500	40.00	0	86.2	18	190				
1,2-Dichloroethane	39.8	0.500	40.00	0	99.4	49	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.6	0.500	40.00	0	86.4	59	156				
1,4-Dichlorobenzene	34.9	0.500	40.00	0	87.3	18	190				
2-Butanone	93.1	5.00	80.00	3.520	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	87.7	5.00	80.00	0	110	50	150				
Acrylonitrile	44.9	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	27.8	0.500	40.00	0	69.6	0.01	242				
Carbon tetrachloride	43.0	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.0	0.500	40.00	0	167	14	230				
Chloroform	43.8	0.500	40.00	1.210	106	51	138				
Chloromethane	48.0	0.500	40.00	0	120	0.01	273				
cis-1,3-Dichloropropene	41.3	0.500	40.00	0	103	0.01	227				
Dibromochloromethane	41.9	0.500	40.00	0	105	53	149				
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.0	1.00	80.00	0	109	50	150				
Methylene chloride	28.3	20.0	40.00	0	70.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	41.8	0.500	40.00	0	104	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 624\_W**

Sample ID: <b>2108010-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532094</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	37.6	0.500	40.00	0	93.9	64	148				
Toluene	44.5	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	44.4	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	42.5	0.500	40.00	0	106	17	183				
Trichloroethene	42.3	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	43.5	0.500	40.00	0	109	17	181				
Vinyl chloride	33.6	0.500	40.00	0	84.1	0.01	251				

Sample ID: <b>2108010-003EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532095</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.2	0.500	40.00	0	108	70	130				
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	39.3	0.500	40.00	0	98.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	38.7	0.500	40.00	0	96.7	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	39.0	0.500	40.00	0	97.5	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				
2-Butanone	89.3	5.00	80.00	0	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	89.2	5.00	80.00	0	112	50	150				
Acrylonitrile	44.8	2.00	40.00	0	112	20	150				
Benzene	39.4	0.500	40.00	0	98.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	43.2	0.500	40.00	0	108	45	169				
Bromomethane	26.7	0.500	40.00	0	66.8	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	43.4	0.500	40.00	0	109	37	160				
Chloroethane	55.5	0.500	40.00	0	139	14	230				
Chloroform	42.2	0.500	40.00	0	106	51	138				
Chloromethane	40.6	0.500	40.00	0	101	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	43.5	0.500	40.00	0	109	53	149				
Ethylbenzene	47.5	0.500	40.00	0	119	37	162				
m,p-Xylene	93.4	1.00	80.00	0	117	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.3	0.01	221				
o-Xylene	45.0	0.500	40.00	0	113	50	150				
Styrene	44.8	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.0	0.500	40.00	0	102	64	148				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.2	0.500	40.00	0	105	71	157				
Trichlorofluoromethane	42.9	0.500	40.00	0	107	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: CCV MSVWS-3044	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCV	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532096							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	80	120				
1,1,1-Trichloroethane	47.5	0.500	40.00	0	119	75	125				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	60.5	139.5				
1,1,2-Trichloroethane	41.4	0.500	40.00	0	104	71	129				
1,1-Dichloroethane	48.4	0.500	40.00	0	121	72.5	127.5				
1,1-Dichloroethene	50.1	0.500	40.00	0	125	50.5	149.5				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	63	137				
1,2-Dichloroethane	43.1	0.500	40.00	0	108	68	132				
1,2-Dichloropropane	45.0	0.500	40.00	0	112	34	166				
1,3-Dichlorobenzene	37.5	0.500	40.00	0	93.7	73	127				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.4	63	137				
2-Butanone	91.6	5.00	80.00	0	114	60	140				
2-Chloroethyl vinyl ether	45.0	10.0	40.00	0	112	0.01	224				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	60	140				
Acrylonitrile	47.4	2.00	40.00	0	118	50	150				
Benzene	43.6	0.500	40.00	0	109	64	136				
Bromodichloromethane	44.2	0.500	40.00	0	110	65.5	134.5				
Bromoform	40.4	0.500	40.00	0	101	71	129				
Bromomethane	32.3	0.500	40.00	0	80.7	14	186				
Carbon tetrachloride	47.2	0.500	40.00	0	118	73	127				
Chlorobenzene	43.0	0.500	40.00	0	107	66	134				
Chloroethane	52.4	0.500	40.00	0	131	38	162				
Chloroform	46.8	0.500	40.00	0	117	67.5	132.5				
Chloromethane	47.0	0.500	40.00	0	118	0.01	204				
cis-1,3-Dichloropropene	45.8	0.500	40.00	0	114	24	176				
Dibromochloromethane	42.4	0.500	40.00	0	106	67.5	132.5				
Ethylbenzene	43.1	0.500	40.00	0	108	59	141				
m,p-Xylene	83.6	1.00	80.00	0	105	80	120				
Methylene chloride	37.7	20.0	40.00	0	94.2	60.5	139.5				
o-Xylene	43.9	0.500	40.00	0	110	80	120				
Styrene	43.2	0.500	40.00	0	108	80	120				
Tetrachloroethene	42.7	0.500	40.00	0	107	73.5	126.5				
Toluene	46.5	0.500	40.00	0	116	74.5	125.5				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	50.4	0.500	40.00	0	126	69.5	130.5				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	50	150				
Trichloroethene	47.5	0.500	40.00	0	119	66.5	133.5				
Trichlorofluoromethane	48.9	0.500	40.00	0	122	48	152				
Vinyl chloride	6.95	0.500	40.00	0	17.4	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	84.8		100.0		84.8	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	96.8		100.0		96.8	81.1	125				
Surr: Toluene-d8	92.0		100.0		92.0	75	120				

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	44.4	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	38.1	0.500	40.00	0	95.2	46	157				
1,1,2-Trichloroethane	41.6	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	44.8	0.500	40.00	0	112	59	155				
1,1-Dichloroethene	45.3	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	88.9	18	190				
1,2-Dichloroethane	41.3	0.500	40.00	0	103	49	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.4	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	0	91.9	18	190				
2-Butanone	97.0	5.00	80.00	10.06	109	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	88.5	5.00	80.00	0	111	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	40.8	0.500	40.00	0	102	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	32.6	0.500	40.00	0	81.5	0.01	242				
Carbon tetrachloride	45.4	0.500	40.00	0	113	70	140				
Chlorobenzene	42.6	0.500	40.00	0	107	37	160				
Chloroethane	46.9	0.500	40.00	0	117	14	230				
Chloroform	45.1	0.500	40.00	1.310	110	51	138				
Chloromethane	42.7	0.500	40.00	0	107	0.01	273				
cis-1,3-Dichloropropene	44.6	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	43.1	0.500	40.00	0	108	53	149				
Ethylbenzene	45.9	0.500	40.00	0	115	37	162				
m,p-Xylene	90.2	1.00	80.00	0	113	50	150				
Methylene chloride	29.3	20.0	40.00	0	73.2	0.01	221				
o-Xylene	43.4	0.500	40.00	0	108	50	150				
Styrene	43.0	0.500	40.00	0	108	70	130				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				
trans-1,2-Dichloroethene	45.5	0.500	40.00	0	114	54	156				
trans-1,3-Dichloropropene	44.8	0.500	40.00	0	112	17	183				
Trichloroethene	44.3	0.500	40.00	0	111	71	157				
Trichlorofluoromethane	45.9	0.500	40.00	0	115	17	181				
Vinyl chloride	38.3	0.500	40.00	0	95.7	0.01	251				

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.3	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	94.9	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.9	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.8	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	34.8	0.500	40.00	0	87.0	18	190				
1,2-Dichloroethane	40.5	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	34.8	0.500	40.00	0	87.1	59	156				
1,4-Dichlorobenzene	35.0	0.500	40.00	0	87.5	18	190				
2-Butanone	93.2	5.00	80.00	2.820	113	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.3	5.00	80.00	0	110	50	150				
Acrylonitrile	45.3	2.00	40.00	0	113	20	150				
Benzene	40.0	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	106	35	155				
Bromoform	41.3	0.500	40.00	0	103	45	169				
Bromomethane	31.1	0.500	40.00	0	77.7	0.01	242				
Carbon tetrachloride	44.1	0.500	40.00	0	110	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	49.8	0.500	40.00	0	124	14	230				
Chloroform	43.8	0.500	40.00	0	109	51	138				
Chloromethane	43.7	0.500	40.00	0	109	0.01	273				
cis-1,3-Dichloropropene	43.8	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.7	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	96.0	64	148				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 624\_W**

Sample ID: <b>2108010-008EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532099</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	43.8	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.2	0.500	40.00	0	111	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.1	0.500	40.00	0	82.8	0.01	251				

Sample ID: <b>2108028-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532100</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.4	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.8	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.6	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	100	49	155				
1,2-Dichloropropane	42.4	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.1	59	156				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	93.2	5.00	80.00	4.490	111	50	150				
2-Chloroethyl vinyl ether	42.4	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.0	5.00	80.00	0	110	50	150				
Acrylonitrile	44.5	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	105	35	155				
Bromoform	41.4	0.500	40.00	0	103	45	169				
Bromomethane	25.9	0.500	40.00	0	64.9	0.01	242				
Carbon tetrachloride	43.8	0.500	40.00	0	109	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	69.3	0.500	40.00	0	173	14	230				
Chloroform	44.1	0.500	40.00	1.410	107	51	138				
Chloromethane	46.4	0.500	40.00	0	116	0.01	273				
cis-1,3-Dichloropropene	43.7	0.500	40.00	0	109	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.7	20.0	40.00	0	71.8	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.4	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.6	0.500	40.00	0	96.4	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	44.5	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.6	0.500	40.00	0	111	17	183				
Trichloroethene	43.6	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.0	0.500	40.00	0	110	17	181				
Vinyl chloride	34.1	0.500	40.00	0	85.3	0.01	251				

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.0	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethane	44.5	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.4	18	190				
1,2-Dichloroethane	40.9	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.2	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	90.1	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.0	5.00	80.00	0	111	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	43.0	0.500	40.00	0	108	45	169				
Bromomethane	24.8	0.500	40.00	0	62.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	111	70	140				
Chlorobenzene	43.8	0.500	40.00	0	109	37	160				
Chloroethane	47.9	0.500	40.00	0	120	14	230				
Chloroform	42.9	0.500	40.00	0	107	51	138				
Chloromethane	38.8	0.500	40.00	0	97.0	0.01	273				
cis-1,3-Dichloropropene	44.7	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	43.9	0.500	40.00	0	110	53	149				
Ethylbenzene	47.3	0.500	40.00	0	118	37	162				
m,p-Xylene	93.8	1.00	80.00	0	117	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.5	0.01	221				
o-Xylene	45.1	0.500	40.00	0	113	50	150				
Styrene	45.0	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.7	0.500	40.00	0	104	64	148				
Toluene	45.5	0.500	40.00	0	114	47	150				
trans-1,2-Dichloroethene	44.6	0.500	40.00	0	112	54	156				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	45.8	0.500	40.00	0	115	17	183				
Trichloroethene	43.9	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.2	0.500	40.00	0	111	17	181				
Vinyl chloride	32.5	0.500	40.00	0	81.2	0.01	251				

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.8	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,1,2-Tetrachloroethane	38.4	0.500	40.00	0	95.9	46	157				
1,1,2-Trichloroethane	41.3	0.500	40.00	0	103	52	150				
1,1-Dichloroethane	44.3	0.500	40.00	0	111	59	155				
1,1-Dichloroethene	44.9	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.5	18	190				
1,2-Dichloroethane	40.7	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.3	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.9	0.500	40.00	1.020	89.7	18	190				
2-Butanone	113	5.00	80.00	22.52	114	50	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532102					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	43.3	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.3	5.00	80.00	0	112	50	150				
Acrylonitrile	45.8	2.00	40.00	0	114	20	150				
Benzene	40.4	0.500	40.00	0	101	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	27.6	0.500	40.00	0	69.0	0.01	242				
Carbon tetrachloride	44.3	0.500	40.00	0	111	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	50.3	0.500	40.00	0	126	14	230				
Chloroform	45.2	0.500	40.00	2.100	108	51	138				
Chloromethane	40.6	0.500	40.00	0	102	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	42.7	0.500	40.00	0	107	53	149				
Ethylbenzene	45.4	0.500	40.00	0	114	37	162				
m,p-Xylene	89.8	1.00	80.00	0	112	50	150				
Methylene chloride	28.6	20.0	40.00	0	71.6	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	42.8	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.2	64	148				
Toluene	45.7	0.500	40.00	1.280	111	47	150				
trans-1,2-Dichloroethene	44.8	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.9	0.500	40.00	0	112	17	183				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532102						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	44.0	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.3	0.500	40.00	0	83.3	0.01	251				

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532103						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.0	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,1,2-Tetrachloroethane	38.2	0.500	40.00	0	95.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.7	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.5	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.8	0.500	40.00	0	107	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	34.7	0.500	40.00	0	86.8	18	190				
2-Butanone	91.7	5.00	80.00	2.100	112	50	150				
2-Chloroethyl vinyl ether	42.8	10.0	40.00	0	107	0.01	305				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532103							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	88.7	5.00	80.00	0	111	50	150				
Acrylonitrile	45.4	2.00	40.00	0	113	20	150				
Benzene	39.6	0.500	40.00	0	98.9	37	151				
Bromodichloromethane	42.6	0.500	40.00	0	106	35	155				
Bromoform	41.1	0.500	40.00	0	103	45	169				
Bromomethane	28.0	0.500	40.00	0	70.0	0.01	242				
Carbon tetrachloride	43.3	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	53.8	0.500	40.00	0	135	14	230				
Chloroform	43.3	0.500	40.00	0	108	51	138				
Chloromethane	41.9	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	44.1	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.0	0.500	40.00	0	105	53	149				
Ethylbenzene	44.6	0.500	40.00	0	111	37	162				
m,p-Xylene	87.4	1.00	80.00	0	109	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.1	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	44.1	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.1	0.500	40.00	0	110	17	183				
Trichloroethene	43.2	0.500	40.00	0	108	71	157				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	43.7	0.500	40.00	0	109	17	181				
Vinyl chloride	34.0	0.500	40.00	0	85.1	0.01	251				

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.6	0.500	40.00	0	106	70	130				
1,1,1-Trichloroethane	53.6	0.500	40.00	0	134	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	96.9	46	157				
1,1,2-Trichloroethane	41.9	0.500	40.00	0	105	52	150				
1,1-Dichloroethane	54.7	0.500	40.00	0	137	59	155				
1,1-Dichloroethene	55.4	0.500	40.00	0	138	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	89.0	18	190				
1,2-Dichloroethane	50.1	0.500	40.00	0	125	49	155				
1,2-Dichloropropane	52.9	0.500	40.00	0	132	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.6	59	156				
1,4-Dichlorobenzene	36.4	0.500	40.00	0	91.0	18	190				
2-Butanone	116	5.00	80.00	3.370	140	50	150				
2-Chloroethyl vinyl ether	52.9	10.0	40.00	0	132	0.01	305				
4-Methyl-2-pentanone	90.7	5.00	80.00	0	113	50	150				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532104							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	50.0	0.500	40.00	0	125	37	151				
Bromodichloromethane	52.4	0.500	40.00	0	131	35	155				
Bromoform	42.3	0.500	40.00	0	106	45	169				
Bromomethane	34.7	0.500	40.00	0	86.8	0.01	242				
Carbon tetrachloride	54.3	0.500	40.00	0	136	70	140				
Chlorobenzene	43.0	0.500	40.00	0	108	37	160				
Chloroethane	74.5	0.500	40.00	0	186	14	230				
Chloroform	55.1	0.500	40.00	1.340	134	51	138				
Chloromethane	55.6	0.500	40.00	0	139	0.01	273				
cis-1,3-Dichloropropene	54.0	0.500	40.00	0	135	0.01	227				
Dibromochloromethane	43.2	0.500	40.00	0	108	53	149				
Ethylbenzene	46.0	0.500	40.00	0	115	37	162				
m,p-Xylene	90.8	1.00	80.00	0	114	50	150				
Methylene chloride	40.1	20.0	40.00	0	100	0.01	221				
o-Xylene	43.5	0.500	40.00	0	109	50	150				
Styrene	43.4	0.500	40.00	0	109	70	130				
Tetrachloroethene	39.4	0.500	40.00	0	98.5	64	148				
Toluene	45.9	0.500	40.00	1.220	112	47	150				
trans-1,2-Dichloroethene	55.7	0.500	40.00	0	139	54	156				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	17	183				
Trichloroethene	53.4	0.500	40.00	0	134	71	157				
Trichlorofluoromethane	54.8	0.500	40.00	0	137	17	181				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 624\_W**

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.9	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	49.9	0.500	40.00	0	125	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	96.0	46	157				
1,1,2-Trichloroethane	42.2	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	50.3	0.500	40.00	0	126	59	155				
1,1-Dichloroethene	51.0	0.500	40.00	0	128	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.6	18	190				
1,2-Dichloroethane	47.5	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	49.7	0.500	40.00	0	124	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.4	59	156				
1,4-Dichlorobenzene	38.9	0.500	40.00	0	97.2	18	190				
2-Butanone	104	5.00	80.00	0	130	50	150				
2-Chloroethyl vinyl ether	49.7	10.0	40.00	0	124	0.01	305				
4-Methyl-2-pentanone	89.8	5.00	80.00	0	112	50	150				
Acrylonitrile	52.4	2.00	40.00	0	131	20	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108045-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532105							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.4	0.500	40.00	0	116	37	151				
Bromodichloromethane	49.2	0.500	40.00	0	123	35	155				
Bromoform	43.0	0.500	40.00	0	107	45	169				
Bromomethane	35.4	0.500	40.00	0	88.5	0.01	242				
Carbon tetrachloride	50.8	0.500	40.00	0	127	70	140				
Chlorobenzene	43.6	0.500	40.00	0	109	37	160				
Chloroethane	60.0	0.500	40.00	0	150	14	230				
Chloroform	49.6	0.500	40.00	0	124	51	138				
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	51.2	0.500	40.00	0	128	0.01	227				
Dibromochloromethane	43.6	0.500	40.00	0	109	53	149				
Ethylbenzene	47.6	0.500	40.00	0	119	37	162				
m,p-Xylene	94.2	1.00	80.00	0	118	50	150				
Methylene chloride	35.6	20.0	40.00	0	89.1	0.01	221				
o-Xylene	45.4	0.500	40.00	0	114	50	150				
Styrene	45.2	0.500	40.00	0	113	70	130				
Tetrachloroethene	41.3	0.500	40.00	0	103	64	148				
Toluene	45.3	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	51.4	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	46.0	0.500	40.00	0	115	17	183				
Trichloroethene	50.6	0.500	40.00	0	126	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	37.8	0.500	40.00	0	94.6	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 624\_W**

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532106</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	52.6	0.500	40.00	0	132	52	162				
1,1,2,2-Tetrachloroethane	37.8	0.500	40.00	0	94.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	53.3	0.500	40.00	0	133	59	155				
1,1-Dichloroethene	55.0	0.500	40.00	0	137	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.4	18	190				
1,2-Dichloroethane	49.0	0.500	40.00	0	123	49	155				
1,2-Dichloropropane	51.8	0.500	40.00	0	129	0.01	210				
1,3-Dichlorobenzene	35.3	0.500	40.00	0	88.3	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	1.280	88.8	18	190				
2-Butanone	125	5.00	80.00	12.67	141	50	150				
2-Chloroethyl vinyl ether	51.8	10.0	40.00	0	129	0.01	305				
4-Methyl-2-pentanone	88.2	5.00	80.00	0	110	50	150				
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	49.5	0.500	40.00	0	124	37	151				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108045-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	51.2	0.500	40.00	0	128	35	155				
Bromoform	40.2	0.500	40.00	0	101	45	169				
Bromomethane	36.8	0.500	40.00	0	91.9	0.01	242				
Carbon tetrachloride	53.6	0.500	40.00	0	134	70	140				
Chlorobenzene	42.1	0.500	40.00	0	105	37	160				
Chloroethane	66.0	0.500	40.00	0	165	14	230				
Chloroform	54.7	0.500	40.00	2.390	131	51	138				
Chloromethane	49.5	0.500	40.00	0	124	0.01	273				
cis-1,3-Dichloropropene	52.8	0.500	40.00	0	132	0.01	227				
Dibromochloromethane	41.7	0.500	40.00	0	104	53	149				
Ethylbenzene	45.2	0.500	40.00	0	113	37	162				
m,p-Xylene	89.2	1.00	80.00	0	111	50	150				
Methylene chloride	38.8	20.0	40.00	0	97.0	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	95.9	64	148				
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	55.1	0.500	40.00	0	138	54	156				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	17	183				
Trichloroethene	53.3	0.500	40.00	0	133	71	157				
Trichlorofluoromethane	53.6	0.500	40.00	0	134	17	181				
Vinyl chloride	39.7	0.500	40.00	0	99.2	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	51.2	0.500	40.00	0	128	52	162				
1,1,2,2-Tetrachloroethane	36.2	0.500	40.00	0	90.6	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	52.4	0.500	40.00	0	131	59	155				
1,1-Dichloroethene	53.0	0.500	40.00	0	133	47.8	165				
1,2-Dichlorobenzene	33.3	0.500	40.00	0	83.2	18	190				
1,2-Dichloroethane	48.0	0.500	40.00	0	120	49	155				
1,2-Dichloropropane	50.2	0.500	40.00	0	126	0.01	210				
1,3-Dichlorobenzene	33.4	0.500	40.00	0	83.6	59	156				
1,4-Dichlorobenzene	33.6	0.500	40.00	0	84.0	18	190				
2-Butanone	110	5.00	80.00	2.310	135	50	150				
2-Chloroethyl vinyl ether	50.2	10.0	40.00	0	126	0.01	305				
4-Methyl-2-pentanone	84.9	5.00	80.00	0	106	50	150				
Acrylonitrile	54.6	2.00	40.00	0	136	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	49.9	0.500	40.00	0	125	35	155				
Bromoform	39.3	0.500	40.00	0	98.2	45	169				
Bromomethane	35.1	0.500	40.00	0	87.8	0.01	242				
Carbon tetrachloride	51.8	0.500	40.00	0	130	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	60.6	0.500	40.00	0	152	14	230				
Chloroform	52.1	0.500	40.00	0	130	51	138				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	51.9	0.500	40.00	0	130	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	43.1	0.500	40.00	0	108	37	162				
m,p-Xylene	85.3	1.00	80.00	0	107	50	150				
Methylene chloride	37.0	20.0	40.00	0	92.4	0.01	221				
o-Xylene	40.8	0.500	40.00	0	102	50	150				
Styrene	40.6	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.0	64	148				
Toluene	42.4	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	53.1	0.500	40.00	0	133	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	51.5	0.500	40.00	0	129	71	157				
Trichlorofluoromethane	51.7	0.500	40.00	0	129	17	181				
Vinyl chloride	39.3	0.500	40.00	0	98.3	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	19.8	0.500	20.00	0	98.8	80	120				
1,2-Dichlorobenzene	17.0	0.500	20.00	0	85.0	80	120				
1,2-Diphenylhydrazine	20.4	0.500	20.00	0	102	80	120				
1,3-Dichlorobenzene	17.2	0.500	20.00	0	86.1	80	120				
1,4-Dichlorobenzene	16.9	0.500	20.00	0	84.6	80	120				
2,4,6-Trichlorophenol	19.0	0.500	20.00	0	94.9	80	120				
2,4-Dichlorophenol	19.3	0.500	20.00	0	96.6	80	120				
2,4-Dimethylphenol	19.4	0.500	20.00	0	96.8	80	120				
2,4-Dinitrophenol	16.2	0.500	20.00	0	81.2	80	120				
2,4-Dinitrotoluene	19.5	0.500	20.00	0	97.6	80	120				
2,6-Dinitrotoluene	19.6	0.500	20.00	0	97.9	80	120				
2-Chloronaphthalene	19.9	0.500	20.00	0	99.7	80	120				
2-Chlorophenol	16.5	0.500	20.00	0	82.6	80	120				
2-Methylphenol	16.7	0.500	20.00	0	83.3	80	120				
2-Nitrophenol	19.4	0.500	20.00	0	96.8	80	120				
3,3'-Dichlorobenzidine	19.9	0.500	20.00	0	99.6	80	120				
3,4-Methylphenol	17.0	1.00	20.00	0	85.0	80	120				
4-Bromophenyl phenyl ether	20.3	0.500	20.00	0	102	80	120				
4-Chloro-3-methylphenol	19.4	0.500	20.00	0	96.9	80	120				
4-Chlorophenyl phenyl ether	22.0	0.500	20.00	0	110	80	120				
4-Nitrophenol	19.1	0.500	20.00	0	95.3	80	120				
Acenaphthene	19.8	0.500	20.00	0	98.8	80	120				
Acenaphthylene	20.1	0.500	20.00	0	100	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	16.9	0.500	20.00	0	84.4	80	120				
Anthracene	20.2	0.500	20.00	0	101	80	120				
Azobenzene	20.4	0.500	20.00	0	102	80	120				
Benz(a)anthracene	20.1	0.500	20.00	0	101	80	120				
Benzydine	18.7	0.500	20.00	0	93.5	80	120				
Benzo(a)pyrene	19.9	0.500	20.00	0	99.7	80	120				
Benzo(b)fluoranthene	19.8	0.500	20.00	0	99.2	80	120				
Benzo(g,h,i)perylene	19.7	0.500	20.00	0	98.7	80	120				
Benzo(k)fluoranthene	20.3	0.500	20.00	0	101	80	120				
Benzoic Acid	16.8	5.00	20.00	0	83.9	80	120				
Bis(2-chloroethoxy)methane	20.6	0.500	20.00	0	103	80	120				
Bis(2-chloroethyl)ether	17.1	0.500	20.00	0	85.4	80	120				
Bis(2-chloroisopropyl)ether	19.7	0.500	20.00	0	98.5	80	120				
Bis(2-ethylhexyl)phthalate	20.0	0.500	20.00	0	100	80	120				
Butyl benzyl phthalate	20.1	0.500	20.00	0	101	80	120				
Carbazole	20.1	0.500	20.00	0	100	80	120				
Chrysene	20.2	0.500	20.00	0	101	80	120				
Dibenz(a,h)anthracene	19.8	0.500	20.00	0	98.8	80	120				
Diethyl phthalate	20.9	0.500	20.00	0	104	80	120				
Dimethyl phthalate	19.5	0.500	20.00	0	97.7	80	120				
Di-n-butyl phthalate	20.7	0.500	20.00	0	104	80	120				
Di-n-octyl phthalate	20.6	0.500	20.00	0	103	80	120				
Fluoranthene	19.5	0.500	20.00	0	97.6	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>CCV1 20 PPM</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41635</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	19.9	0.500	20.00	0	99.7	80	120				
Hexachlorobenzene	19.5	0.500	20.00	0	97.6	80	120				
Hexachlorobutadiene	19.7	0.500	20.00	0	98.6	80	120				
Hexachlorocyclopentadiene	18.2	0.500	20.00	0	90.8	80	120				
Hexachloroethane	17.5	0.500	20.00	0	87.3	80	120				
Indeno(1,2,3-cd)pyrene	19.9	0.500	20.00	0	99.5	80	120				
Isophorone	19.9	0.500	20.00	0	99.5	80	120				
Naphthalene	20.1	0.500	20.00	0	101	80	120				
Nitrobenzene	19.8	0.500	20.00	0	98.8	80	120				
N-Nitrosodimethylamine	16.2	0.500	20.00	0	81.2	80	120				
N-Nitrosodi-n-propylamine	21.2	0.500	20.00	0	106	80	120				
N-Nitrosodiphenylamine	20.2	0.500	20.00	0	101	80	120				
Pentachlorophenol	18.8	0.500	20.00	0	93.8	80	120				
Phenanthrene	20.2	0.500	20.00	0	101	80	120				
Phenol	16.6	0.500	20.00	0	83.2	80	120				
Pyrene	20.1	0.500	20.00	0	100	80	120				
Pyridine	17.8	0.500	20.00	0	89.2	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	63.6		100.0		63.6	33.1	129.7				
Surr: 2-Fluorobiphenyl	63.6		100.0		63.6	33.1	126.2				
Surr: 2-Fluorophenol	31.3		100.0		31.3	13.4	127.1				
Surr: 4-Terphenyl-d14	87.5		100.0		87.5	41	122				
Surr: Nitrobenzene-d5	65.7		100.0		65.7	28.9	129.9				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>MB-18299</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534683</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	23.1		100.0		23.1	10.6	128.5				

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	24.6	0.500	40.00	0	61.4	44	142				
1,2-Dichlorobenzene	28.2	0.500	40.00	0	70.4	32	129				
1,2-Diphenylhydrazine	37.9	0.500	40.00	0	94.7	40	140				
1,3-Dichlorobenzene	27.3	0.500	40.00	0	68.2	0.01	172				
1,4-Dichlorobenzene	27.2	0.500	40.00	0	68.0	20	124				
2,4,6-Trichlorophenol	29.4	0.500	40.00	0	73.4	37	144				
2,4-Dichlorophenol	24.4	0.500	40.00	0	61.0	39	135				
2,4-Dimethylphenol	26.9	0.500	40.00	0	67.2	32	119				
2,4-Dinitrophenol	30.1	0.500	40.00	0	75.4	0.01	191				
2,4-Dinitrotoluene	36.6	0.500	40.00	0	91.6	39	139				
2,6-Dinitrotoluene	36.6	0.500	40.00	0	91.5	30	158				
2-Chloronaphthalene	31.6	0.500	40.00	0	79.1	30	118				
2-Chlorophenol	28.0	0.500	40.00	0	70.0	23	134				
2-Methylphenol	27.2	0.500	40.00	0	68.0	30	120				
2-Nitrophenol	22.5	0.500	40.00	0	56.2	29	182				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 625X\_W

Sample ID: LCS-18299	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSW	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	34.0	0.500	40.00	0	85.1	0.01	262				
3,4-Methylphenol	25.2	1.00	40.00	0	62.9	30	120				
4,6-Dinitro-2-methylphenol	30.6	0.500	40.00	0	76.5	0.01	181				
4-Bromophenyl phenyl ether	29.9	0.500	40.00	0	74.7	33	127				
4-Chloro-3-methylphenol	30.7	0.500	40.00	0	76.7	22	147				
4-Chlorophenyl phenyl ether	31.4	0.500	40.00	0	78.6	25	158				
4-Nitrophenol	21.5	0.500	40.00	0	53.7	0.01	132				
Acenaphthene	34.2	0.500	40.00	0	85.6	37	145				
Acenaphthylene	34.1	0.500	40.00	0	85.4	33	145				
Aniline	25.4	0.500	40.00	0	63.5	16	134				
Anthracene	36.6	0.500	40.00	0	91.6	27	133				
Azobenzene	37.9	0.500	40.00	0	94.7	70	130				
Benz(a)anthracene	36.9	0.500	40.00	0	92.2	33	143				
Benzdine	7.66	0.500	40.00	0	19.2	0.1	140				
Benzo(a)pyrene	37.5	0.500	40.00	0	93.7	17	163				
Benzo(b)fluoranthene	38.8	0.500	40.00	0	96.9	24	159				
Benzo(g,h,i)perylene	37.0	0.500	40.00	0	92.6	0.01	219				
Benzo(k)fluoranthene	36.6	0.500	40.00	0	91.6	11	162				
Benzoic Acid	ND	5.00	40.00	0	7.65	0	250				
Bis(2-chloroethoxy)methane	34.0	0.500	40.00	0	84.9	33	184				
Bis(2-chloroethyl)ether	32.5	0.500	40.00	0	81.3	12	158				
Bis(2-chloroisopropyl)ether	32.3	0.500	40.00	0	80.6	20	140				
Bis(2-ethylhexyl)phthalate	31.5	0.500	40.00	0	78.7	8	158				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	38.1	0.500	40.00	0	95.2	0.01	152				
Carbazole	37.0	0.500	40.00	0	92.6	23	131				
Chrysene	37.3	0.500	40.00	0	93.2	17	168				
Dibenz(a,h)anthracene	37.9	0.500	40.00	0	94.7	0.01	224				
Diethyl phthalate	40.1	0.500	40.00	0	100	0.01	114				
Dimethyl phthalate	36.6	0.500	40.00	0	91.6	0.01	112				
Di-n-butyl phthalate	39.9	0.500	40.00	0	99.8	1	118				
Di-n-octyl phthalate	38.1	0.500	40.00	0	95.2	4	146				
Fluoranthene	38.4	0.500	40.00	0	95.9	26	137				
Fluorene	36.4	0.500	40.00	0	91.1	19	121				
Hexachlorobenzene	35.9	0.500	40.00	0	89.8	0.01	152				
Hexachlorobutadiene	22.8	0.500	40.00	0	57.0	24	116				
Hexachlorocyclopentadiene	22.2	0.500	40.00	0	55.5	10	110				
Hexachloroethane	26.8	0.500	40.00	0	66.9	40	143				
Indeno(1,2,3-cd)pyrene	38.1	0.500	40.00	0	95.4	0.01	171				
Isophorone	30.6	0.500	40.00	0	76.6	21	196				
Naphthalene	26.4	0.500	40.00	0	65.9	35	133				
Nitrobenzene	27.7	0.500	40.00	0	69.3	14	150				
N-Nitrosodimethylamine	19.8	0.500	40.00	0	49.5	0.01	250				
N-Nitrosodi-n-propylamine	30.2	0.500	40.00	0	75.5	0.01	230				
N-Nitrosodiphenylamine	37.4	0.500	40.00	0	93.4	0.01	133				
Pentachlorophenol	13.4	0.500	40.00	0	33.4	24	176				
Phenanthrene	37.0	0.500	40.00	0	92.4	5	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: 625X\_W**

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	11.0	0.500	40.00	0	27.6	12	112				
Pyrene	37.3	0.500	40.00	0	93.2	12	115				
Pyridine	19.2	0.500	40.00	0	48.0	13	158				

Sample ID: <b>LCS-18299</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41635</b>						
Client ID: <b>LCS02</b>	Batch ID: <b>18299</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>534685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.1	0.500	40.00	0	62.7	44	142	24.56	2.02	20	
1,2-Dichlorobenzene	24.7	0.500	40.00	0	61.8	32	129	28.15	13.0	20	
1,2-Diphenylhydrazine	37.9	0.500	40.00	0	94.8	40	140	37.87	0.0792	20	
1,3-Dichlorobenzene	22.4	0.500	40.00	0	56.0	0.01	172	27.30	19.7	20	
1,4-Dichlorobenzene	24.0	0.500	40.00	0	60.1	20	124	27.19	12.3	20	
2,4,6-Trichlorophenol	32.0	0.500	40.00	0	79.9	37	144	29.37	8.45	20	
2,4-Dichlorophenol	28.0	0.500	40.00	0	70.1	39	135	24.42	13.8	20	
2,4-Dimethylphenol	28.6	0.500	40.00	0	71.6	32	119	26.89	6.23	20	
2,4-Dinitrophenol	33.1	0.500	40.00	0	82.7	0.01	191	30.14	9.33	20	
2,4-Dinitrotoluene	38.3	0.500	40.00	0	95.8	39	139	36.62	4.54	20	
2,6-Dinitrotoluene	37.1	0.500	40.00	0	92.8	30	158	36.61	1.33	20	
2-Chloronaphthalene	31.0	0.500	40.00	0	77.6	30	118	31.63	1.92	20	
2-Chlorophenol	28.9	0.500	40.00	0	72.2	23	134	27.98	3.17	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 625X\_W

Sample ID: LCSD-18299	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSS02	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	26.6	0.500	40.00	0	66.4	30	120	27.19	2.38	20	
2-Nitrophenol	21.9	0.500	40.00	0	54.7	29	182	22.50	2.84	20	
3,3'-Dichlorobenzidine	35.3	0.500	40.00	0	88.3	0.01	262	34.05	3.69	20	
3,4-Methylphenol	24.9	1.00	40.00	0	62.2	30	120	25.16	1.16	20	
4,6-Dinitro-2-methylphenol	31.5	0.500	40.00	0	78.8	0.01	181	30.59	3.06	20	
4-Bromophenyl phenyl ether	30.3	0.500	40.00	0	75.7	33	127	29.87	1.40	20	
4-Chloro-3-methylphenol	32.4	0.500	40.00	0	80.9	22	147	30.68	5.30	20	
4-Chlorophenyl phenyl ether	33.0	0.500	40.00	0	82.5	25	158	31.44	4.78	20	
4-Nitrophenol	23.0	0.500	40.00	0	57.4	0.01	132	21.47	6.79	20	
Acenaphthene	33.6	0.500	40.00	0	84.0	37	145	34.24	1.92	20	
Acenaphthylene	33.3	0.500	40.00	0	83.4	33	145	34.14	2.37	20	
Aniline	25.3	0.500	40.00	0	63.3	16	134	25.40	0.315	20	
Anthracene	37.5	0.500	40.00	0	93.8	27	133	36.62	2.40	20	
Azobenzene	37.9	0.500	40.00	0	94.8	70	130	37.87	0.0792	0	
Benz(a)anthracene	38.2	0.500	40.00	0	95.4	33	143	36.88	3.39	20	
Benzdine	8.31	0.500	40.00	0	20.8	0.1	140	7.660	8.14	20	
Benzo(a)pyrene	38.0	0.500	40.00	0	95.1	17	163	37.49	1.43	20	
Benzo(b)fluoranthene	40.0	0.500	40.00	0	100	24	159	38.76	3.15	20	
Benzo(g,h,i)perylene	38.4	0.500	40.00	0	95.9	0.01	219	37.05	3.50	20	
Benzo(k)fluoranthene	30.4	0.500	40.00	0	75.9	11	162	36.64	18.7	20	
Benzoic Acid	ND	5.00	40.00	0	7.88	0	250	0	0	20	
Bis(2-chloroethoxy)methane	31.3	0.500	40.00	0	78.2	33	184	33.97	8.28	20	
Bis(2-chloroethyl)ether	30.0	0.500	40.00	0	74.9	12	158	32.52	8.19	20	

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 625X\_W

Sample ID: LCSD-18299	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSS02	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	33.5	0.500	40.00	0	83.9	20	140	32.26	3.89	20	
Bis(2-ethylhexyl)phthalate	34.0	0.500	40.00	0	85.0	8	158	31.47	7.79	20	
Butyl benzyl phthalate	38.9	0.500	40.00	0	97.2	0.01	152	38.09	2.08	20	
Carbazole	38.0	0.500	40.00	0	95.0	23	131	37.05	2.56	20	
Chrysene	38.3	0.500	40.00	0	95.7	17	168	37.26	2.65	20	
Dibenz(a,h)anthracene	39.2	0.500	40.00	0	97.9	0.01	224	37.87	3.37	20	
Diethyl phthalate	40.1	0.500	40.00	0	100	0.01	114	40.06	0.175	20	
Dimethyl phthalate	37.2	0.500	40.00	0	92.9	0.01	112	36.64	1.44	20	
Di-n-butyl phthalate	40.0	0.500	40.00	0	99.9	1	118	39.92	0.100	20	
Di-n-octyl phthalate	38.8	0.500	40.00	0	97.0	4	146	38.06	1.90	20	
Fluoranthene	38.9	0.500	40.00	0	97.3	26	137	38.37	1.45	20	
Fluorene	36.1	0.500	40.00	0	90.2	19	121	36.44	1.05	20	
Hexachlorobenzene	36.8	0.500	40.00	0	91.9	0.01	152	35.90	2.34	20	
Hexachlorobutadiene	22.8	0.500	40.00	0	57.0	24	116	22.82	0.0877	20	
Hexachlorocyclopentadiene	23.9	0.500	40.00	0	59.7	10	110	22.21	7.29	20	
Hexachloroethane	22.8	0.500	40.00	0	57.1	40	143	26.77	15.8	20	
Indeno(1,2,3-cd)pyrene	39.0	0.500	40.00	0	97.5	0.01	171	38.14	2.18	20	
Isophorone	31.0	0.500	40.00	0	77.5	21	196	30.62	1.27	20	
Naphthalene	27.1	0.500	40.00	0	67.8	21	133	26.35	2.95	20	
Nitrobenzene	29.2	0.500	40.00	0	72.9	35	180	27.72	5.03	20	
N-Nitrosodimethylamine	16.5	0.500	40.00	0	41.2	0.01	230	19.80	18.2	20	
N-Nitrosodi-n-propylamine	31.8	0.500	40.00	0	79.4	0.01	250	30.21	5.07	20	
N-Nitrosodiphenylamine	37.5	0.500	40.00	0	93.8	0.01	250	37.36	0.454	20	

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

Client: City of Wilsonville

Project:

TestCode: 625X\_W

Sample ID: LCSD-18299	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: LCSS02	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	13.7	0.500	40.00	0	34.2	14	176	13.38	2.29	20	
Phenanthrene	37.4	0.500	40.00	0	93.6	24	120	36.97	1.26	20	
Phenol	12.2	0.500	40.00	0	30.5	5	112	11.02	10.2	20	
Pyrene	37.8	0.500	40.00	0	94.4	12	115	37.29	1.28	20	
Pyridine	19.9	0.500	40.00	0	49.7	13	158	19.21	3.38	20	

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: BatchQC	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	28.2	0.532	42.55	0	66.3	44	142				
1,2-Dichlorobenzene	32.6	0.532	42.55	0	76.6	32	129				
1,2-Diphenylhydrazine	41.4	0.532	42.55	0	97.2	40	140				
1,3-Dichlorobenzene	32.3	0.532	42.55	0	76.0	0.01	172				
1,4-Dichlorobenzene	31.7	0.532	42.55	0	74.5	20	124				
2,4,5-Trichlorophenol	36.1	2.13	42.55	0	84.9	40	130				
2,4,6-Trichlorophenol	36.7	0.532	42.55	0	86.2	37	144				
2,4-Dichlorophenol	30.9	0.532	42.55	0	72.6	39	135				
2,4-Dimethylphenol	30.9	0.532	42.55	0	72.6	32	119				
2,4-Dinitrophenol	35.8	0.532	42.55	0	84.0	0.01	191				
2,4-Dinitrotoluene	39.6	0.532	42.55	0	93.1	39	139				

Qualifiers: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: BatchQC	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	39.9	0.532	42.55	0	93.7	30	158				
2-Chloronaphthalene	34.2	0.532	42.55	0	80.3	30	118				
2-Chlorophenol	32.7	0.532	42.55	0	76.8	23	134				
2-Methylphenol	29.4	0.532	42.55	0	69.2	30	120				
2-Nitrophenol	29.4	0.532	42.55	0	69.0	29	182				
3,3'-Dichlorobenzidine	29.4	0.532	42.55	0	69.0	0.01	262				
3,4-Methylphenol	28.2	1.06	42.55	0	66.2	30	120				
4,6-Dinitro-2-methylphenol	34.1	0.532	42.55	0	80.2	0.01	181				
4-Bromophenyl phenyl ether	35.6	0.532	42.55	0	83.6	33	127				
4-Chloro-3-methylphenol	36.4	0.532	42.55	0	85.5	22	147				
4-Chlorophenyl phenyl ether	31.7	0.532	42.55	0	74.4	25	158				
4-Nitrophenol	14.9	0.532	42.55	0	35.1	0.01	132				
Acenaphthene	36.9	0.532	42.55	0	86.7	37	145				
Acenaphthylene	37.1	0.532	42.55	0	87.2	33	145				
Aniline	27.5	0.532	42.55	0	64.7	16	134				
Anthracene	40.2	0.532	42.55	0	94.6	27	133				
Azobenzene	41.4	0.532	42.55	0	97.2	70	130				
Benz(a)anthracene	40.3	0.532	42.55	0	94.7	33	143				
Benzenidine	2.23	0.532	42.55	0	5.25	0.1	140				
Benzo(a)pyrene	39.9	0.532	42.55	0	93.8	17	163				
Benzo(b)fluoranthene	42.9	0.532	42.55	0	101	24	159				
Benzo(g,h,i)perylene	39.2	0.532	42.55	0	92.1	0.01	219				
Benzo(k)fluoranthene	42.0	0.532	42.55	0	98.7	11	162				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: BatchQC	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzoic Acid	7.31	5.32	42.55	0	17.2	0	250				
Bis(2-chloroethoxy)methane	32.1	0.532	42.55	0	75.5	33	184				
Bis(2-chloroethyl)ether	36.1	0.532	42.55	0	84.9	12	158				
Bis(2-chloroisopropyl)ether	38.2	0.532	42.55	0	89.7	20	140				
Bis(2-ethylhexyl)phthalate	35.6	0.532	42.55	1.103	81.1	8	158				
Butyl benzyl phthalate	41.1	0.532	42.55	0	96.7	0.01	152				
Carbazole	40.8	0.532	42.55	0	95.9	23	131				
Chrysene	40.7	0.532	42.55	0	95.7	17	168				
Dibenz(a,h)anthracene	40.3	0.532	42.55	0	94.7	0.01	224				
Diethyl phthalate	43.4	0.532	42.55	0	102	0.01	114				
Dimethyl phthalate	39.6	0.532	42.55	0	93.1	0.01	112				
Di-n-butyl phthalate	44.2	0.532	42.55	0	104	1	118				
Di-n-octyl phthalate	42.2	0.532	42.55	1.385	95.9	4	146				
Fluoranthene	42.2	0.532	42.55	0	99.3	26	137				
Fluorene	39.6	0.532	42.55	0	93.0	19	121				
Hexachlorobenzene	38.6	0.532	42.55	0	90.8	0.01	152				
Hexachlorobutadiene	26.6	0.532	42.55	0	62.5	24	116				
Hexachlorocyclopentadiene	24.8	0.532	42.55	0	58.4	10	110				
Hexachloroethane	31.7	0.532	42.55	0	74.5	40	143				
Indeno(1,2,3-cd)pyrene	40.6	0.532	42.55	0	95.3	0.01	171				
Isophorone	32.3	0.532	42.55	0	75.8	21	196				
Naphthalene	29.7	0.532	42.55	0	69.9	21	133				
Nitrobenzene	30.3	0.532	42.55	0	71.2	35	180				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** 625X\_W

Sample ID: 2108006-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: BatchQC	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodimethylamine	14.0	0.532	42.55	0	32.8	0.01	230				
N-Nitrosodi-n-propylamine	34.2	0.532	42.55	0	80.3	0.01	250				
N-Nitrosodiphenylamine	40.7	0.532	42.55	0	95.8	0.01	250				
Pentachlorophenol	31.8	0.532	42.55	0	74.7	14	176				
Phenanthrene	40.4	0.532	42.55	0	95.0	24	120				
Phenol	12.2	0.532	42.55	0	28.6	5	112				
Pyrene	39.6	0.532	42.55	0	93.2	12	115				
Pyridine	10.0	0.532	42.55	0	23.6	13	158				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** CN\_W

Sample ID: <b>ICV-R41433</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0540	0.00500	0.05000	0	108	90	110				

Sample ID: <b>MB-R41433</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41433</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0896	0.00500	0.1000	0	89.6	80	120				

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0477	0.00500	0.05000	0.003290	88.8	67.9	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** CN\_W

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108006-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0481	0.00500	0.05000	0.003290	89.6	67.9	120	0.04769	0.858	20	

Sample ID: <b>CCV1-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532521</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0972	0.00500	0.1000	0	97.2	90	110				

Sample ID: <b>2108010-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0460	0.00500	0.05000	0.003078	85.9	67.9	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** CN\_W

Sample ID: <b>2108010-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0465	0.00500	0.05000	0.003078	86.8	67.9	120	0.04602	1.03	20	

Sample ID: <b>CCV3-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0998	0.00500	0.1000	0	99.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41471</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533006</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41471</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533007</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>2108007-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>080221LLEG</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533013</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	47.8	5.00	50.00	0	95.6	75	125				

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>080221LLEG</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	0	93.8	75	125	47.81	1.88	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode: CR6-CWA**

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>080221LLEG</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533015</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	90	110				

Sample ID: <b>2108010-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533020</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	75	125				

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	44.2	5.00	50.00	0	88.5	75	125	46.03	3.95	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41359</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41359</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531648</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2108006-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	1.44	1.00						1.440	0	20	

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00						0	0	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007

8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** SULFIDE\_W

Sample ID: 2108028-003DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: BatchQC	Batch ID: R41359	TestNo: SM4500-S2 F		Analysis Date: 8/6/2021	SeqNo: 531664						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108007  
8/27/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:**

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41375</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531786</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41375</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531787</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1110	5.00	1000	0	111	80	120				

Sample ID: <b>2108006-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41375</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41375</b>	TestNo: <b>E1684</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531789</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	659	5.00						639.0	3.08	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded      S Spike Recovery outside accepted recovery limits



Specialty Analytical  
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 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108007

RcptNo: 1

Date and Time Received 8/2/2021 2:55:18 PM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date:

8/2/2021

Reviewed Date:

Carrier name:

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To 1.3°C    |                                     |
| Water - Were bubbles absent in VOC vials?               | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | No Vials    | <input checked="" type="checkbox"/> |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



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## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**  
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 Clackamas, OR 97015  
 Phone: 503-607-1331  
 Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-2-21 Page: 1 of 1  
 Project Name: 267217  
 Project No: PO No:

Collected by: Shipped Via: SA  
 State Collected: OR WA OTHER  
 Custody Seal: Y (N) Intact / Broken Cooler / Bottle

Report To (PM):  
 MDL  TIER IV  EDD   
 Sample Disposal:  Return to client  Disposal by lab (after 60 days)

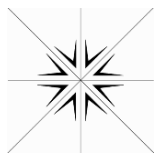
Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G- grab C - Composite I - Influent E - Effluent	8-2-21	0900	WW	1	EPA 200.8 Metals <del>EPA 200.8</del> SM 3500 CrB Hex Chrom SM 4500 en SM 4500 NH3-N EPA 351.1 TKN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S2O sulfides SM 5210B BOD CBOD SM 25400 TSS EPA 624 VOC VOAS	
080221LLEIG	8-2-21	0930	WW	1		
Parkway G	8-2-21	9:15	WW	1		
Villabovis G	8-2-21	10AM	WW	1		

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, S = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
 Expedited turn-around requests should be coordinated in advance

Retained: x Kelly McClelland Date/Time 8-2-21 11:20  
 Retained: x Date/Time 8-2-21 12:35  
 Received: x Date/Time 8-12-21 13:20

8-2-21 13:20



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## Definition Only

WO#: 2108007  
Date: 8/27/2021

---

### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

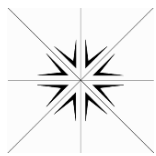
HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---





## Definition Only

WO#: 2108007  
Date: 8/27/2021

---

### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

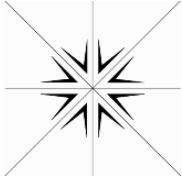
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

---



# Specialty Analytical

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---

September 01, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2108010

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2108010

Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-001  
**Client Sample ID** 080321LLIG

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
1,2-Dichlorobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
1,2-Diphenylhydrazine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
1,3-Dichlorobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
1,4-Dichlorobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2,4,6-Trichlorophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2,4-Dichlorophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2,4-Dimethylphenol	0.00813	0.00310		µg/L	5	8/25/2021 2:48:00 PM
2,4-Dinitrophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2,4-Dinitrotoluene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2,6-Dinitrotoluene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2-Chloronaphthalene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2-Chlorophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
2-Methylphenol	0.0130	0.00310		µg/L	5	8/25/2021 2:48:00 PM
2-Nitrophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
3,3'-Dichlorobenzidine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
3,4-Methylphenol	0.103	0.00620		µg/L	5	8/25/2021 2:48:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
4-Bromophenyl phenyl ether	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
4-Chloro-3-methylphenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
4-Chlorophenyl phenyl ether	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
4-Nitrophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Acenaphthene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Acenaphthylene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Aniline	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Anthracene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Azobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Benz(a)anthracene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Benzidine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Benzo(a)pyrene	0.00602	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Benzo(b)fluoranthene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Benzo(g,h,i)perylene	0.00565	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Benzo(k)fluoranthene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Benzoic Acid	0.498	0.0310		µg/L	5	8/25/2021 2:48:00 PM
Bis(2-chloroethoxy)methane	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Bis(2-chloroethyl)ether	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Bis(2-ethylhexyl)phthalate	0.00360	0.00310		µg/L	5	8/25/2021 2:48:00 PM

**Qualifiers:** E Value above quantitation range  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-001  
**Client Sample ID** 080321LLIG

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Carbazole	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Chrysene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Dibenz(a,h)anthracene	0.00565	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Diethyl phthalate	0.00391	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Dimethyl phthalate	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Di-n-butyl phthalate	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Di-n-octyl phthalate	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Fluoranthene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Fluorene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Hexachlorobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Hexachlorobutadiene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Hexachlorocyclopentadiene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Hexachloroethane	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Indeno(1,2,3-cd)pyrene	0.00726	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Isophorone	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Naphthalene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Nitrobenzene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
N-Nitrosodimethylamine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
N-Nitrosodi-n-propylamine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
N-Nitrosodiphenylamine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Pentachlorophenol	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Phenanthrene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Phenol	0.0148	0.00310		µg/L	5	8/25/2021 2:48:00 PM
Pyrene	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Pyridine	ND	0.00310	Q	µg/L	5	8/25/2021 2:48:00 PM
Surr: 2,4,6-Tribromophenol	80.1	33.1 - 129.7		%Rec	5	8/25/2021 2:48:00 PM
Surr: 2-Fluorobiphenyl	96.0	33.1 - 126.2		%Rec	5	8/25/2021 2:48:00 PM
Surr: 2-Fluorophenol	42.1	13.4 - 127.1		%Rec	5	8/25/2021 2:48:00 PM
Surr: 4-Terphenyl-d14	110	41 - 122		%Rec	5	8/25/2021 2:48:00 PM
Surr: Nitrobenzene-d5	85.7	28.9 - 129.9		%Rec	5	8/25/2021 2:48:00 PM
Surr: Phenol-d6	27.5	10.6 - 128.5		%Rec	5	8/25/2021 2:48:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-001  
**Client Sample ID** 080321LLIG

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 9:34:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 9:34:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 9:34:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 9:34:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Chloroform	1.21	0.500		µg/L	1	8/9/2021 9:34:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 9:34:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 9:34:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 9:34:00 PM
Surr: 1,2-Dichloroethane-d4	87.5	83.4 - 126		%Rec	1	8/9/2021 9:34:00 PM
Surr: 4-Bromofluorobenzene	105	80.9 - 127		%Rec	1	8/9/2021 9:34:00 PM
Surr: Dibromofluoromethane	98.8	81.1 - 122		%Rec	1	8/9/2021 9:34:00 PM
Surr: Toluene-d8	87.8	80 - 120		%Rec	1	8/9/2021 9:34:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-001  
**Client Sample ID** 080321LLIG

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:38:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00674	0.00500		mg/L	1	8/12/2021 4:02:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	2.88	1.00		mg/L	1	8/6/2021 12:51:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	631	5.00		mg/L	1	8/9/2021 4:37:32 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-002  
**Client Sample ID** 080321LLIC

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	357	10.0		µg/L	1	8/5/2021 10:52:58 AM
Antimony	0.785	0.500		µg/L	1	8/5/2021 10:52:58 AM
Arsenic	1.66	0.100		µg/L	1	8/5/2021 10:52:58 AM
Cadmium	0.133	0.100		µg/L	1	8/5/2021 10:52:58 AM
Chromium	2.04	0.100		µg/L	1	8/5/2021 10:52:58 AM
Copper	44.8	0.500		µg/L	1	8/5/2021 10:52:58 AM
Iron	500	50.0		µg/L	1	8/5/2021 10:52:58 AM
Lead	0.991	0.100		µg/L	1	8/5/2021 10:52:58 AM
Molybdenum	3.97	0.500		µg/L	1	8/5/2021 10:52:58 AM
Nickel	3.70	0.500		µg/L	1	8/5/2021 10:52:58 AM
Potassium	14800	100		µg/L	1	8/5/2021 10:52:58 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:52:58 AM
Silver	0.293	0.100		µg/L	1	8/5/2021 3:35:17 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:52:58 AM
Zinc	170	2.00		µg/L	1	8/5/2021 10:52:58 AM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	59.7	0.200		mg/L	1	8/5/2021 10:52:58 AM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	243	2.00		mg/L	1	8/4/2021 11:28:00 AM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	179.6	2.0		mg/L	1	8/4/2021 11:46:00 AM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	198	10.0		mg/L CaCO3	1	8/5/2021 1:50:25 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	72.4	0.800		mg/L	40	8/6/2021 2:30:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.76	0.200		mg/L	10	8/6/2021 3:54:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	56.8	1.00		mg/L	5	8/11/2021 5:18:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	270	10.0		mg/L	1	8/4/2021 12:12:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-003  
**Client Sample ID** 080321LLEG

**Collection Date:** 8/3/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>					<b>E625.1</b>	<b>E625</b>
						Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
1,2-Dichlorobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
1,2-Diphenylhydrazine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
1,3-Dichlorobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
1,4-Dichlorobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,4,6-Trichlorophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,4-Dichlorophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,4-Dimethylphenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,4-Dinitrophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,4-Dinitrotoluene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2,6-Dinitrotoluene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2-Chloronaphthalene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2-Chlorophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2-Methylphenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
2-Nitrophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
3,3'-Dichlorobenzidine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
3,4-Methylphenol	ND	0.00104		µg/L	1	8/25/2021 3:18:00 PM
4,6-Dinitro-2-methylphenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
4-Bromophenyl phenyl ether	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
4-Chloro-3-methylphenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
4-Chlorophenyl phenyl ether	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
4-Nitrophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Acenaphthene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Acenaphthylene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Aniline	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Anthracene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Azobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benz(a)anthracene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzidine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzo(a)pyrene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzo(b)fluoranthene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzo(g,h,i)perylene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzo(k)fluoranthene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Benzoic Acid	ND	0.00520		µg/L	1	8/25/2021 3:18:00 PM
Bis(2-chloroethoxy)methane	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Bis(2-chloroethyl)ether	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Bis(2-chloroisopropyl)ether	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Bis(2-ethylhexyl)phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-003  
**Client Sample ID** 080321LLEG

**Collection Date:** 8/3/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Carbazole	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Chrysene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Dibenz(a,h)anthracene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Diethyl phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Dimethyl phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Di-n-butyl phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Di-n-octyl phthalate	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Fluoranthene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Fluorene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Hexachlorobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Hexachlorobutadiene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Hexachlorocyclopentadiene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Hexachloroethane	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Isophorone	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Naphthalene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Nitrobenzene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
N-Nitrosodimethylamine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
N-Nitrosodi-n-propylamine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
N-Nitrosodiphenylamine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Pentachlorophenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Phenanthrene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Phenol	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Pyrene	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Pyridine	ND	0.000520		µg/L	1	8/25/2021 3:18:00 PM
Surr: 2,4,6-Tribromophenol	87.1	33.1 - 129.7		%Rec	1	8/25/2021 3:18:00 PM
Surr: 2-Fluorobiphenyl	71.7	33.1 - 126.2		%Rec	1	8/25/2021 3:18:00 PM
Surr: 2-Fluorophenol	31.7	13.4 - 127.1		%Rec	1	8/25/2021 3:18:00 PM
Surr: 4-Terphenyl-d14	94.8	41 - 122		%Rec	1	8/25/2021 3:18:00 PM
Surr: Nitrobenzene-d5	72.3	28.9 - 129.9		%Rec	1	8/25/2021 3:18:00 PM
Surr: Phenol-d6	20.6	10.6 - 128.5		%Rec	1	8/25/2021 3:18:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-003  
**Client Sample ID** 080321LLEG

**Collection Date:** 8/3/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 9:56:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 9:56:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 9:56:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 9:56:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 9:56:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 9:56:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 9:56:00 PM
Surr: 1,2-Dichloroethane-d4	89.4	83.4 - 126		%Rec	1	8/9/2021 9:56:00 PM
Surr: 4-Bromofluorobenzene	107	80.9 - 127		%Rec	1	8/9/2021 9:56:00 PM
Surr: Dibromofluoromethane	101	81.1 - 122		%Rec	1	8/9/2021 9:56:00 PM
Surr: Toluene-d8	87.0	80 - 120		%Rec	1	8/9/2021 9:56:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-003  
**Client Sample ID** 080321LLEG

**Collection Date:** 8/3/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:39:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:07:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 12:56:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	261	5.00		mg/L	1	8/9/2021 4:39:32 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-004  
**Client Sample ID** 080321LLEC

**Collection Date:** 8/3/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	ND	10.0		µg/L	1	8/5/2021 10:56:23 AM
Antimony	ND	0.500		µg/L	1	8/5/2021 10:56:23 AM
Arsenic	0.734	0.100		µg/L	1	8/5/2021 10:56:23 AM
Cadmium	ND	0.100		µg/L	1	8/5/2021 10:56:23 AM
Chromium	0.244	0.100		µg/L	1	8/5/2021 10:56:23 AM
Copper	2.00	0.500		µg/L	1	8/5/2021 10:56:23 AM
Iron	ND	50.0		µg/L	1	8/5/2021 10:56:23 AM
Lead	0.463	0.100		µg/L	1	8/5/2021 10:56:23 AM
Molybdenum	1.75	0.500		µg/L	1	8/5/2021 10:56:23 AM
Nickel	1.65	0.500		µg/L	1	8/5/2021 10:56:23 AM
Potassium	13200	100		µg/L	1	8/5/2021 10:56:23 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:56:23 AM
Silver	ND	0.100		µg/L	1	8/5/2021 3:38:41 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:56:23 AM
Zinc	115	2.00		µg/L	1	8/5/2021 10:56:23 AM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	53.7	0.200		mg/L	1	8/5/2021 10:56:23 AM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	ND	2.00		mg/L	1	8/4/2021 11:28:00 AM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	2.5	2.0		mg/L	1	8/4/2021 11:46:00 AM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/5/2021 2:00:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	36.0	0.400		mg/L	20	8/6/2021 12:50:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	0.316	0.0200		mg/L	1	8/10/2021 10:42:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	1.52	0.200		mg/L	1	8/11/2021 3:38:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	8/4/2021 12:13:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-005  
**Client Sample ID** Parkway C

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	232	10.0		µg/L	1	8/5/2021 10:59:48 AM
Antimony	1.26	0.500		µg/L	1	8/5/2021 10:59:48 AM
Arsenic	1.32	0.100		µg/L	1	8/5/2021 10:59:48 AM
Cadmium	ND	0.100		µg/L	1	8/5/2021 10:59:48 AM
Chromium	1.42	0.100		µg/L	1	8/5/2021 10:59:48 AM
Copper	57.1	0.500		µg/L	1	8/5/2021 10:59:48 AM
Iron	1070	50.0		µg/L	1	8/5/2021 10:59:48 AM
Lead	1.20	0.100		µg/L	1	8/5/2021 10:59:48 AM
Molybdenum	1.50	0.500		µg/L	1	8/5/2021 10:59:48 AM
Nickel	5.01	0.500		µg/L	1	8/5/2021 10:59:48 AM
Potassium	25300	100		µg/L	1	8/5/2021 10:59:48 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 10:59:48 AM
Silver	0.168	0.100		µg/L	1	8/5/2021 3:42:07 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 10:59:48 AM
Zinc	159	2.00		µg/L	1	8/5/2021 10:59:48 AM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	51.7	0.200		mg/L	1	8/5/2021 10:59:48 AM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	213	2.00		mg/L	1	8/4/2021 11:28:00 AM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	390.2	2.0		mg/L	1	8/4/2021 11:46:00 AM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	207	10.0		mg/L CaCO3	1	8/5/2021 2:10:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	44.4	0.800		mg/L	40	8/6/2021 2:15:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	7.90	0.200		mg/L	10	8/6/2021 3:55:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	69.4	1.00		mg/L	5	8/11/2021 5:23:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	136	10.0		mg/L	1	8/4/2021 12:14:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-006  
**Client Sample ID** Parkway G

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
1,2-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
1,2-Diphenylhydrazine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
1,3-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
1,4-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,4,6-Trichlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,4-Dichlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,4-Dimethylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,4-Dinitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,4-Dinitrotoluene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2,6-Dinitrotoluene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2-Chloronaphthalene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2-Chlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2-Methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
2-Nitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
3,3'-Dichlorobenzidine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
3,4-Methylphenol	0.0634	0.00530		µg/L	5	8/25/2021 3:48:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
4-Bromophenyl phenyl ether	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
4-Chloro-3-methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
4-Chlorophenyl phenyl ether	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
4-Nitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Acenaphthene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Acenaphthylene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Aniline	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Azobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benz(a)anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzidine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzo(a)pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzo(b)fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzo(g,h,i)perylene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzo(k)fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Benzoic Acid	0.405	0.0265		µg/L	5	8/25/2021 3:48:00 PM
Bis(2-chloroethoxy)methane	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Bis(2-chloroethyl)ether	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Bis(2-ethylhexyl)phthalate	0.0534	0.00265		µg/L	5	8/25/2021 3:48:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-006  
**Client Sample ID** Parkway G

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	0.00694	0.00265		µg/L	5	8/25/2021 3:48:00 PM
Carbazole	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Chrysene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Dibenz(a,h)anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Diethyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Dimethyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Di-n-butyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Di-n-octyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Fluorene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Hexachlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Hexachlorobutadiene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Hexachlorocyclopentadiene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Hexachloroethane	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Isophorone	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Naphthalene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Nitrobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
N-Nitrosodimethylamine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
N-Nitrosodi-n-propylamine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
N-Nitrosodiphenylamine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Pentachlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Phenanthrene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Phenol	0.0120	0.00265		µg/L	5	8/25/2021 3:48:00 PM
Pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Pyridine	ND	0.00265	Q	µg/L	5	8/25/2021 3:48:00 PM
Surr: 2,4,6-Tribromophenol	80.6	33.1 - 129.7		%Rec	5	8/25/2021 3:48:00 PM
Surr: 2-Fluorobiphenyl	90.9	33.1 - 126.2		%Rec	5	8/25/2021 3:48:00 PM
Surr: 2-Fluorophenol	35.4	13.4 - 127.1		%Rec	5	8/25/2021 3:48:00 PM
Surr: 4-Terphenyl-d14	110	41 - 122		%Rec	5	8/25/2021 3:48:00 PM
Surr: Nitrobenzene-d5	74.8	28.9 - 129.9		%Rec	5	8/25/2021 3:48:00 PM
Surr: Phenol-d6	23.5	10.6 - 128.5		%Rec	5	8/25/2021 3:48:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-006  
**Client Sample ID** Parkway G

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
2-Butanone	10.1	5.00		µg/L	1	8/9/2021 10:18:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 10:18:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 10:18:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 10:18:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Chloroform	1.31	0.500		µg/L	1	8/9/2021 10:18:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 10:18:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 10:18:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 10:18:00 PM
Surr: 1,2-Dichloroethane-d4	105	83.4 - 126		%Rec	1	8/9/2021 10:18:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 10:18:00 PM
Surr: Dibromofluoromethane	120	81.1 - 122		%Rec	1	8/9/2021 10:18:00 PM
Surr: Toluene-d8	88.1	80 - 120		%Rec	1	8/9/2021 10:18:00 PM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-006  
**Client Sample ID** Parkway G

**Collection Date:** 8/3/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:42:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.0109	0.00500		mg/L	1	8/12/2021 4:22:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:01:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	992	5.00		mg/L	1	8/9/2021 4:40:32 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-007  
**Client Sample ID** Villabois C

**Collection Date:** 8/3/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	218	10.0		µg/L	1	8/5/2021 11:03:13 AM
Antimony	ND	0.500		µg/L	1	8/5/2021 11:03:13 AM
Arsenic	1.35	0.100		µg/L	1	8/5/2021 11:03:13 AM
Cadmium	0.112	0.100		µg/L	1	8/5/2021 11:03:13 AM
Chromium	0.983	0.100		µg/L	1	8/5/2021 11:03:13 AM
Copper	23.5	0.500		µg/L	1	8/5/2021 11:03:13 AM
Iron	191	50.0		µg/L	1	8/5/2021 11:03:13 AM
Lead	0.461	0.100		µg/L	1	8/5/2021 11:03:13 AM
Molybdenum	0.809	0.500		µg/L	1	8/5/2021 11:03:13 AM
Nickel	1.92	0.500		µg/L	1	8/5/2021 11:03:13 AM
Potassium	13600	100		µg/L	1	8/5/2021 11:03:13 AM
Selenium	ND	1.00		µg/L	1	8/5/2021 11:03:13 AM
Silver	0.173	0.100		µg/L	1	8/5/2021 3:45:32 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 11:03:13 AM
Zinc	128	2.00		µg/L	1	8/5/2021 11:03:13 AM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	70.5	0.200		mg/L	1	8/5/2021 11:03:13 AM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	124	2.00		mg/L	1	8/4/2021 11:28:00 AM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	314.6	2.0		mg/L	1	8/4/2021 11:46:00 AM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	205	10.0		mg/L CaCO3	1	8/5/2021 2:20:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	8/6/2021 12:55:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.55	0.200		mg/L	10	8/6/2021 3:56:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG E</b>		Analyst: <b>NK</b>
TKN as N	48.3	0.800		mg/L	4	8/11/2021 5:28:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	217	10.0		mg/L	1	8/4/2021 12:15:31 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-008  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/3/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
1,2-Dichlorobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
1,2-Diphenylhydrazine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
1,3-Dichlorobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
1,4-Dichlorobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,4,6-Trichlorophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,4-Dichlorophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,4-Dimethylphenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,4-Dinitrophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,4-Dinitrotoluene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2,6-Dinitrotoluene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2-Chloronaphthalene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2-Chlorophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2-Methylphenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
2-Nitrophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
3,3'-Dichlorobenzidine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
3,4-Methylphenol	0.0566	0.00518		µg/L	5	8/25/2021 5:16:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
4-Bromophenyl phenyl ether	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
4-Chloro-3-methylphenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
4-Chlorophenyl phenyl ether	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
4-Nitrophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Acenaphthene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Acenaphthylene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Aniline	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Anthracene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Azobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benz(a)anthracene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzidine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzo(a)pyrene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzo(b)fluoranthene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzo(g,h,i)perylene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzo(k)fluoranthene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Benzoic Acid	0.352	0.0259		µg/L	5	8/25/2021 5:16:00 PM
Bis(2-chloroethoxy)methane	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Bis(2-chloroethyl)ether	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Bis(2-ethylhexyl)phthalate	0.00668	0.00259		µg/L	5	8/25/2021 5:16:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-008  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/3/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Carbazole	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Chrysene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Dibenz(a,h)anthracene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Diethyl phthalate	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Dimethyl phthalate	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Di-n-butyl phthalate	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Di-n-octyl phthalate	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Fluoranthene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Fluorene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Hexachlorobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Hexachlorobutadiene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Hexachlorocyclopentadiene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Hexachloroethane	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Isophorone	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Naphthalene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Nitrobenzene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
N-Nitrosodimethylamine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
N-Nitrosodi-n-propylamine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
N-Nitrosodiphenylamine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Pentachlorophenol	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Phenanthrene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Phenol	0.00777	0.00259		µg/L	5	8/25/2021 5:16:00 PM
Pyrene	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Pyridine	ND	0.00259	Q	µg/L	5	8/25/2021 5:16:00 PM
Surr: 2,4,6-Tribromophenol	68.8	33.1 - 129.7		%Rec	5	8/25/2021 5:16:00 PM
Surr: 2-Fluorobiphenyl	85.0	33.1 - 126.2		%Rec	5	8/25/2021 5:16:00 PM
Surr: 2-Fluorophenol	30.4	13.4 - 127.1		%Rec	5	8/25/2021 5:16:00 PM
Surr: 4-Terphenyl-d14	97.5	41 - 122		%Rec	5	8/25/2021 5:16:00 PM
Surr: Nitrobenzene-d5	71.7	28.9 - 129.9		%Rec	5	8/25/2021 5:16:00 PM
Surr: Phenol-d6	21.4	10.6 - 128.5		%Rec	5	8/25/2021 5:16:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM

**Qualifiers:** E Value above quantitation range  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-008  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/3/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 10:41:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 10:41:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 10:41:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 10:41:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 10:41:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 10:41:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 10:41:00 PM
Surr: 1,2-Dichloroethane-d4	89.6	83.4 - 126		%Rec	1	8/9/2021 10:41:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 10:41:00 PM
Surr: Dibromofluoromethane	102	81.1 - 122		%Rec	1	8/9/2021 10:41:00 PM
Surr: Toluene-d8	86.6	80 - 120		%Rec	1	8/9/2021 10:41:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

<b>Qualifiers:</b>	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108010  
Date Reported: 9/1/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108010-008  
**Client Sample ID** Villabois G

**Collection Date:** 8/3/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:43:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00650	0.00500		mg/L	1	8/12/2021 4:27:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 1:06:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	369	5.00		mg/L	1	8/9/2021 4:41:32 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode: 200.8**

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531142</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	521	10.0	500.0	0	104	90	110				
Antimony	51.1	0.500	50.00	0	102	90	110				
Arsenic	51.1	0.100	50.00	0	102	90	110				
Cadmium	51.9	0.100	50.00	0	104	90	110				
Chromium	51.4	0.100	50.00	0	103	90	110				
Copper	52.1	0.500	50.00	0	104	90	110				
Iron	5480	50.0	5000	0	110	90	110				
Lead	51.0	0.100	50.00	0	102	90	110				
Molybdenum	51.5	0.500	50.00	0	103	90	110				
Nickel	52.1	0.500	50.00	0	104	90	110				
Potassium	5210	100	5000	0	104	90	110				
Selenium	51.1	1.00	50.00	0	102	90	110				
Silver	54.9	0.100	50.00	0	110	90	110				
Thallium	51.8	0.100	50.00	0	104	90	110				
Zinc	51.3	2.00	50.00	0	103	90	110				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531143</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531143</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.500									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531148</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	514	10.0	500.0	0	103	90	110				
Antimony	49.8	0.500	50.00	0	99.6	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531148</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.4	0.100	50.00	0	101	90	110				
Cadmium	51.2	0.100	50.00	0	102	90	110				
Chromium	51.1	0.100	50.00	0	102	90	110				
Copper	52.2	0.500	50.00	0	104	90	110				
Iron	5410	50.0	5000	0	108	90	110				
Lead	50.7	0.100	50.00	0	101	90	110				
Molybdenum	50.4	0.500	50.00	0	101	90	110				
Nickel	51.9	0.500	50.00	0	104	90	110				
Potassium	5070	100	5000	0	101	90	110				
Selenium	49.8	1.00	50.00	0	99.5	90	110				
Silver	54.0	0.100	50.00	0	108	90	110				
Thallium	52.2	0.100	50.00	0	104	90	110				
Zinc	51.2	2.00	50.00	0	102	90	110				

Sample ID: <b>MB-18304</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531150</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									
Arsenic	ND	0.100									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18304</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531150</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18304</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531151</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	434	10.0	500.0	0	86.8	85	115				
Antimony	47.8	0.500	50.00	0	95.6	85	115				
Arsenic	47.0	0.100	50.00	0	94.0	85	115				
Cadmium	49.3	0.100	50.00	0	98.6	85	115				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>LCS-18304</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531151</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	45.6	0.100	50.00	0	91.3	85	115				
Copper	49.0	0.500	50.00	0	98.0	85	115				
Iron	4910	50.0	5000	0	98.2	85	115				
Lead	48.7	0.100	50.00	0	97.4	85	115				
Molybdenum	46.4	0.500	50.00	0	92.8	85	115				
Nickel	48.4	0.500	50.00	0	96.9	85	115				
Potassium	4410	100	5000	0	88.1	85	115				
Selenium	47.4	1.00	50.00	0	94.7	85	115				
Silver	55.6	0.100	50.00	0	111	85	115				
Thallium	49.2	0.100	50.00	0	98.5	85	115				
Zinc	50.2	2.00	50.00	0	100	85	115				

Sample ID: <b>2108018-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	13.7	10.0						13.83	1.09	20	
Antimony	ND	0.500						0	0	20	
Arsenic	1.08	0.100						1.105	1.79	20	
Cadmium	ND	0.100						0	0	20	
Chromium	0.200	0.100						0.2095	4.58	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108018-002ADUP		SampType: DUP		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531153	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	1.77	0.500						1.742	1.56	20	
Iron	276	50.0						277.0	0.402	20	
Lead	ND	0.100						0	0	20	RRF
Molybdenum	24.8	0.500						25.10	1.03	20	
Nickel	126	0.500						125.9	0.245	20	
Potassium	188000	100						184200	2.20	20	E
Selenium	ND	1.00						0	0	20	
Silver	ND	0.100						0	0	20	RRF
Thallium	ND	0.100						0	0	20	RRF
Zinc	5.26	2.00						5.144	2.15	20	

Sample ID: 2108018-002AMS		SampType: MS		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531154	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	440	10.0	500.0	13.83	85.3	70	130				
Antimony	49.3	0.500	50.00	0.1963	98.1	70	130				
Arsenic	54.3	0.100	50.00	1.105	106	70	130				
Cadmium	43.4	0.100	50.00	0.02463	86.8	70	130				
Chromium	46.3	0.100	50.00	0.2095	92.2	70	130				
Copper	46.9	0.500	50.00	1.742	90.3	70	130				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108018-002AMS		SampType: MS		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531154	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5010	50.0	5000	277.0	94.7	70	130				
Lead	52.7	0.100	50.00	0.03204	105	70	130				
Molybdenum	76.5	0.500	50.00	25.10	103	70	130				
Nickel	169	0.500	50.00	125.9	87.1	70	130				
Potassium	183000	100	5000	184200	-28.6	70	130				ESMC
Selenium	51.6	1.00	50.00	0.3008	103	70	130				
Silver	45.4	0.100	50.00	0.008943	90.9	70	130				
Thallium	54.8	0.100	50.00	0.04002	110	70	130				
Zinc	49.2	2.00	50.00	5.144	88.1	70	130				

Sample ID: 2108018-002AMSD		SampType: MSD		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41337	
Client ID: BatchQC		Batch ID: 18304		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531155	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	443	10.0	500.0	13.83	85.9	70	130	440.4	0.624	20	
Antimony	49.3	0.500	50.00	0.1963	98.1	70	130	49.25	0.00978	20	
Arsenic	54.9	0.100	50.00	1.105	108	70	130	54.31	1.03	20	
Cadmium	43.5	0.100	50.00	0.02463	86.9	70	130	43.41	0.189	20	
Chromium	47.0	0.100	50.00	0.2095	93.6	70	130	46.32	1.43	20	
Copper	47.3	0.500	50.00	1.742	91.2	70	130	46.91	0.922	20	
Iron	5070	50.0	5000	277.0	95.9	70	130	5014	1.12	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>2108018-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41337</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531155</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	52.6	0.100	50.00	0.03204	105	70	130	52.66	0.103	20	
Molybdenum	77.1	0.500	50.00	25.10	104	70	130	76.53	0.753	20	
Nickel	170	0.500	50.00	125.9	89.2	70	130	169.4	0.623	20	
Potassium	186000	100	5000	184200	40.5	70	130	182800	1.87	20	ESMC
Selenium	52.4	1.00	50.00	0.3008	104	70	130	51.63	1.43	20	
Silver	44.4	0.100	50.00	0.008943	88.8	70	130	45.45	2.35	20	
Thallium	54.7	0.100	50.00	0.04002	109	70	130	54.82	0.225	20	
Zinc	50.5	2.00	50.00	5.144	90.8	70	130	49.18	2.68	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531161</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533	10.0	500.0	0	107	90	110				
Antimony	49.8	0.500	50.00	0	99.7	90	110				
Arsenic	50.8	0.100	50.00	0	102	90	110				
Cadmium	50.7	0.100	50.00	0	101	90	110				
Chromium	51.3	0.100	50.00	0	103	90	110				
Copper	52.6	0.500	50.00	0	105	90	110				
Iron	5410	50.0	5000	0	108	90	110				
Lead	51.1	0.100	50.00	0	102	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531161</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	50.8	0.500	50.00	0	102	90	110				
Nickel	51.8	0.500	50.00	0	104	90	110				
Potassium	5170	100	5000	0	103	90	110				
Selenium	50.5	1.00	50.00	0	101	90	110				
Silver	54.7	0.100	50.00	0	109	90	110				
Thallium	52.4	0.100	50.00	0	105	90	110				
Zinc	51.4	2.00	50.00	0	103	90	110				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531232</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	53.7	0.100	50.00	0	107	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41337</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18304</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531240</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	50.0	0.100	50.00	0	100	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	60.5	139.5				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	71	129				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	72.5	127.5				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	50.5	149.5				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	63	137				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	68	132				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	34	166				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	73	127				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	63	137				
2-Butanone	93.3	5.00	80.00	0	117	60	140				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	224				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	60	140				
Acrylonitrile	50.2	2.00	40.00	0	125	50	150				
Benzene	36.5	0.500	40.00	0	91.4	64	136				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	65.5	134.5				
Bromoform	35.5	0.500	40.00	0	88.8	71	129				
Bromomethane	29.4	0.500	40.00	0	73.5	14	186				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	73	127				
Chlorobenzene	33.5	0.500	40.00	0	83.7	66	134				
Chloroethane	29.4	0.500	40.00	0	73.6	38	162				
Chloroform	39.3	0.500	40.00	0	98.2	67.5	132.5				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	204				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	24	176				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	67.5	132.5				
Ethylbenzene	33.5	0.500	40.00	0	83.9	59	141				
m,p-Xylene	61.3	1.00	80.00	0	76.6	65	127				
Methylene chloride	28.2	20.0	40.00	0	70.6	60.5	139.5				
o-Xylene	34.6	0.500	40.00	0	86.6	80	120				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	73.5	126.5				
Toluene	35.8	0.500	40.00	0	89.4	74.5	125.5				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	69.5	130.5				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	50	150				
Trichloroethene	41.3	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	48	152				
Vinyl chloride	29.8	0.500	40.00	0	74.6	4	196				

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:**  
E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	96.1		100.0		96.1	83.4	126				
Surr: 4-Bromofluorobenzene	105		100.0		105	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	89.7		100.0		89.7	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	46	157				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	52	150				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	59	155				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	0.01	234				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	18	190				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	49	155				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	59	156				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	18	190				
2-Butanone	93.3	5.00	80.00	0	117	50	150				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	305				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	50	150				
Acrylonitrile	50.2	2.00	40.00	0	125	30	150				
Benzene	36.5	0.500	40.00	0	91.4	37	151				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	35	155				
Bromoform	35.5	0.500	40.00	0	88.8	45	169				
Bromomethane	29.4	0.500	40.00	0	73.5	0.01	242				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	70	140				
Chlorobenzene	33.5	0.500	40.00	0	83.7	37	160				
Chloroethane	29.4	0.500	40.00	0	73.6	14	230				
Chloroform	39.3	0.500	40.00	0	98.2	51	138				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41389</b>					
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	53	149				
Ethylbenzene	33.5	0.500	40.00	0	83.9	37	162				
m,p-Xylene	61.3	1.00	80.00	0	76.6	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.6	0.01	221				
o-Xylene	34.6	0.500	40.00	0	86.6	50	150				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	64	148				
Toluene	35.8	0.500	40.00	0	89.4	47	150				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	54	156				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	17	183				
Trichloroethene	41.3	0.500	40.00	0	103	71	157				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	17	181				
Vinyl chloride	29.8	0.500	40.00	0	74.6	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41389</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>			Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.0	0.500	40.00	0	110	80	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	41.3	0.500	40.00	0	103	75	125				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	60.5	139.5				
1,1,2-Trichloroethane	43.5	0.500	40.00	0	109	71	129				
1,1-Dichloroethane	41.4	0.500	40.00	0	103	72.5	127.5				
1,1-Dichloroethene	42.0	0.500	40.00	0	105	50.5	149.5				
1,2-Dichlorobenzene	41.0	0.500	40.00	0	102	63	137				
1,2-Dichloroethane	40.0	0.500	40.00	0	100	68	132				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	34	166				
1,3-Dichlorobenzene	40.7	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.9	0.500	40.00	0	102	63	137				
2-Butanone	86.0	5.00	80.00	0	108	60	140				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	224				
4-Methyl-2-pentanone	90.4	5.00	80.00	0	113	60	140				
Acrylonitrile	43.1	2.00	40.00	0	108	50	150				
Benzene	38.0	0.500	40.00	0	95.1	64	136				
Bromodichloromethane	40.8	0.500	40.00	0	102	65.5	134.5				
Bromoform	44.4	0.500	40.00	0	111	71	129				
Bromomethane	28.6	0.500	40.00	0	71.4	14	186				
Carbon tetrachloride	42.1	0.500	40.00	0	105	73	127				
Chlorobenzene	44.2	0.500	40.00	0	111	66	134				
Chloroethane	49.4	0.500	40.00	0	123	38	162				
Chloroform	41.2	0.500	40.00	0	103	67.5	132.5				
Chloromethane	36.8	0.500	40.00	0	92.0	0.01	204				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41389</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>			SeqNo: <b>532084</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	41.4	0.500	40.00	0	104	24	176				
Dibromochloromethane	45.0	0.500	40.00	0	112	67.5	132.5				
Ethylbenzene	47.9	0.500	40.00	0	120	59	141				
m,p-Xylene	94.4	1.00	80.00	0	118	80	120				
Methylene chloride	31.0	20.0	40.00	0	77.4	60.5	139.5				
o-Xylene	46.2	0.500	40.00	0	116	80	120				
Styrene	46.1	0.500	40.00	0	115	80	120				
Tetrachloroethene	46.7	0.500	40.00	0	117	73.5	126.5				
Toluene	45.4	0.500	40.00	0	114	74.5	125.5				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	105	69.5	130.5				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	50	150				
Trichloroethene	41.2	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	48	152				
Vinyl chloride	32.6	0.500	40.00	0	81.5	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41389</b>		
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>			SeqNo: <b>532085</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	120		100.0		120	81.1	125				
Surr: Toluene-d8	84.3		100.0		84.3	75	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532086							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	50.7	0.500	40.00	0	127	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.5	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	51.3	0.500	40.00	0	128	59	155				
1,1-Dichloroethene	51.5	0.500	40.00	0	129	47.8	165				
1,2-Dichlorobenzene	34.4	0.500	40.00	0	86.0	18	190				
1,2-Dichloroethane	47.2	0.500	40.00	0	118	49	155				
1,2-Dichloropropane	48.5	0.500	40.00	0	121	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.6	0.500	40.00	0	86.5	18	190				
2-Butanone	109	5.00	80.00	3.350	132	50	150				
2-Chloroethyl vinyl ether	48.5	10.0	40.00	0	121	0.01	305				
4-Methyl-2-pentanone	87.1	5.00	80.00	0	109	50	150				
Acrylonitrile	51.8	2.00	40.00	0	129	20	150				
Benzene	46.8	0.500	40.00	0	117	37	151				
Bromodichloromethane	48.6	0.500	40.00	0	122	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	30.5	0.500	40.00	0	76.2	0.01	242				
Carbon tetrachloride	51.7	0.500	40.00	0	129	70	140				
Chlorobenzene	41.5	0.500	40.00	0	104	37	160				
Chloroethane	75.4	0.500	40.00	0	188	14	230				
Chloroform	52.1	0.500	40.00	1.290	127	51	138				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532086				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	48.4	0.500	40.00	0	121	0.01	273				
cis-1,3-Dichloropropene	48.4	0.500	40.00	0	121	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	1.990	107	50	150				
Methylene chloride	36.2	20.0	40.00	0	90.6	0.01	221				
o-Xylene	41.8	0.500	40.00	0	105	50	150				
Styrene	41.6	0.500	40.00	0	104	70	130				
Tetrachloroethene	38.2	0.500	40.00	0	95.5	64	148				
Toluene	44.5	0.500	40.00	1.940	106	47	150				
trans-1,2-Dichloroethene	51.6	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	42.0	0.500	40.00	0	105	17	183				
Trichloroethene	49.4	0.500	40.00	0	124	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	42.7	0.500	40.00	0	107	0.01	251				

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532087				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.9	0.500	40.00	0	110	70	130				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	46	157				
1,1,2-Trichloroethane	42.7	0.500	40.00	0	107	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	39.6	0.500	40.00	0	99.1	18	190				
1,2-Dichloroethane	41.7	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	39.8	0.500	40.00	0	99.6	59	156				
1,4-Dichlorobenzene	39.7	0.500	40.00	0	99.3	18	190				
2-Butanone	89.0	5.00	80.00	0	111	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	90.0	5.00	80.00	0	112	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	40.2	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.0	0.500	40.00	0	105	35	155				
Bromoform	43.9	0.500	40.00	0	110	45	169				
Bromomethane	30.0	0.500	40.00	0	75.1	0.01	242				
Carbon tetrachloride	44.5	0.500	40.00	0	111	70	140				
Chlorobenzene	44.2	0.500	40.00	0	111	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	0	108	51	138				
Chloromethane	40.5	0.500	40.00	0	101	0.01	273				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532087					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	42.4	0.500	40.00	0	106	0.01	227				
Dibromochloromethane	44.2	0.500	40.00	0	111	53	149				
Ethylbenzene	47.8	0.500	40.00	0	120	37	162				
m,p-Xylene	94.1	1.00	80.00	0	118	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.2	0.01	221				
o-Xylene	45.5	0.500	40.00	0	114	50	150				
Styrene	45.1	0.500	40.00	0	113	70	130				
Tetrachloroethene	42.4	0.500	40.00	0	106	64	148				
Toluene	46.3	0.500	40.00	1.280	112	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	44.6	0.500	40.00	0	112	17	181				
Vinyl chloride	36.1	0.500	40.00	0	90.2	0.01	251				

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532088					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.6	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.9	0.500	40.00	0	105	52	162				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532088					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	38.7	0.500	40.00	0	96.7	46	157				
1,1,2-Trichloroethane	40.7	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.1	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.1	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.6	18	190				
1,2-Dichloroethane	39.4	0.500	40.00	0	98.5	49	155				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	1.190	88.5	18	190				
2-Butanone	98.9	5.00	80.00	12.59	108	50	150				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	305				
4-Methyl-2-pentanone	87.4	5.00	80.00	0	109	50	150				
Acrylonitrile	44.6	2.00	40.00	0	112	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.4	0.500	40.00	0	101	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	25.6	0.500	40.00	0	64.0	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.6	0.500	40.00	0	169	14	230				
Chloroform	45.0	0.500	40.00	3.280	104	51	138				
Chloromethane	45.4	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532088		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	42.2	0.500	40.00	0	106	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	0	110	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.6	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	43.3	0.500	40.00	0	108	54	156				
trans-1,3-Dichloropropene	42.8	0.500	40.00	0	107	17	183				
Trichloroethene	40.8	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	104	17	181				
Vinyl chloride	33.6	0.500	40.00	0	83.9	0.01	251				

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532089		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	41.2	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.4	46	157				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532089					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	41.0	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	40.7	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.4	18	190				
1,2-Dichloroethane	46.9	0.500	40.00	0	117	49	155				
1,2-Dichloropropane	41.5	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.5	0.500	40.00	0	86.4	18	190				
2-Butanone	83.9	5.00	80.00	2.380	102	50	150				
2-Chloroethyl vinyl ether	41.5	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	88.4	5.00	80.00	0	110	50	150				
Acrylonitrile	41.4	2.00	40.00	0	104	20	150				
Benzene	54.6	0.500	40.00	0	136	37	151				
Bromodichloromethane	41.6	0.500	40.00	0	104	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	23.3	0.500	40.00	0	58.2	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	41.6	0.500	40.00	0	104	37	160				
Chloroethane	48.2	0.500	40.00	0	120	14	230				
Chloroform	41.4	0.500	40.00	0	103	51	138				
Chloromethane	36.1	0.500	40.00	0	90.3	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.2	1.00	80.00	0	109	50	150				
Methylene chloride	25.1	20.0	40.00	0	62.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	37.5	0.500	40.00	0	93.8	64	148				
Toluene	43.9	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	42.2	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	42.6	0.500	40.00	0	106	17	181				
Vinyl chloride	34.7	0.500	40.00	0	86.9	0.01	251				

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532090							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	70	130				
1,1,1-Trichloroethane	39.6	0.500	40.00	0	99.0	52	162				
1,1,2,2-Tetrachloroethane	37.4	0.500	40.00	0	93.5	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.2	52	150				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532090					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.0	0.500	40.00	0	100	59	155				
1,1-Dichloroethene	41.1	0.500	40.00	0	103	47.8	165				
1,2-Dichlorobenzene	34.0	0.500	40.00	0	85.0	18	190				
1,2-Dichloroethane	37.2	0.500	40.00	0	92.9	49	155				
1,2-Dichloropropane	38.7	0.500	40.00	0	96.8	0.01	210				
1,3-Dichlorobenzene	33.9	0.500	40.00	0	84.8	59	156				
1,4-Dichlorobenzene	34.4	0.500	40.00	0	86.1	18	190				
2-Butanone	84.3	5.00	80.00	2.890	102	50	150				
2-Chloroethyl vinyl ether	38.7	10.0	40.00	0	96.8	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	41.3	2.00	40.00	0	103	20	150				
Benzene	36.5	0.500	40.00	0	91.2	37	151				
Bromodichloromethane	38.6	0.500	40.00	0	96.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	27.1	0.500	40.00	0	67.8	0.01	242				
Carbon tetrachloride	40.3	0.500	40.00	0	101	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	46.6	0.500	40.00	0	116	14	230				
Chloroform	40.9	0.500	40.00	1.480	98.4	51	138				
Chloromethane	36.5	0.500	40.00	0	91.2	0.01	273				
cis-1,3-Dichloropropene	39.0	0.500	40.00	0	97.5	0.01	227				
Dibromochloromethane	41.1	0.500	40.00	0	103	53	149				
Ethylbenzene	43.2	0.500	40.00	0	108	37	162				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108007-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532090</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	84.7	1.00	80.00	0	106	50	150				
Methylene chloride	24.8	20.0	40.00	0	62.0	0.01	221				
o-Xylene	41.0	0.500	40.00	0	102	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.1	64	148				
Toluene	43.0	0.500	40.00	1.470	104	47	150				
trans-1,2-Dichloroethene	41.0	0.500	40.00	0	102	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	39.3	0.500	40.00	0	98.3	71	157				
Trichlorofluoromethane	40.6	0.500	40.00	0	102	17	181				
Vinyl chloride	32.0	0.500	40.00	0	80.0	0.01	251				

Sample ID: <b>2108007-002EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532091</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.9	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	40.9	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.2	46	157				
1,1,2-Trichloroethane	41.8	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532091							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	42.4	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	38.3	0.500	40.00	0	95.8	18	190				
1,2-Dichloroethane	38.6	0.500	40.00	0	96.4	49	155				
1,2-Dichloropropane	39.8	0.500	40.00	0	99.6	0.01	210				
1,3-Dichlorobenzene	38.6	0.500	40.00	0	96.5	59	156				
1,4-Dichlorobenzene	38.4	0.500	40.00	0	96.0	18	190				
2-Butanone	85.4	5.00	80.00	0	107	50	150				
2-Chloroethyl vinyl ether	39.8	10.0	40.00	0	99.6	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	42.7	2.00	40.00	0	107	20	150				
Benzene	37.8	0.500	40.00	0	94.4	37	151				
Bromodichloromethane	39.5	0.500	40.00	0	98.8	35	155				
Bromoform	41.6	0.500	40.00	0	104	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	41.6	0.500	40.00	0	104	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	45.2	0.500	40.00	0	113	14	230				
Chloroform	40.7	0.500	40.00	0	102	51	138				
Chloromethane	38.2	0.500	40.00	0	95.6	0.01	273				
cis-1,3-Dichloropropene	40.3	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	46.1	0.500	40.00	0	115	37	162				
m,p-Xylene	90.7	1.00	80.00	0	113	50	150				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532091					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	26.2	20.0	40.00	0	65.4	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	43.3	0.500	40.00	0	108	70	130				
Tetrachloroethene	40.3	0.500	40.00	0	101	64	148				
Toluene	44.2	0.500	40.00	1.230	107	47	150				
trans-1,2-Dichloroethene	42.0	0.500	40.00	0	105	54	156				
trans-1,3-Dichloropropene	43.0	0.500	40.00	0	107	17	183				
Trichloroethene	41.0	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1,1-Trichloroethane	41.7	0.500	40.00	0	104	52	162				
1,1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.5	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	107	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	34.3	0.500	40.00	0	85.8	18	190				
1,2-Dichloroethane	39.2	0.500	40.00	0	97.9	49	155				
1,2-Dichloropropane	41.0	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	35.1	0.500	40.00	0	87.7	18	190				
2-Butanone	103	5.00	80.00	14.08	111	50	150				
2-Chloroethyl vinyl ether	41.0	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	88.9	5.00	80.00	0	111	50	150				
Acrylonitrile	45.1	2.00	40.00	0	113	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.3	0.500	40.00	0	101	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	32.8	0.500	40.00	0	81.9	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	42.2	0.500	40.00	0	105	37	160				
Chloroethane	46.6	0.500	40.00	0	117	14	230				
Chloroform	43.7	0.500	40.00	2.060	104	51	138				
Chloromethane	41.6	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.3	0.500	40.00	0	106	53	149				
Ethylbenzene	44.5	0.500	40.00	0	111	37	162				
m,p-Xylene	88.2	1.00	80.00	0	110	50	150				
Methylene chloride	27.4	20.0	40.00	0	68.5	0.01	221				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.6	64	148				
Toluene	44.4	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	43.8	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.6	0.500	40.00	0	109	17	183				
Trichloroethene	41.5	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	41.7	0.500	40.00	0	104	17	181				
Vinyl chloride	32.2	0.500	40.00	0	80.5	0.01	251				

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				
1,1,1-Trichloroethane	40.7	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.0	46	157				
1,1,2-Trichloroethane	40.0	0.500	40.00	0	100	52	150				
1,1-Dichloroethane	42.4	0.500	40.00	0	106	59	155				
1,1-Dichloroethene	42.8	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	32.4	0.500	40.00	0	80.9	18	190				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	38.3	0.500	40.00	0	95.8	49	155				
1,2-Dichloropropane	39.7	0.500	40.00	0	99.2	0.01	210				
1,3-Dichlorobenzene	32.1	0.500	40.00	0	80.4	59	156				
1,4-Dichlorobenzene	32.6	0.500	40.00	0	81.4	18	190				
2-Butanone	88.3	5.00	80.00	3.320	106	50	150				
2-Chloroethyl vinyl ether	39.7	10.0	40.00	0	99.2	0.01	305				
4-Methyl-2-pentanone	86.1	5.00	80.00	0	108	50	150				
Acrylonitrile	43.8	2.00	40.00	0	110	20	150				
Benzene	38.4	0.500	40.00	0	95.9	37	151				
Bromodichloromethane	39.8	0.500	40.00	0	99.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	32.8	0.500	40.00	0	82.1	0.01	242				
Carbon tetrachloride	40.9	0.500	40.00	0	102	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	45.5	0.500	40.00	0	114	14	230				
Chloroform	47.0	0.500	40.00	7.430	99.0	51	138				
Chloromethane	42.0	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	39.8	0.500	40.00	0	99.5	0.01	227				
Dibromochloromethane	41.4	0.500	40.00	0	104	53	149				
Ethylbenzene	42.6	0.500	40.00	0	107	37	162				
m,p-Xylene	84.0	1.00	80.00	0	105	50	150				
Methylene chloride	26.1	20.0	40.00	0	65.2	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108007-004EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532093</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	40.5	0.500	40.00	0	101	70	130				
Tetrachloroethene	35.5	0.500	40.00	0	88.8	64	148				
Toluene	42.9	0.500	40.00	0	107	47	150				
trans-1,2-Dichloroethene	42.8	0.500	40.00	0	107	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	40.2	0.500	40.00	0	100	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	33.0	0.500	40.00	0	82.5	0.01	251				

Sample ID: <b>2108010-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>080321LLIG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532094</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.8	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	42.6	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	38.9	0.500	40.00	0	97.3	46	157				
1,1,2-Trichloroethane	40.4	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.1	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	34.5	0.500	40.00	0	86.2	18	190				
1,2-Dichloroethane	39.8	0.500	40.00	0	99.4	49	155				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: 080321LLIG	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532094					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.6	0.500	40.00	0	86.4	59	156				
1,4-Dichlorobenzene	34.9	0.500	40.00	0	87.3	18	190				
2-Butanone	93.1	5.00	80.00	3.520	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	87.7	5.00	80.00	0	110	50	150				
Acrylonitrile	44.9	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	27.8	0.500	40.00	0	69.6	0.01	242				
Carbon tetrachloride	43.0	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.0	0.500	40.00	0	167	14	230				
Chloroform	43.8	0.500	40.00	1.210	106	51	138				
Chloromethane	48.0	0.500	40.00	0	120	0.01	273				
cis-1,3-Dichloropropene	41.3	0.500	40.00	0	103	0.01	227				
Dibromochloromethane	41.9	0.500	40.00	0	105	53	149				
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.0	1.00	80.00	0	109	50	150				
Methylene chloride	28.3	20.0	40.00	0	70.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	41.8	0.500	40.00	0	104	70	130				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>080321LLIG</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532094</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	37.6	0.500	40.00	0	93.9	64	148				
Toluene	44.5	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	44.4	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	42.5	0.500	40.00	0	106	17	183				
Trichloroethene	42.3	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	43.5	0.500	40.00	0	109	17	181				
Vinyl chloride	33.6	0.500	40.00	0	84.1	0.01	251				

Sample ID: <b>2108010-003EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>080321LLEG</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532095</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.2	0.500	40.00	0	108	70	130				
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	39.3	0.500	40.00	0	98.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	38.7	0.500	40.00	0	96.7	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: 080321LLEG	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532095				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	39.0	0.500	40.00	0	97.5	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				
2-Butanone	89.3	5.00	80.00	0	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	89.2	5.00	80.00	0	112	50	150				
Acrylonitrile	44.8	2.00	40.00	0	112	20	150				
Benzene	39.4	0.500	40.00	0	98.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	43.2	0.500	40.00	0	108	45	169				
Bromomethane	26.7	0.500	40.00	0	66.8	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	43.4	0.500	40.00	0	109	37	160				
Chloroethane	55.5	0.500	40.00	0	139	14	230				
Chloroform	42.2	0.500	40.00	0	106	51	138				
Chloromethane	40.6	0.500	40.00	0	101	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	43.5	0.500	40.00	0	109	53	149				
Ethylbenzene	47.5	0.500	40.00	0	119	37	162				
m,p-Xylene	93.4	1.00	80.00	0	117	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.3	0.01	221				
o-Xylene	45.0	0.500	40.00	0	113	50	150				
Styrene	44.8	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.0	0.500	40.00	0	102	64	148				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532095</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.2	0.500	40.00	0	105	71	157				
Trichlorofluoromethane	42.9	0.500	40.00	0	107	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	80	120				
1,1,1-Trichloroethane	47.5	0.500	40.00	0	119	75	125				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	60.5	139.5				
1,1,2-Trichloroethane	41.4	0.500	40.00	0	104	71	129				
1,1-Dichloroethane	48.4	0.500	40.00	0	121	72.5	127.5				
1,1-Dichloroethene	50.1	0.500	40.00	0	125	50.5	149.5				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	63	137				
1,2-Dichloroethane	43.1	0.500	40.00	0	108	68	132				
1,2-Dichloropropane	45.0	0.500	40.00	0	112	34	166				
1,3-Dichlorobenzene	37.5	0.500	40.00	0	93.7	73	127				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.4	63	137				
2-Butanone	91.6	5.00	80.00	0	114	60	140				
2-Chloroethyl vinyl ether	45.0	10.0	40.00	0	112	0.01	224				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	60	140				
Acrylonitrile	47.4	2.00	40.00	0	118	50	150				
Benzene	43.6	0.500	40.00	0	109	64	136				
Bromodichloromethane	44.2	0.500	40.00	0	110	65.5	134.5				
Bromoform	40.4	0.500	40.00	0	101	71	129				
Bromomethane	32.3	0.500	40.00	0	80.7	14	186				
Carbon tetrachloride	47.2	0.500	40.00	0	118	73	127				
Chlorobenzene	43.0	0.500	40.00	0	107	66	134				
Chloroethane	52.4	0.500	40.00	0	131	38	162				
Chloroform	46.8	0.500	40.00	0	117	67.5	132.5				
Chloromethane	47.0	0.500	40.00	0	118	0.01	204				
cis-1,3-Dichloropropene	45.8	0.500	40.00	0	114	24	176				
Dibromochloromethane	42.4	0.500	40.00	0	106	67.5	132.5				
Ethylbenzene	43.1	0.500	40.00	0	108	59	141				
m,p-Xylene	83.6	1.00	80.00	0	105	80	120				
Methylene chloride	37.7	20.0	40.00	0	94.2	60.5	139.5				
o-Xylene	43.9	0.500	40.00	0	110	80	120				
Styrene	43.2	0.500	40.00	0	108	80	120				
Tetrachloroethene	42.7	0.500	40.00	0	107	73.5	126.5				
Toluene	46.5	0.500	40.00	0	116	74.5	125.5				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	50.4	0.500	40.00	0	126	69.5	130.5				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	50	150				
Trichloroethene	47.5	0.500	40.00	0	119	66.5	133.5				
Trichlorofluoromethane	48.9	0.500	40.00	0	122	48	152				
Vinyl chloride	6.95	0.500	40.00	0	17.4	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									

**Qualifiers:**  
E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	84.8		100.0		84.8	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	96.8		100.0		96.8	81.1	125				
Surr: Toluene-d8	92.0		100.0		92.0	75	120				

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Parkway G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	44.4	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	38.1	0.500	40.00	0	95.2	46	157				
1,1,2-Trichloroethane	41.6	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	44.8	0.500	40.00	0	112	59	155				
1,1-Dichloroethene	45.3	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	88.9	18	190				
1,2-Dichloroethane	41.3	0.500	40.00	0	103	49	155				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.4	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	0	91.9	18	190				
2-Butanone	97.0	5.00	80.00	10.06	109	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	88.5	5.00	80.00	0	111	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	40.8	0.500	40.00	0	102	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	32.6	0.500	40.00	0	81.5	0.01	242				
Carbon tetrachloride	45.4	0.500	40.00	0	113	70	140				
Chlorobenzene	42.6	0.500	40.00	0	107	37	160				
Chloroethane	46.9	0.500	40.00	0	117	14	230				
Chloroform	45.1	0.500	40.00	1.310	110	51	138				
Chloromethane	42.7	0.500	40.00	0	107	0.01	273				
cis-1,3-Dichloropropene	44.6	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	43.1	0.500	40.00	0	108	53	149				
Ethylbenzene	45.9	0.500	40.00	0	115	37	162				
m,p-Xylene	90.2	1.00	80.00	0	113	50	150				
Methylene chloride	29.3	20.0	40.00	0	73.2	0.01	221				
o-Xylene	43.4	0.500	40.00	0	108	50	150				
Styrene	43.0	0.500	40.00	0	108	70	130				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Parkway G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				
trans-1,2-Dichloroethene	45.5	0.500	40.00	0	114	54	156				
trans-1,3-Dichloropropene	44.8	0.500	40.00	0	112	17	183				
Trichloroethene	44.3	0.500	40.00	0	111	71	157				
Trichlorofluoromethane	45.9	0.500	40.00	0	115	17	181				
Vinyl chloride	38.3	0.500	40.00	0	95.7	0.01	251				

Sample ID: <b>2108010-008EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532099</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.3	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	94.9	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.9	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.8	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	34.8	0.500	40.00	0	87.0	18	190				
1,2-Dichloroethane	40.5	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532099					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	34.8	0.500	40.00	0	87.1	59	156				
1,4-Dichlorobenzene	35.0	0.500	40.00	0	87.5	18	190				
2-Butanone	93.2	5.00	80.00	2.820	113	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.3	5.00	80.00	0	110	50	150				
Acrylonitrile	45.3	2.00	40.00	0	113	20	150				
Benzene	40.0	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	106	35	155				
Bromoform	41.3	0.500	40.00	0	103	45	169				
Bromomethane	31.1	0.500	40.00	0	77.7	0.01	242				
Carbon tetrachloride	44.1	0.500	40.00	0	110	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	49.8	0.500	40.00	0	124	14	230				
Chloroform	43.8	0.500	40.00	0	109	51	138				
Chloromethane	43.7	0.500	40.00	0	109	0.01	273				
cis-1,3-Dichloropropene	43.8	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.7	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	96.0	64	148				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-008EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532099</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	43.8	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.2	0.500	40.00	0	111	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.1	0.500	40.00	0	82.8	0.01	251				

Sample ID: <b>2108028-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532100</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.4	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.8	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.6	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	100	49	155				
1,2-Dichloropropane	42.4	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.1	59	156				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532100</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	93.2	5.00	80.00	4.490	111	50	150				
2-Chloroethyl vinyl ether	42.4	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.0	5.00	80.00	0	110	50	150				
Acrylonitrile	44.5	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	105	35	155				
Bromoform	41.4	0.500	40.00	0	103	45	169				
Bromomethane	25.9	0.500	40.00	0	64.9	0.01	242				
Carbon tetrachloride	43.8	0.500	40.00	0	109	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	69.3	0.500	40.00	0	173	14	230				
Chloroform	44.1	0.500	40.00	1.410	107	51	138				
Chloromethane	46.4	0.500	40.00	0	116	0.01	273				
cis-1,3-Dichloropropene	43.7	0.500	40.00	0	109	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.7	20.0	40.00	0	71.8	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.4	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.6	0.500	40.00	0	96.4	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

Client: City of Wilsonville  
Project: Wilsonville

TestCode: 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	44.5	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.6	0.500	40.00	0	111	17	183				
Trichloroethene	43.6	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.0	0.500	40.00	0	110	17	181				
Vinyl chloride	34.1	0.500	40.00	0	85.3	0.01	251				

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.0	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethane	44.5	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.4	18	190				
1,2-Dichloroethane	40.9	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.2	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	90.1	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.0	5.00	80.00	0	111	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	43.0	0.500	40.00	0	108	45	169				
Bromomethane	24.8	0.500	40.00	0	62.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	111	70	140				
Chlorobenzene	43.8	0.500	40.00	0	109	37	160				
Chloroethane	47.9	0.500	40.00	0	120	14	230				
Chloroform	42.9	0.500	40.00	0	107	51	138				
Chloromethane	38.8	0.500	40.00	0	97.0	0.01	273				
cis-1,3-Dichloropropene	44.7	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	43.9	0.500	40.00	0	110	53	149				
Ethylbenzene	47.3	0.500	40.00	0	118	37	162				
m,p-Xylene	93.8	1.00	80.00	0	117	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.5	0.01	221				
o-Xylene	45.1	0.500	40.00	0	113	50	150				
Styrene	45.0	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.7	0.500	40.00	0	104	64	148				
Toluene	45.5	0.500	40.00	0	114	47	150				
trans-1,2-Dichloroethene	44.6	0.500	40.00	0	112	54	156				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	45.8	0.500	40.00	0	115	17	183				
Trichloroethene	43.9	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.2	0.500	40.00	0	111	17	181				
Vinyl chloride	32.5	0.500	40.00	0	81.2	0.01	251				

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.8	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,1,2-Tetrachloroethane	38.4	0.500	40.00	0	95.9	46	157				
1,1,2-Trichloroethane	41.3	0.500	40.00	0	103	52	150				
1,1-Dichloroethane	44.3	0.500	40.00	0	111	59	155				
1,1-Dichloroethene	44.9	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.5	18	190				
1,2-Dichloroethane	40.7	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.3	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.9	0.500	40.00	1.020	89.7	18	190				
2-Butanone	113	5.00	80.00	22.52	114	50	150				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532102					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	43.3	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.3	5.00	80.00	0	112	50	150				
Acrylonitrile	45.8	2.00	40.00	0	114	20	150				
Benzene	40.4	0.500	40.00	0	101	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	27.6	0.500	40.00	0	69.0	0.01	242				
Carbon tetrachloride	44.3	0.500	40.00	0	111	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	50.3	0.500	40.00	0	126	14	230				
Chloroform	45.2	0.500	40.00	2.100	108	51	138				
Chloromethane	40.6	0.500	40.00	0	102	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	42.7	0.500	40.00	0	107	53	149				
Ethylbenzene	45.4	0.500	40.00	0	114	37	162				
m,p-Xylene	89.8	1.00	80.00	0	112	50	150				
Methylene chloride	28.6	20.0	40.00	0	71.6	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	42.8	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.2	64	148				
Toluene	45.7	0.500	40.00	1.280	111	47	150				
trans-1,2-Dichloroethene	44.8	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.9	0.500	40.00	0	112	17	183				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	44.0	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.3	0.500	40.00	0	83.3	0.01	251				

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.0	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,1,2-Tetrachloroethane	38.2	0.500	40.00	0	95.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.7	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.5	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.8	0.500	40.00	0	107	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	34.7	0.500	40.00	0	86.8	18	190				
2-Butanone	91.7	5.00	80.00	2.100	112	50	150				
2-Chloroethyl vinyl ether	42.8	10.0	40.00	0	107	0.01	305				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532103				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	88.7	5.00	80.00	0	111	50	150				
Acrylonitrile	45.4	2.00	40.00	0	113	20	150				
Benzene	39.6	0.500	40.00	0	98.9	37	151				
Bromodichloromethane	42.6	0.500	40.00	0	106	35	155				
Bromoform	41.1	0.500	40.00	0	103	45	169				
Bromomethane	28.0	0.500	40.00	0	70.0	0.01	242				
Carbon tetrachloride	43.3	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	53.8	0.500	40.00	0	135	14	230				
Chloroform	43.3	0.500	40.00	0	108	51	138				
Chloromethane	41.9	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	44.1	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.0	0.500	40.00	0	105	53	149				
Ethylbenzene	44.6	0.500	40.00	0	111	37	162				
m,p-Xylene	87.4	1.00	80.00	0	109	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.1	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	44.1	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.1	0.500	40.00	0	110	17	183				
Trichloroethene	43.2	0.500	40.00	0	108	71	157				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

Client: City of Wilsonville  
Project: Wilsonville

TestCode: 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532103							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	43.7	0.500	40.00	0	109	17	181				
Vinyl chloride	34.0	0.500	40.00	0	85.1	0.01	251				

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532104							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.6	0.500	40.00	0	106	70	130				
1,1,1-Trichloroethane	53.6	0.500	40.00	0	134	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	96.9	46	157				
1,1,2-Trichloroethane	41.9	0.500	40.00	0	105	52	150				
1,1-Dichloroethane	54.7	0.500	40.00	0	137	59	155				
1,1-Dichloroethene	55.4	0.500	40.00	0	138	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	89.0	18	190				
1,2-Dichloroethane	50.1	0.500	40.00	0	125	49	155				
1,2-Dichloropropane	52.9	0.500	40.00	0	132	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.6	59	156				
1,4-Dichlorobenzene	36.4	0.500	40.00	0	91.0	18	190				
2-Butanone	116	5.00	80.00	3.370	140	50	150				
2-Chloroethyl vinyl ether	52.9	10.0	40.00	0	132	0.01	305				
4-Methyl-2-pentanone	90.7	5.00	80.00	0	113	50	150				

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532104					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	50.0	0.500	40.00	0	125	37	151				
Bromodichloromethane	52.4	0.500	40.00	0	131	35	155				
Bromoform	42.3	0.500	40.00	0	106	45	169				
Bromomethane	34.7	0.500	40.00	0	86.8	0.01	242				
Carbon tetrachloride	54.3	0.500	40.00	0	136	70	140				
Chlorobenzene	43.0	0.500	40.00	0	108	37	160				
Chloroethane	74.5	0.500	40.00	0	186	14	230				
Chloroform	55.1	0.500	40.00	1.340	134	51	138				
Chloromethane	55.6	0.500	40.00	0	139	0.01	273				
cis-1,3-Dichloropropene	54.0	0.500	40.00	0	135	0.01	227				
Dibromochloromethane	43.2	0.500	40.00	0	108	53	149				
Ethylbenzene	46.0	0.500	40.00	0	115	37	162				
m,p-Xylene	90.8	1.00	80.00	0	114	50	150				
Methylene chloride	40.1	20.0	40.00	0	100	0.01	221				
o-Xylene	43.5	0.500	40.00	0	109	50	150				
Styrene	43.4	0.500	40.00	0	109	70	130				
Tetrachloroethene	39.4	0.500	40.00	0	98.5	64	148				
Toluene	45.9	0.500	40.00	1.220	112	47	150				
trans-1,2-Dichloroethene	55.7	0.500	40.00	0	139	54	156				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	17	183				
Trichloroethene	53.4	0.500	40.00	0	134	71	157				
Trichlorofluoromethane	54.8	0.500	40.00	0	137	17	181				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.9	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	49.9	0.500	40.00	0	125	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	96.0	46	157				
1,1,2-Trichloroethane	42.2	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	50.3	0.500	40.00	0	126	59	155				
1,1-Dichloroethene	51.0	0.500	40.00	0	128	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.6	18	190				
1,2-Dichloroethane	47.5	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	49.7	0.500	40.00	0	124	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.4	59	156				
1,4-Dichlorobenzene	38.9	0.500	40.00	0	97.2	18	190				
2-Butanone	104	5.00	80.00	0	130	50	150				
2-Chloroethyl vinyl ether	49.7	10.0	40.00	0	124	0.01	305				
4-Methyl-2-pentanone	89.8	5.00	80.00	0	112	50	150				
Acrylonitrile	52.4	2.00	40.00	0	131	20	150				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532105							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.4	0.500	40.00	0	116	37	151				
Bromodichloromethane	49.2	0.500	40.00	0	123	35	155				
Bromoform	43.0	0.500	40.00	0	107	45	169				
Bromomethane	35.4	0.500	40.00	0	88.5	0.01	242				
Carbon tetrachloride	50.8	0.500	40.00	0	127	70	140				
Chlorobenzene	43.6	0.500	40.00	0	109	37	160				
Chloroethane	60.0	0.500	40.00	0	150	14	230				
Chloroform	49.6	0.500	40.00	0	124	51	138				
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	51.2	0.500	40.00	0	128	0.01	227				
Dibromochloromethane	43.6	0.500	40.00	0	109	53	149				
Ethylbenzene	47.6	0.500	40.00	0	119	37	162				
m,p-Xylene	94.2	1.00	80.00	0	118	50	150				
Methylene chloride	35.6	20.0	40.00	0	89.1	0.01	221				
o-Xylene	45.4	0.500	40.00	0	114	50	150				
Styrene	45.2	0.500	40.00	0	113	70	130				
Tetrachloroethene	41.3	0.500	40.00	0	103	64	148				
Toluene	45.3	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	51.4	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	46.0	0.500	40.00	0	115	17	183				
Trichloroethene	50.6	0.500	40.00	0	126	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	37.8	0.500	40.00	0	94.6	0.01	251				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532106</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	52.6	0.500	40.00	0	132	52	162				
1,1,2,2-Tetrachloroethane	37.8	0.500	40.00	0	94.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	53.3	0.500	40.00	0	133	59	155				
1,1-Dichloroethene	55.0	0.500	40.00	0	137	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.4	18	190				
1,2-Dichloroethane	49.0	0.500	40.00	0	123	49	155				
1,2-Dichloropropane	51.8	0.500	40.00	0	129	0.01	210				
1,3-Dichlorobenzene	35.3	0.500	40.00	0	88.3	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	1.280	88.8	18	190				
2-Butanone	125	5.00	80.00	12.67	141	50	150				
2-Chloroethyl vinyl ether	51.8	10.0	40.00	0	129	0.01	305				
4-Methyl-2-pentanone	88.2	5.00	80.00	0	110	50	150				
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	49.5	0.500	40.00	0	124	37	151				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	51.2	0.500	40.00	0	128	35	155				
Bromoform	40.2	0.500	40.00	0	101	45	169				
Bromomethane	36.8	0.500	40.00	0	91.9	0.01	242				
Carbon tetrachloride	53.6	0.500	40.00	0	134	70	140				
Chlorobenzene	42.1	0.500	40.00	0	105	37	160				
Chloroethane	66.0	0.500	40.00	0	165	14	230				
Chloroform	54.7	0.500	40.00	2.390	131	51	138				
Chloromethane	49.5	0.500	40.00	0	124	0.01	273				
cis-1,3-Dichloropropene	52.8	0.500	40.00	0	132	0.01	227				
Dibromochloromethane	41.7	0.500	40.00	0	104	53	149				
Ethylbenzene	45.2	0.500	40.00	0	113	37	162				
m,p-Xylene	89.2	1.00	80.00	0	111	50	150				
Methylene chloride	38.8	20.0	40.00	0	97.0	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	95.9	64	148				
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	55.1	0.500	40.00	0	138	54	156				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	17	183				
Trichloroethene	53.3	0.500	40.00	0	133	71	157				
Trichlorofluoromethane	53.6	0.500	40.00	0	134	17	181				
Vinyl chloride	39.7	0.500	40.00	0	99.2	0.01	251				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010

9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	51.2	0.500	40.00	0	128	52	162				
1,1,2,2-Tetrachloroethane	36.2	0.500	40.00	0	90.6	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	52.4	0.500	40.00	0	131	59	155				
1,1-Dichloroethene	53.0	0.500	40.00	0	133	47.8	165				
1,2-Dichlorobenzene	33.3	0.500	40.00	0	83.2	18	190				
1,2-Dichloroethane	48.0	0.500	40.00	0	120	49	155				
1,2-Dichloropropane	50.2	0.500	40.00	0	126	0.01	210				
1,3-Dichlorobenzene	33.4	0.500	40.00	0	83.6	59	156				
1,4-Dichlorobenzene	33.6	0.500	40.00	0	84.0	18	190				
2-Butanone	110	5.00	80.00	2.310	135	50	150				
2-Chloroethyl vinyl ether	50.2	10.0	40.00	0	126	0.01	305				
4-Methyl-2-pentanone	84.9	5.00	80.00	0	106	50	150				
Acrylonitrile	54.6	2.00	40.00	0	136	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	49.9	0.500	40.00	0	125	35	155				
Bromoform	39.3	0.500	40.00	0	98.2	45	169				
Bromomethane	35.1	0.500	40.00	0	87.8	0.01	242				
Carbon tetrachloride	51.8	0.500	40.00	0	130	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	60.6	0.500	40.00	0	152	14	230				
Chloroform	52.1	0.500	40.00	0	130	51	138				

**Qualifiers:**  
 E Value above quantitation range  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	51.9	0.500	40.00	0	130	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	43.1	0.500	40.00	0	108	37	162				
m,p-Xylene	85.3	1.00	80.00	0	107	50	150				
Methylene chloride	37.0	20.0	40.00	0	92.4	0.01	221				
o-Xylene	40.8	0.500	40.00	0	102	50	150				
Styrene	40.6	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.0	64	148				
Toluene	42.4	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	53.1	0.500	40.00	0	133	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	51.5	0.500	40.00	0	129	71	157				
Trichlorofluoromethane	51.7	0.500	40.00	0	129	17	181				
Vinyl chloride	39.3	0.500	40.00	0	98.3	0.01	251				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	17.9	0.500	20.00	0	89.4	80	120				
1,2-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
1,2-Diphenylhydrazine	19.9	0.500	20.00	0	99.6	80	120				
1,3-Dichlorobenzene	19.8	0.500	20.00	0	99.2	80	120				
1,4-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
2,4,6-Trichlorophenol	18.8	0.500	20.00	0	94.0	80	120				
2,4-Dichlorophenol	17.0	0.500	20.00	0	85.0	80	120				
2,4-Dimethylphenol	17.5	0.500	20.00	0	87.7	80	120				
2,4-Dinitrophenol	18.4	0.500	20.00	0	92.2	80	120				
2,4-Dinitrotoluene	18.0	0.500	20.00	0	90.2	80	120				
2,6-Dinitrotoluene	17.6	0.500	20.00	0	88.2	80	120				
2-Chloronaphthalene	18.7	0.500	20.00	0	93.6	80	120				
2-Chlorophenol	19.0	0.500	20.00	0	94.8	80	120				
2-Methylphenol	19.3	0.500	20.00	0	96.5	80	120				
2-Nitrophenol	16.4	0.500	20.00	0	81.8	80	120				
3,3'-Dichlorobenzidine	17.6	0.500	20.00	0	87.8	80	120				
3,4-Methylphenol	19.5	1.00	20.00	0	97.5	80	120				
4-Bromophenyl phenyl ether	20.0	0.500	20.00	0	100	80	120				
4-Chloro-3-methylphenol	18.1	0.500	20.00	0	90.5	80	120				
4-Chlorophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Nitrophenol	19.1	0.500	20.00	0	95.6	80	120				
Acenaphthene	18.6	0.500	20.00	0	93.0	80	120				
Acenaphthylene	18.7	0.500	20.00	0	93.5	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010

9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	19.9	0.500	20.00	0	99.4	80	120				
Anthracene	18.6	0.500	20.00	0	93.1	80	120				
Azobenzene	19.9	0.500	20.00	0	99.6	80	120				
Benz(a)anthracene	18.5	0.500	20.00	0	92.3	80	120				
Benzydine	16.6	0.500	20.00	0	82.8	80	120				
Benzo(a)pyrene	18.4	0.500	20.00	0	92.2	80	120				
Benzo(b)fluoranthene	18.4	0.500	20.00	0	92.0	80	120				
Benzo(g,h,i)perylene	18.2	0.500	20.00	0	91.0	80	120				
Benzo(k)fluoranthene	19.2	0.500	20.00	0	96.0	80	120				
Benzoic Acid	20.1	5.00	20.00	0	101	80	120				
Bis(2-chloroethoxy)methane	18.8	0.500	20.00	0	93.8	80	120				
Bis(2-chloroethyl)ether	20.2	0.500	20.00	0	101	80	120				
Bis(2-chloroisopropyl)ether	20.6	0.500	20.00	0	103	80	120				
Bis(2-ethylhexyl)phthalate	21.4	0.500	20.00	0	107	80	120				
Butyl benzyl phthalate	19.3	0.500	20.00	0	96.4	80	120				
Carbazole	18.8	0.500	20.00	0	94.1	80	120				
Chrysene	18.4	0.500	20.00	0	92.2	80	120				
Dibenz(a,h)anthracene	17.8	0.500	20.00	0	88.8	80	120				
Diethyl phthalate	19.9	0.500	20.00	0	99.7	80	120				
Dimethyl phthalate	18.4	0.500	20.00	0	92.2	80	120				
Di-n-butyl phthalate	20.3	0.500	20.00	0	102	80	120				
Di-n-octyl phthalate	19.6	0.500	20.00	0	98.0	80	120				
Fluoranthene	19.2	0.500	20.00	0	96.2	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	18.1	0.500	20.00	0	90.4	80	120				
Hexachlorobenzene	17.7	0.500	20.00	0	88.4	80	120				
Hexachlorobutadiene	17.8	0.500	20.00	0	89.2	80	120				
Hexachlorocyclopentadiene	17.5	0.500	20.00	0	87.6	80	120				
Hexachloroethane	20.6	0.500	20.00	0	103	80	120				
Indeno(1,2,3-cd)pyrene	18.0	0.500	20.00	0	89.8	80	120				
Isophorone	19.1	0.500	20.00	0	95.4	80	120				
Naphthalene	18.4	0.500	20.00	0	92.1	80	120				
Nitrobenzene	18.6	0.500	20.00	0	93.2	80	120				
N-Nitrosodimethylamine	23.1	0.500	20.00	0	115	80	120				
N-Nitrosodi-n-propylamine	19.3	0.500	20.00	0	96.6	80	120				
N-Nitrosodiphenylamine	18.0	0.500	20.00	0	90.0	80	120				
Pentachlorophenol	23.8	0.500	20.00	0	119	80	120				
Phenanthrene	18.7	0.500	20.00	0	93.5	80	120				
Phenol	20.1	0.500	20.00	0	100	80	120				
Pyrene	19.0	0.500	20.00	0	94.8	80	120				
Pyridine	16.1	0.500	20.00	0	80.6	80	120				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:**  
E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	64.7		100.0		64.7	33.1	129.7				
Surr: 2-Fluorobiphenyl	68.8		100.0		68.8	33.1	126.2				
Surr: 2-Fluorophenol	45.2		100.0		45.2	13.4	127.1				
Surr: 4-Terphenyl-d14	90.7		100.0		90.7	41	122				
Surr: Nitrobenzene-d5	75.4		100.0		75.4	28.9	129.9				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	29.6		100.0		29.6	10.6	128.5				

Sample ID: <b>2108010-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/4/2021</b>	RunNo: <b>41660</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534990</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	0.0241	0.000504	0.04028	0	59.8	44	142				
1,2-Dichlorobenzene	0.0236	0.000504	0.04028	0	58.5	32	129				
1,2-Diphenylhydrazine	0.0349	0.000504	0.04028	0	86.8	40	140				
1,3-Dichlorobenzene	0.0230	0.000504	0.04028	0	57.0	0.01	172				
1,4-Dichlorobenzene	0.0236	0.000504	0.04028	0	58.5	20	124				
2,4,5-Trichlorophenol	0.0324	0.00201	0.04028	0	80.5	40	130				
2,4,6-Trichlorophenol	0.0385	0.000504	0.04028	0	95.6	37	144				
2,4-Dichlorophenol	0.0289	0.000504	0.04028	0	71.8	39	135				
2,4-Dimethylphenol	0.0270	0.000504	0.04028	0	66.9	32	119				
2,4-Dinitrophenol	0.0379	0.000504	0.04028	0	94.2	0.01	191				
2,4-Dinitrotoluene	0.0342	0.000504	0.04028	0	85.0	39	139				
2,6-Dinitrotoluene	0.0343	0.000504	0.04028	0	85.1	30	158				
2-Chloronaphthalene	0.0287	0.000504	0.04028	0	71.2	30	118				
2-Chlorophenol	0.0251	0.000504	0.04028	0	62.3	23	134				
2-Methylphenol	0.0223	0.000504	0.04028	0	55.3	30	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108010-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/4/2021	RunNo: 41660						
Client ID: 080321LLEG	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Nitrophenol	0.0277	0.000504	0.04028	0	68.8	29	182				
3,3'-Dichlorobenzidine	0.0216	0.000504	0.04028	0	53.7	0.01	262				
3,4-Methylphenol	0.0201	0.00101	0.04028	0	49.8	30	120				
4,6-Dinitro-2-methylphenol	0.0329	0.000504	0.04028	0	81.6	0.01	181				
4-Bromophenyl phenyl ether	0.0314	0.000504	0.04028	0	78.0	33	127				
4-Chloro-3-methylphenol	0.0308	0.000504	0.04028	0	76.5	22	147				
4-Chlorophenyl phenyl ether	0.0342	0.000504	0.04028	0	84.9	25	158				
4-Nitrophenol	0.0204	0.000504	0.04028	0	50.6	0.01	132				
Acenaphthene	0.0315	0.000504	0.04028	0	78.2	37	145				
Acenaphthylene	0.0300	0.000504	0.04028	0	74.6	33	145				
Aniline	0.0374	0.000504	0.04028	0	92.8	16	134				
Anthracene	0.0339	0.000504	0.04028	0	84.1	27	133				
Azobenzene	0.0349	0.000504	0.04028	0	86.8	70	130				
Benz(a)anthracene	0.0355	0.000504	0.04028	0	88.1	33	143				
Benzdine	0.00192	0.000504	0.04028	0	4.78	0.1	140				
Benzo(a)pyrene	0.0347	0.000504	0.04028	0	86.1	17	163				
Benzo(b)fluoranthene	0.0383	0.000504	0.04028	0	95.2	24	159				
Benzo(g,h,i)perylene	0.0352	0.000504	0.04028	0	87.3	0.01	219				
Benzo(k)fluoranthene	0.0379	0.000504	0.04028	0	94.2	11	162				
Benzoic Acid	ND	0.00504	0.04028	0	10.7	0	250				
Bis(2-chloroethoxy)methane	0.0302	0.000504	0.04028	0	75.0	33	184				
Bis(2-chloroethyl)ether	0.0294	0.000504	0.04028	0	72.9	12	158				
Bis(2-chloroisopropyl)ether	0.0317	0.000504	0.04028	0	78.7	20	140				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108010-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/4/2021	RunNo: 41660						
Client ID: 080321LLEG	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-ethylhexyl)phthalate	0.0335	0.000504	0.04028	0	83.1	8	158				
Butyl benzyl phthalate	0.0369	0.000504	0.04028	0	91.6	0.01	152				
Carbazole	0.0340	0.000504	0.04028	0	84.4	23	131				
Chrysene	0.0355	0.000504	0.04028	0	88.2	17	168				
Dibenz(a,h)anthracene	0.0369	0.000504	0.04028	0	91.6	0.01	224				
Diethyl phthalate	0.0371	0.000504	0.04028	0	92.0	0.01	114				
Dimethyl phthalate	0.0335	0.000504	0.04028	0	83.2	0.01	112				
Di-n-butyl phthalate	0.0360	0.000504	0.04028	0	89.3	1	118				
Di-n-octyl phthalate	0.0363	0.000504	0.04028	0	90.2	4	146				
Fluoranthene	0.0339	0.000504	0.04028	0	84.3	26	137				
Fluorene	0.0324	0.000504	0.04028	0	80.4	19	121				
Hexachlorobenzene	0.0370	0.000504	0.04028	0	91.8	0.01	152				
Hexachlorobutadiene	0.0224	0.000504	0.04028	0	55.6	24	116				
Hexachlorocyclopentadiene	0.0114	0.000504	0.04028	0	28.4	10	110				
Hexachloroethane	0.0193	0.000504	0.04028	0	48.0	40	143				
Indeno(1,2,3-cd)pyrene	0.0372	0.000504	0.04028	0	92.3	0.01	171				
Isophorone	0.0297	0.000504	0.04028	0	73.6	21	196				
Naphthalene	0.0259	0.000504	0.04028	0	64.4	21	133				
Nitrobenzene	0.0302	0.000504	0.04028	0	74.9	35	180				
N-Nitrosodimethylamine	0.0156	0.000504	0.04028	0	38.6	0.01	230				
N-Nitrosodi-n-propylamine	0.0308	0.000504	0.04028	0	76.5	0.01	250				
N-Nitrosodiphenylamine	0.0343	0.000504	0.04028	0	85.2	0.01	250				
Pentachlorophenol	0.0360	0.000504	0.04028	0	89.5	14	176				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2108010-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/4/2021</b>	RunNo: <b>41660</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534990</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	0.0341	0.000504	0.04028	0	84.7	24	120				
Phenol	0.00908	0.000504	0.04028	0	22.6	5	112				
Pyrene	0.0346	0.000504	0.04028	0	85.8	12	115				
Pyridine	0.0153	0.000504	0.04028	0	38.0	13	158				

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534992</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.0	0.500	40.00	0	62.6	44	142				
1,2-Dichlorobenzene	26.3	0.500	40.00	0	65.8	32	129				
1,2-Diphenylhydrazine	38.4	0.500	40.00	0	96.0	40	140				
1,3-Dichlorobenzene	25.7	0.500	40.00	0	64.2	0.01	172				
1,4-Dichlorobenzene	26.0	0.500	40.00	0	65.0	20	124				
2,4,6-Trichlorophenol	36.8	0.500	40.00	0	91.9	37	144				
2,4-Dichlorophenol	30.2	0.500	40.00	0	75.5	39	135				
2,4-Dimethylphenol	27.6	0.500	40.00	0	68.9	32	119				
2,4-Dinitrophenol	24.4	0.500	40.00	0	61.0	0.01	191				
2,4-Dinitrotoluene	35.9	0.500	40.00	0	89.8	39	139				
2,6-Dinitrotoluene	36.1	0.500	40.00	0	90.2	30	158				
2-Chloronaphthalene	31.3	0.500	40.00	0	78.3	30	118				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534992						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorophenol	31.8	0.500	40.00	0	79.6	23	134				
2-Methylphenol	27.1	0.500	40.00	0	67.8	30	120				
2-Nitrophenol	30.2	0.500	40.00	0	75.5	29	182				
3,3'-Dichlorobenzidine	29.0	0.500	40.00	0	72.5	0.01	262				
3,4-Methylphenol	23.4	1.00	40.00	0	58.5	30	120				
4,6-Dinitro-2-methylphenol	35.8	0.500	40.00	0	89.4	0.01	181				
4-Bromophenyl phenyl ether	36.5	0.500	40.00	0	91.4	33	127				
4-Chloro-3-methylphenol	29.6	0.500	40.00	0	74.1	22	147				
4-Chlorophenyl phenyl ether	34.2	0.500	40.00	0	85.5	25	158				
4-Nitrophenol	19.5	0.500	40.00	0	48.7	0.01	132				
Acenaphthene	33.6	0.500	40.00	0	83.9	37	145				
Acenaphthylene	33.0	0.500	40.00	0	82.6	33	145				
Aniline	33.4	0.500	40.00	0	83.4	16	134				
Anthracene	36.1	0.500	40.00	0	90.3	27	133				
Azobenzene	38.4	0.500	40.00	0	96.0	70	130				
Benz(a)anthracene	36.6	0.500	40.00	0	91.6	33	143				
Benzidine	8.06	0.500	40.00	0	20.2	0.1	140				
Benzo(a)pyrene	35.8	0.500	40.00	0	89.6	17	163				
Benzo(b)fluoranthene	38.7	0.500	40.00	0	96.8	24	159				
Benzo(g,h,i)perylene	36.1	0.500	40.00	0	90.2	0.01	219				
Benzo(k)fluoranthene	36.1	0.500	40.00	0	90.3	11	162				
Benzoic Acid	35.4	5.00	40.00	0	88.6	0	250				
Bis(2-chloroethoxy)methane	33.4	0.500	40.00	0	83.6	33	184				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L		Prep Date:	RunNo: 41660					
Client ID: LCSW	Batch ID: 18308	TestNo: E625.1	E625		Analysis Date: 8/25/2021	SeqNo: 534992					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	33.8	0.500	40.00	0	84.6	12	158				
Bis(2-chloroisopropyl)ether	31.8	0.500	40.00	0	79.5	20	140				
Bis(2-ethylhexyl)phthalate	32.0	0.500	40.00	0	80.1	8	158				
Butyl benzyl phthalate	39.1	0.500	40.00	0	97.6	0.01	152				
Carbazole	36.0	0.500	40.00	0	90.1	23	131				
Chrysene	36.9	0.500	40.00	0	92.2	17	168				
Dibenz(a,h)anthracene	37.3	0.500	40.00	0	93.2	0.01	224				
Diethyl phthalate	39.7	0.500	40.00	0	99.3	0.01	114				
Dimethyl phthalate	36.4	0.500	40.00	0	91.0	0.01	112				
Di-n-butyl phthalate	39.3	0.500	40.00	0	98.2	1	118				
Di-n-octyl phthalate	38.9	0.500	40.00	0	97.2	4	146				
Fluoranthene	36.2	0.500	40.00	0	90.5	26	137				
Fluorene	34.3	0.500	40.00	0	85.8	19	121				
Hexachlorobenzene	36.3	0.500	40.00	0	90.7	0.01	152				
Hexachlorobutadiene	22.4	0.500	40.00	0	55.9	24	116				
Hexachlorocyclopentadiene	23.2	0.500	40.00	0	58.0	10	110				
Hexachloroethane	20.0	0.500	40.00	0	49.9	40	143				
Indeno(1,2,3-cd)pyrene	37.8	0.500	40.00	0	94.5	0.01	171				
Isophorone	33.9	0.500	40.00	0	84.8	21	196				
Naphthalene	27.8	0.500	40.00	0	69.6	35	133				
Nitrobenzene	33.4	0.500	40.00	0	83.6	14	150				
N-Nitrosodimethylamine	17.4	0.500	40.00	0	43.6	0.01	250				
N-Nitrosodi-n-propylamine	30.9	0.500	40.00	0	77.2	0.01	230				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534992</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	35.7	0.500	40.00	0	89.3	0.01	133				
Pentachlorophenol	24.1	0.500	40.00	0	60.3	24	176				
Phenanthrene	36.1	0.500	40.00	0	90.2	5	120				
Phenol	12.0	0.500	40.00	0	30.1	12	112				
Pyrene	36.5	0.500	40.00	0	91.2	12	115				
Pyridine	14.2	0.500	40.00	0	35.4	13	158				

Sample ID: <b>LCS D</b>	SampType: <b>LCS D</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>LCS S02</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534993</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.8	0.500	40.00	0	64.4	44	142	25.03	2.95	20	
1,2-Dichlorobenzene	24.0	0.500	40.00	0	60.0	32	129	26.30	9.15	20	
1,2-Diphenylhydrazine	35.1	0.500	40.00	0	87.8	40	140	38.41	8.92	20	
1,3-Dichlorobenzene	23.6	0.500	40.00	0	58.9	0.01	172	25.69	8.65	20	
1,4-Dichlorobenzene	23.9	0.500	40.00	0	59.8	20	124	26.00	8.38	20	
2,4,5-Trichlorophenol	33.6	2.00	40.00	0	84.0	40	130	32.22	4.16	0	
2,4,6-Trichlorophenol	41.4	0.500	40.00	0	104	37	144	36.76	12.0	20	
2,4-Dichlorophenol	31.5	0.500	40.00	0	78.7	39	135	30.20	4.18	20	
2,4-Dimethylphenol	28.3	0.500	40.00	0	70.8	32	119	27.56	2.72	20	
2,4-Dinitrophenol	25.0	0.500	40.00	0	62.5	0.01	191	24.40	2.43	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	35.6	0.500	40.00	0	89.0	39	139	35.94	0.922	20	
2,6-Dinitrotoluene	36.0	0.500	40.00	0	90.1	30	158	36.07	0.139	20	
2-Chloronaphthalene	30.5	0.500	40.00	0	76.2	30	118	31.31	2.65	20	
2-Chlorophenol	28.7	0.500	40.00	0	71.8	23	134	31.84	10.3	20	
2-Methylphenol	24.9	0.500	40.00	0	62.4	30	120	27.12	8.37	20	
2-Nitrophenol	31.9	0.500	40.00	0	79.8	29	182	30.21	5.54	20	
3,3'-Dichlorobenzidine	31.8	0.500	40.00	0	79.6	0.01	262	29.00	9.30	20	
3,4-Methylphenol	22.1	1.00	40.00	0	55.3	30	120	23.39	5.58	20	
4,6-Dinitro-2-methylphenol	33.6	0.500	40.00	0	83.9	0.01	181	35.77	6.41	20	
4-Bromophenyl phenyl ether	32.0	0.500	40.00	0	80.1	33	127	36.54	13.2	20	
4-Chloro-3-methylphenol	32.0	0.500	40.00	0	79.9	22	147	29.62	7.60	20	
4-Chlorophenyl phenyl ether	34.7	0.500	40.00	0	86.8	25	158	34.19	1.54	20	
4-Nitrophenol	21.5	0.500	40.00	0	53.8	0.01	132	19.49	9.81	20	
Acenaphthene	33.4	0.500	40.00	0	83.6	37	145	33.56	0.358	20	
Acenaphthylene	31.0	0.500	40.00	0	77.6	33	145	33.04	6.24	20	
Aniline	30.0	0.500	40.00	0	75.0	16	134	33.37	10.6	20	
Anthracene	33.8	0.500	40.00	0	84.5	27	133	36.10	6.55	20	
Azobenzene	35.1	0.500	40.00	0	87.8	70	130	38.41	8.92	0	
Benz(a)anthracene	36.8	0.500	40.00	0	91.9	33	143	36.64	0.354	20	
Benzidine	10.2	0.500	40.00	0	25.4	0.1	140	8.060	23.0	20	R
Benzo(a)pyrene	37.0	0.500	40.00	0	92.6	17	163	35.85	3.27	20	
Benzo(b)fluoranthene	41.6	0.500	40.00	0	104	24	159	38.72	7.08	20	
Benzo(g,h,i)perylene	36.9	0.500	40.00	0	92.2	0.01	219	36.06	2.19	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010

9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	41.1	0.500	40.00	0	103	11	162	36.13	12.9	20	
Benzoic Acid	31.8	5.00	40.00	0	79.5	0	250	35.44	10.9	20	
Bis(2-chloroethoxy)methane	35.1	0.500	40.00	0	87.8	33	184	33.44	4.84	20	
Bis(2-chloroethyl)ether	35.9	0.500	40.00	0	89.7	12	158	33.83	5.85	20	
Bis(2-chloroisopropyl)ether	33.7	0.500	40.00	0	84.2	20	140	31.79	5.80	20	
Bis(2-ethylhexyl)phthalate	34.6	0.500	40.00	0	86.6	8	158	32.02	7.86	20	
Butyl benzyl phthalate	37.5	0.500	40.00	0	93.7	0.01	152	39.06	4.13	20	
Carbazole	34.2	0.500	40.00	0	85.6	23	131	36.04	5.12	20	
Chrysene	36.5	0.500	40.00	0	91.4	17	168	36.86	0.872	20	
Dibenz(a,h)anthracene	38.5	0.500	40.00	0	96.2	0.01	224	37.28	3.14	20	
Diethyl phthalate	37.5	0.500	40.00	0	93.7	0.01	114	39.73	5.80	20	
Dimethyl phthalate	34.9	0.500	40.00	0	87.3	0.01	112	36.38	4.10	20	
Di-n-butyl phthalate	34.5	0.500	40.00	0	86.2	1	118	39.29	13.1	20	
Di-n-octyl phthalate	35.6	0.500	40.00	0	88.9	4	146	38.89	8.97	20	
Fluoranthene	33.9	0.500	40.00	0	84.8	26	137	36.20	6.50	20	
Fluorene	33.7	0.500	40.00	0	84.2	19	121	34.30	1.88	20	
Hexachlorobenzene	41.3	0.500	40.00	0	103	0.01	152	36.26	12.9	20	
Hexachlorobutadiene	23.8	0.500	40.00	0	59.4	24	116	22.37	5.98	20	
Hexachlorocyclopentadiene	21.9	0.500	40.00	0	54.7	10	110	23.22	5.90	20	
Hexachloroethane	20.7	0.500	40.00	0	51.7	40	143	19.96	3.59	20	
Indeno(1,2,3-cd)pyrene	38.5	0.500	40.00	0	96.3	0.01	171	37.79	1.94	20	
Isophorone	33.7	0.500	40.00	0	84.2	21	196	33.90	0.710	20	
Naphthalene	27.7	0.500	40.00	0	69.2	21	133	27.83	0.540	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	33.2	0.500	40.00	0	82.9	35	180	33.44	0.871	20	
N-Nitrosodimethylamine	19.1	0.500	40.00	0	47.6	0.01	230	17.43	8.93	20	
N-Nitrosodi-n-propylamine	33.6	0.500	40.00	0	84.1	0.01	250	30.89	8.52	20	
N-Nitrosodiphenylamine	35.8	0.500	40.00	0	89.6	0.01	250	35.73	0.279	20	
Pentachlorophenol	28.0	0.500	40.00	0	70.0	14	176	24.13	14.9	20	
Phenanthrene	34.7	0.500	40.00	0	86.8	24	120	36.09	3.90	20	
Phenol	10.2	0.500	40.00	0	25.6	5	112	12.03	16.0	20	
Pyrene	34.2	0.500	40.00	0	85.4	12	115	36.46	6.46	20	
Pyridine	12.5	0.500	40.00	0	31.2	13	158	14.16	12.5	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-008CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531448</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	366	10.0	100.0	267.0	99.0	80	120				

Sample ID: <b>2107227-008CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531449</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	361	10.0	100.0	267.0	94.0	80	120	366.0	1.38	20	

Sample ID: <b>CCB-R41348</b>	SampType: <b>CCB</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531454</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	196.0	79.0	80	120				S

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108028-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531461</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	285	10.0	100.0	196.0	89.0	80	120	275.0	3.57	20	

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531465</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	196	10.0	200.0	0	98.0	90	110				

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	198	10.0	200.0	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010

9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>MBLK-R41348</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41374</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41374</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41374</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531776</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41374</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41374</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41374</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531777</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	113	2.00	171.0	0	65.9	70	130				S

**Qualifiers:**  
E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41373</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41373</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41373</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531770</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41373</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41373</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41373</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531771</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	185.0	2.0	198.0	0	93.4	84	116				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41433</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0540	0.00500	0.05000	0	108	90	110				

Sample ID: <b>MB-R41433</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41433</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0896	0.00500	0.1000	0	89.6	80	120				

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0477	0.00500	0.05000	0.003290	88.8	67.9	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: **2108010**  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108006-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0481	0.00500	0.05000	0.003290	89.6	67.9	120	0.04769	0.858	20	

Sample ID: <b>CCV1-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532521</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0972	0.00500	0.1000	0	97.2	90	110				

Sample ID: <b>2108010-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0460	0.00500	0.05000	0.003078	85.9	67.9	120				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108010-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0465	0.00500	0.05000	0.003078	86.8	67.9	120	0.04602	1.03	20	

Sample ID: <b>CCV3-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0998	0.00500	0.1000	0	99.8	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41471</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533006</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41471</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533007</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>2108007-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533013</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	47.8	5.00	50.00	0	95.6	75	125				

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	0	93.8	75	125	47.81	1.88	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533015</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	90	110				

Sample ID: <b>2108010-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533020</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	75	125				

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>080321LLEG</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	44.2	5.00	50.00	0	88.5	75	125	46.03	3.95	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV3-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41338</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531178</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.4	0.200	33.08	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41338</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531179</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.2	0.200	33.08	0	103	90	110				

Sample ID: <b>MB-18306</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531180</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18306</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531181</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	29.4	0.200	33.08	0	88.9	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18306</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531181</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>A2108018-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531183</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	64.1	0.200						63.84	0.344	20	

Sample ID: <b>A2108018-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531184</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	89.6	0.200	33.08	63.84	78.0	80	120				SMI

Sample ID: <b>A2108018-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/3/2021</b>	RunNo: <b>41338</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18306</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531185</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	90.6	0.200	33.08	63.84	80.9	80	120	89.65	1.04	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.982	0.0200	1.000	0	98.2	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV4-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531644</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode: P-TOTAL**

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode: P-TOTAL**

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: <b>MB-R41391</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>PBW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531965</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: <b>LCS-R41391</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>LCSW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531966</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8 90 110

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108045-007BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531974</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	12.8	0.200	5.000	8.562	85.7	80	120				

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	13.2	0.200	5.000	8.562	92.2	80	120	12.85	2.49	20	

Sample ID: <b>2108055-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531981</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	10.5	0.200	5.000	6.024	90.0	80	120				

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	9.86	0.200	5.000	6.024	76.7	80	120	10.52	6.53	20	S

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode: P-TOTAL**

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV-2</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531985</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.989	0.0200	1.000	0	98.9	90	110				

Sample ID: <b>CCB-R41391</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531986</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV-1</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532023</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41359</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41359</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531648</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2108006-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	1.44	1.00						1.440	0	20	

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00						0	0	20	

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010

9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

**Qualifiers:** E Value above quantitation range      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV3-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532272</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41409</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532190</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41409</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532191</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1170	5.00	1000	0	117	80	120				

Sample ID: <b>2108010-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>080321LLIG</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532193</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	616	5.00						631.0	2.41	20	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108010  
9/1/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41341</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531221</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41341</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531222</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	93.0	10.0	100.0	0	93.0	80	105				

Sample ID: <b>2108006-002DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41341</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41341</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531224</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	272	10.0						246.0	10.0	20	

**Qualifiers:** E Value above quantitation range  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



Specialty Analytical  
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# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108010

RcptNo: 1

Date and Time Received 8/3/2021 2:45:00 PM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date:

8/3/2021

Reviewed Date:

8/4/2021 5:09:30 PM

Carrier name: SA

- |  |  |  |             |                                     |
|--|--|--|-------------|-------------------------------------|
| Chain of custody present?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received?                          | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?                                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?                           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?  | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?                                       | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?                                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?                                 | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?   | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?                             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:<br>Preservative added to bottles: |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?                                    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To          | 1.8°C                               |
| Water - Were bubbles absent in VOC vials?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | No Vials    | <input type="checkbox"/>            |
| Water - Was there Chlorine Present?  | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?   | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?   | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?   | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?  | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:  |  |  |             |                                     |
| Sample Tags Present?   | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?   | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:   |  |  |             |                                     |
| Sample Condition?  | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



*Specialty Analytical*  
9011 SE Jannsen Rd  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**  
Julie Clay  
9011 SE Janssen Rd  
Clackamas, OR 97015

**RE: 2108010**  
**Work Order Number: 2108098**

August 31, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 4 sample(s) on 8/6/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

**CC:**  
Mandy Wehe



---

**CLIENT:** Specialty Analytical  
**Project:** 2108010  
**Work Order:** 2108098

---

**Work Order Sample Summary**

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
2108098-001	080321LLIC	08/03/2021 9:00 AM	08/06/2021 9:53 AM
2108098-002	080321LLEC	08/03/2021 9:30 AM	08/06/2021 9:53 AM
2108098-003	Parkway C	08/03/2021 9:00 AM	08/06/2021 9:53 AM
2108098-004	Villaboies C	08/03/2021 10:00 AM	08/06/2021 9:53 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Specialty Analytical  
**Project:** 2108010

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2108098-001A

M-1631-W has been Sub Contracted.

2108098-002A

M-1631-W has been Sub Contracted.

2108098-003A

M-1631-W has been Sub Contracted.

2108098-004A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 27, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2108098

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The continuing calibration blank (CCB) S210907-CCBF had a concentration above the acceptance limit. The Hg result for sample 2108098-001A (2108104-01) was greater than 10x the concentration of the CCB and no further action was required. Samples 2108098-003A (2108104-03) and 2108098-004A (2108104-04) had Hg concentrations above the MRL and less than 10x the concentration of the CCB and could not be reported. These samples were reanalyzed in sequence S210922. The results from these samples were from this reanalysis.

The Hg result for 2108098-002A (2108104-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210942.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

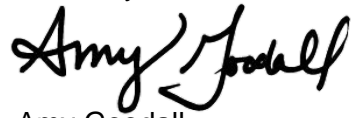
All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results.



Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall". The signature is written in a cursive, flowing style.

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2108098-001A	080321LLIC	2108104-01	Wastewater	Sample	08/03/2021	08/09/2021
2108098-002A	080321LLEC	2108104-02	Wastewater	Sample	08/03/2021	08/09/2021
2108098-003A	Parkway C	2108104-03	Wastewater	Sample	08/03/2021	08/09/2021
2108098-004A	Villaboies C	2108104-04	Wastewater	Sample	08/03/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922
Hg	Water	EPA 1631 E	08/10/2021	08/19/2021	B212210	S210942



## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2108098-001A, 080321LLIC</b> 2108104-01	Hg	Wastewater	TR	30.5		0.68	2.11	ng/L	B212210	S210907
<b>2108098-002A, 080321LLEC</b> 2108104-02	Hg	Wastewater	TR	0.50		0.14	0.42	ng/L	B212210	S210942
<b>2108098-003A, Parkway C</b> 2108104-03	Hg	Wastewater	TR	27.5		0.68	2.11	ng/L	B212210	S210922
<b>2108098-004A, Villaboies C</b> 2108104-04	Hg	Wastewater	TR	18.7		0.68	2.11	ng/L	B212210	S210922



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS1	Matrix Spike (2108104-04) Hg	19.27	105.3	120.8	ng/L	96% 71-125	
B212210-MSD1	Matrix Spike Duplicate (2108104-04) Hg	19.27	105.3	120.5	ng/L	96% 71-125	0.2% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	<b>0.08</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.03</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	



## Sample Containers

<b>Lab ID:</b> 2108104-01 <b>Sample:</b> 2108098-001A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/03/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108104
<b>Lab ID:</b> 2108104-02 <b>Sample:</b> 2108098-002A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/03/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108104
<b>Lab ID:</b> 2108104-03 <b>Sample:</b> 2108098-003A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/03/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108104
<b>Lab ID:</b> 2108104-04 <b>Sample:</b> 2108098-004A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/03/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108104

## Shipping Containers

### Cooler - 2108104

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes





**CHAIN OF CUSTODY RECORD**

Omega COCID 1096

PAGE: 1

OF: 1

ADDRESS BAL Report 2108104

Fremont Analytical, Inc.  
3600 Fremont Ave. N.  
Seattle, WA 98103  
TEL: 206-352-3790  
FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>		Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w/Brc1</i>		
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>				
PHONE:	FAX:			EMAIL:
ACCOUNT #:				

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2108098-001A M-1631-W	080321LLIC	AMBER GLASS 5	Wastewater	8/3/2021 9:00:00 AM	1	
2	2108098-002A M-1631-W	080321LLEC	AMBER GLASS 5	Wastewater	8/3/2021 9:30:00 AM	1	
3	2108098-003A M-1631-W	Parkway C	AMBER GLASS 5	Wastewater	8/3/2021 9:00:00 AM	1	
4	2108098-004A M-1631-W	Villaboies C	AMBER GLASS 5	Wastewater	8/3/2021 10:00:00 AM	1	

Relinquished By: <i>bbarnes</i>	Date: <i>8/9/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/9/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	<input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard <input type="checkbox"/> RUSH: Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						Temp of samples _____ °C    Attempt to Cool? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	

Client Name: <b>SPECIAL</b>	Work Order Number: <b>2108098</b>
Logged by: <b>Brianna Barnes</b>	Date Received: <b>8/6/2021 9:53:00 AM</b>

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* **Not Required** Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text" value="Julie Clav"/>	Date:	<input type="text" value="8/6/2021"/>
By Whom:	<input type="text" value="Brianna Barnes"/>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text" value="OK to subcontract due to instrument issues?"/>		
Client Instructions:	<input type="text" value="Subcontract to Brooks Applied Labs."/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample	24.2

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-3-21

Page: 1 of 1

Project Name: ~~2108010~~

2108010

Project No:

PO No:

Laboratory Project No (Internal): 2108098

Temperature on Receipt: °C

Cooling: Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

Client: ~~2108010~~ Specialty Analytical

Address:  
City, State, Zip:  
Collected by:  
State Collected: OR WA OTHER

Telephone: 503-701-9671

Report To (PM):

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

AP Email: ~~Wanda@specialtyanalytical.com~~ Email: Julie@specialtyanalytical.com

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments	
1 OS0321LLIC	8-3-21	09:00	WW	1	Lowlevel Mercury (63)		
2 OS0321LLEC	8-3-21	09:30	WW	1			
3 Parkway C	8-3-21	9:00	WW	1			
4 Villabois C	8-3-21	10:00	WW	1			
5							
6							
7							
8							
9							
10							

\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
Expedited turn-around requests should be coordinated in advance

Relinquished  Date/Time: 8-3-21 1000 Received  Date/Time: 8/6/21 0953

Relinquished  Date/Time: \_\_\_\_\_ Received  Date/Time: \_\_\_\_\_

Relinquished  Date/Time: \_\_\_\_\_ Received  Date/Time: \_\_\_\_\_



**Specialty Analytical**

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Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-3-21

Page: 1 of 1

Project Name: ~~2108010~~

Laboratory Project No (internal): 2108010

Project No:

PO No:

Temperature on Receipt: 18 °C

Collected by:

Cooling: Ice Shipped Via: SA

State Collected:  OR  WA  OTHER

Custody Seal: Y / (N) Intact / Broken Cooler / Bottle

Report To (PM):

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

AP Email: \_\_\_\_\_ PM Email: \_\_\_\_\_

City, State, Zip:

Telephone: 503-701-9671

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G - grab C - Composite I - Influent E - Effluent	8-3-21	0900	WWD	1	EPA 200.8 Metals <del>SM 3500 CrB Hex Chrom</del> SM 4500 Cr SM 4500 NH <sub>3</sub> XP EPA 351.1 TKN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S2O Sulfides SM 5210B BOD CBOD SM 25400 TSS EPA 624 VOC VOAS	
080321 LLEIG	8-3-21	0900	WWD	1		
080321 LLEIC	8-3-21	0900	WWD	1		
080321 LLEIG	8-3-21	0930	WWD	1		
080321 LLEIC	8-3-21	0930	WWD	1		
PAVEWAY C	8-3-21	9:00	WWD	1		
PAVEWAY G	8-3-21	9:00	WWD	1		
VILLABRIS C	8-3-21	10 AM	WWD	1		
VILLABRIS G	8-3-21	10:00	WWD	1		

\*Matrix: A = Air, AO = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:

Expedited turn-around requests should be coordinated in advance

Relinquished: *[Signature]* Date/Time: 8-3-21 10:14  
Received: *[Signature]* Date/Time: 8-3-21 14:05

Relinquished: *[Signature]* Date/Time: 8-3-21 14:45  
Received: *[Signature]* Date/Time: 8-3-21 14:45



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2108010  
Date: 9/1/2021

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### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

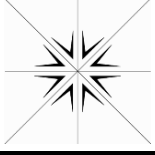
H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



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Clackamas, Oregon 97015  
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## Definition Only

WO#: 2108010  
Date: 9/1/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

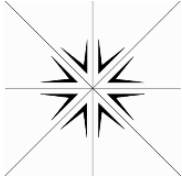
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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# Specialty Analytical

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Clackamas, OR 97015  
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Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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August 30, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2108028

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-001  
**Client Sample ID** 080421LLIG

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
1,2-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
1,2-Diphenylhydrazine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
1,3-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
1,4-Dichlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,4,6-Trichlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,4-Dichlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,4-Dimethylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,4-Dinitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,4-Dinitrotoluene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2,6-Dinitrotoluene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2-Chloronaphthalene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2-Chlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2-Methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
2-Nitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
3,3'-Dichlorobenzidine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
3,4-Methylphenol	0.0942	0.00531		µg/L	5	8/25/2021 5:46:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
4-Bromophenyl phenyl ether	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
4-Chloro-3-methylphenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
4-Chlorophenyl phenyl ether	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
4-Nitrophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Acenaphthene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Acenaphthylene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Aniline	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Azobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benz(a)anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzidine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzo(a)pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzo(b)fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzo(g,h,i)perylene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzo(k)fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Benzoic Acid	0.503	0.0265		µg/L	5	8/25/2021 5:46:00 PM
Bis(2-chloroethoxy)methane	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Bis(2-chloroethyl)ether	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Bis(2-ethylhexyl)phthalate	0.00414	0.00265		µg/L	5	8/25/2021 5:46:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-001  
**Client Sample ID** 080421LLIG

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Carbazole	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Chrysene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Dibenz(a,h)anthracene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Diethyl phthalate	0.00488	0.00265		µg/L	5	8/25/2021 5:46:00 PM
Dimethyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Di-n-butyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Di-n-octyl phthalate	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Fluoranthene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Fluorene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Hexachlorobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Hexachlorobutadiene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Hexachlorocyclopentadiene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Hexachloroethane	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Isophorone	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Naphthalene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Nitrobenzene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
N-Nitrosodimethylamine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
N-Nitrosodi-n-propylamine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
N-Nitrosodiphenylamine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Pentachlorophenol	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Phenanthrene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Phenol	0.0127	0.00265		µg/L	5	8/25/2021 5:46:00 PM
Pyrene	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Pyridine	ND	0.00265	Q	µg/L	5	8/25/2021 5:46:00 PM
Surr: 2,4,6-Tribromophenol	73.8	33.1 - 129.7		%Rec	5	8/25/2021 5:46:00 PM
Surr: 2-Fluorobiphenyl	78.2	33.1 - 126.2		%Rec	5	8/25/2021 5:46:00 PM
Surr: 2-Fluorophenol	28.8	13.4 - 127.1		%Rec	5	8/25/2021 5:46:00 PM
Surr: 4-Terphenyl-d14	94.8	41 - 122		%Rec	5	8/25/2021 5:46:00 PM
Surr: Nitrobenzene-d5	73.9	28.9 - 129.9		%Rec	5	8/25/2021 5:46:00 PM
Surr: Phenol-d6	23.7	10.6 - 128.5		%Rec	5	8/25/2021 5:46:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-001  
**Client Sample ID** 080421LLIG

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 11:03:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 11:03:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 11:03:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 11:03:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Chloroform	1.41	0.500		µg/L	1	8/9/2021 11:03:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 11:03:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 11:03:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 11:03:00 PM
Surr: 1,2-Dichloroethane-d4	89.3	83.4 - 126		%Rec	1	8/9/2021 11:03:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 11:03:00 PM
Surr: Dibromofluoromethane	103	81.1 - 122		%Rec	1	8/9/2021 11:03:00 PM
Surr: Toluene-d8	87.1	80 - 120		%Rec	1	8/9/2021 11:03:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-001  
**Client Sample ID** 080421LLIG

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:44:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00715	0.00500		mg/L	1	8/12/2021 4:32:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:11:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	616	5.00		mg/L	1	8/9/2021 4:42:32 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-002  
**Client Sample ID** 080421LLIC

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	269	10.0		µg/L	1	8/5/2021 3:55:47 PM
Antimony	0.862	0.500		µg/L	1	8/5/2021 3:55:47 PM
Arsenic	0.930	0.100		µg/L	1	8/5/2021 3:55:47 PM
Cadmium	0.145	0.100		µg/L	1	8/5/2021 3:55:47 PM
Chromium	1.44	0.100		µg/L	1	8/5/2021 3:55:47 PM
Copper	35.9	0.500		µg/L	1	8/5/2021 3:55:47 PM
Iron	449	50.0		µg/L	1	8/5/2021 3:55:47 PM
Lead	0.880	0.100		µg/L	1	8/5/2021 3:55:47 PM
Molybdenum	6.18	0.500		µg/L	1	8/5/2021 3:55:47 PM
Nickel	2.59	0.500		µg/L	1	8/5/2021 3:55:47 PM
Potassium	14500	100		µg/L	1	8/5/2021 3:55:47 PM
Selenium	ND	1.00		µg/L	1	8/5/2021 3:55:47 PM
Silver	0.263	0.100		µg/L	1	8/5/2021 3:55:47 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 3:55:47 PM
Zinc	138	2.00		µg/L	1	8/5/2021 3:55:47 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	54.8	0.200		mg/L	1	8/5/2021 3:55:47 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	677	2.00		mg/L	1	8/4/2021 5:21:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	247.0	2.0		mg/L	1	8/5/2021 12:18:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	196	10.0		mg/L CaCO3	1	8/5/2021 2:30:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	36.6	0.400		mg/L	20	8/6/2021 1:35:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	4.84	0.200		mg/L	10	8/6/2021 3:57:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	49.9	0.800		mg/L	4	8/11/2021 5:33:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	262	10.0		mg/L	1	8/6/2021 10:52:20 AM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-003  
**Client Sample ID** 080421LLEG

**Collection Date:** 8/4/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
1,2-Dichlorobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
1,2-Diphenylhydrazine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
1,3-Dichlorobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
1,4-Dichlorobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,4,6-Trichlorophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,4-Dichlorophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,4-Dimethylphenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,4-Dinitrophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,4-Dinitrotoluene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2,6-Dinitrotoluene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2-Chloronaphthalene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2-Chlorophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2-Methylphenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
2-Nitrophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
3,3'-Dichlorobenzidine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
3,4-Methylphenol	ND	0.000973		µg/L	1	8/25/2021 6:16:00 PM
4,6-Dinitro-2-methylphenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
4-Bromophenyl phenyl ether	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
4-Chloro-3-methylphenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
4-Chlorophenyl phenyl ether	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
4-Nitrophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Acenaphthene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Acenaphthylene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Aniline	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Anthracene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Azobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benz(a)anthracene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzidine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzo(a)pyrene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzo(b)fluoranthene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzo(g,h,i)perylene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzo(k)fluoranthene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Benzoic Acid	ND	0.00486		µg/L	1	8/25/2021 6:16:00 PM
Bis(2-chloroethoxy)methane	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Bis(2-chloroethyl)ether	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Bis(2-chloroisopropyl)ether	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Bis(2-ethylhexyl)phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-003  
**Client Sample ID** 080421LLEG

**Collection Date:** 8/4/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Carbazole	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Chrysene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Dibenz(a,h)anthracene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Diethyl phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Dimethyl phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Di-n-butyl phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Di-n-octyl phthalate	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Fluoranthene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Fluorene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Hexachlorobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Hexachlorobutadiene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Hexachlorocyclopentadiene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Hexachloroethane	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Isophorone	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Naphthalene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Nitrobenzene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
N-Nitrosodimethylamine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
N-Nitrosodi-n-propylamine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
N-Nitrosodiphenylamine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Pentachlorophenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Phenanthrene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Phenol	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Pyrene	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Pyridine	ND	0.000486		µg/L	1	8/25/2021 6:16:00 PM
Surr: 2,4,6-Tribromophenol	72.2	33.1 - 129.7		%Rec	1	8/25/2021 6:16:00 PM
Surr: 2-Fluorobiphenyl	46.7	33.1 - 126.2		%Rec	1	8/25/2021 6:16:00 PM
Surr: 2-Fluorophenol	17.6	13.4 - 127.1		%Rec	1	8/25/2021 6:16:00 PM
Surr: 4-Terphenyl-d14	89.0	41 - 122		%Rec	1	8/25/2021 6:16:00 PM
Surr: Nitrobenzene-d5	48.4	28.9 - 129.9		%Rec	1	8/25/2021 6:16:00 PM
Surr: Phenol-d6	22.0	10.6 - 128.5		%Rec	1	8/25/2021 6:16:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-003  
**Client Sample ID** 080421LLEG

**Collection Date:** 8/4/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
2-Butanone	ND	5.00		µg/L	1	8/9/2021 11:25:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 11:25:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 11:25:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 11:25:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Chloroform	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 11:25:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 11:25:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Toluene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 11:25:00 PM
Surr: 1,2-Dichloroethane-d4	88.3	83.4 - 126		%Rec	1	8/9/2021 11:25:00 PM
Surr: 4-Bromofluorobenzene	107	80.9 - 127		%Rec	1	8/9/2021 11:25:00 PM
Surr: Dibromofluoromethane	102	81.1 - 122		%Rec	1	8/9/2021 11:25:00 PM
Surr: Toluene-d8	86.7	80 - 120		%Rec	1	8/9/2021 11:25:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-003  
**Client Sample ID** 080421LLEG

**Collection Date:** 8/4/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:45:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:42:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:16:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	236	5.00		mg/L	1	8/9/2021 4:43:32 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-004  
**Client Sample ID** 080421LLEC

**Collection Date:** 8/4/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	ND	10.0		µg/L	1	8/5/2021 4:23:40 PM
Antimony	ND	0.500		µg/L	1	8/5/2021 4:23:40 PM
Arsenic	0.467	0.100		µg/L	1	8/5/2021 4:23:40 PM
Cadmium	ND	0.100		µg/L	1	8/5/2021 4:23:40 PM
Chromium	0.166	0.100		µg/L	1	8/5/2021 4:23:40 PM
Copper	1.69	0.500		µg/L	1	8/5/2021 4:23:40 PM
Iron	53.4	50.0		µg/L	1	8/5/2021 4:23:40 PM
Lead	0.445	0.100		µg/L	1	8/5/2021 4:23:40 PM
Molybdenum	2.49	0.500		µg/L	1	8/5/2021 4:23:40 PM
Nickel	1.63	0.500		µg/L	1	8/5/2021 4:23:40 PM
Potassium	13400	100		µg/L	1	8/5/2021 4:23:40 PM
Selenium	ND	1.00		µg/L	1	8/5/2021 4:23:40 PM
Silver	ND	0.100		µg/L	1	8/5/2021 4:23:40 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 4:23:40 PM
Zinc	118	2.00		µg/L	1	8/5/2021 4:23:40 PM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	53.6	0.200		mg/L	1	8/5/2021 4:23:40 PM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	16.5	2.00		mg/L	1	8/4/2021 5:21:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	2.1	2.0		mg/L	1	8/5/2021 12:18:23 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	62.0	10.0		mg/L CaCO3	1	8/5/2021 3:00:25 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	0.942	0.0200		mg/L	1	8/6/2021 1:55:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	0.422	0.0200		mg/L	1	8/10/2021 10:43:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	2.19	0.200		mg/L	1	8/11/2021 3:48:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	8/6/2021 10:54:20 AM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
1,2-Dichlorobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
1,2-Diphenylhydrazine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
1,3-Dichlorobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
1,4-Dichlorobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,4,6-Trichlorophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,4-Dichlorophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,4-Dimethylphenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,4-Dinitrophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,4-Dinitrotoluene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2,6-Dinitrotoluene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2-Chloronaphthalene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2-Chlorophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2-Methylphenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
2-Nitrophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
3,3'-Dichlorobenzidine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
3,4-Methylphenol	0.0501	0.00534		µg/L	5	8/25/2021 6:47:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
4-Bromophenyl phenyl ether	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
4-Chloro-3-methylphenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
4-Chlorophenyl phenyl ether	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
4-Nitrophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Acenaphthene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Acenaphthylene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Aniline	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Anthracene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Azobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benz(a)anthracene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzidine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzo(a)pyrene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzo(b)fluoranthene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzo(g,h,i)perylene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzo(k)fluoranthene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Benzoic Acid	0.142	0.0267		µg/L	5	8/25/2021 6:47:00 PM
Bis(2-chloroethoxy)methane	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Bis(2-chloroethyl)ether	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Bis(2-ethylhexyl)phthalate	0.00726	0.00267		µg/L	5	8/25/2021 6:47:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Carbazole	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Chrysene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Dibenz(a,h)anthracene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Diethyl phthalate	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Dimethyl phthalate	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Di-n-butyl phthalate	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Di-n-octyl phthalate	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Fluoranthene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Fluorene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Hexachlorobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Hexachlorobutadiene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Hexachlorocyclopentadiene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Hexachloroethane	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Isophorone	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Naphthalene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Nitrobenzene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
N-Nitrosodimethylamine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
N-Nitrosodi-n-propylamine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
N-Nitrosodiphenylamine	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Pentachlorophenol	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Phenanthrene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Phenol	0.00657	0.00267		µg/L	5	8/25/2021 6:47:00 PM
Pyrene	ND	0.00267	Q	µg/L	5	8/25/2021 6:47:00 PM
Pyridine	0.00267	0.00267		µg/L	5	8/25/2021 6:47:00 PM
Surr: 2,4,6-Tribromophenol	81.1	33.1 - 129.7		%Rec	5	8/25/2021 6:47:00 PM
Surr: 2-Fluorobiphenyl	91.7	33.1 - 126.2		%Rec	5	8/25/2021 6:47:00 PM
Surr: 2-Fluorophenol	29.6	13.4 - 127.1		%Rec	5	8/25/2021 6:47:00 PM
Surr: 4-Terphenyl-d14	113	41 - 122		%Rec	5	8/25/2021 6:47:00 PM
Surr: Nitrobenzene-d5	83.7	28.9 - 129.9		%Rec	5	8/25/2021 6:47:00 PM
Surr: Phenol-d6	20.3	10.6 - 128.5		%Rec	5	8/25/2021 6:47:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
1,4-Dichlorobenzene	1.02	0.500		µg/L	1	8/9/2021 11:48:00 PM
2-Butanone	22.5	5.00		µg/L	1	8/9/2021 11:48:00 PM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/9/2021 11:48:00 PM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/9/2021 11:48:00 PM
Acrylonitrile	ND	2.00		µg/L	1	8/9/2021 11:48:00 PM
Benzene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Bromodichloromethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Bromoform	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Bromomethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Carbon tetrachloride	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Chlorobenzene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Chloroethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Chloroform	2.10	0.500		µg/L	1	8/9/2021 11:48:00 PM
Chloromethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Dibromochloromethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Ethylbenzene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
m,p-Xylene	ND	1.00		µg/L	1	8/9/2021 11:48:00 PM
Methylene chloride	ND	20.0		µg/L	1	8/9/2021 11:48:00 PM
o-Xylene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Styrene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Tetrachloroethene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Toluene	1.28	0.500		µg/L	1	8/9/2021 11:48:00 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Trichloroethene	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Vinyl chloride	ND	0.500		µg/L	1	8/9/2021 11:48:00 PM
Surr: 1,2-Dichloroethane-d4	88.6	83.4 - 126		%Rec	1	8/9/2021 11:48:00 PM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/9/2021 11:48:00 PM
Surr: Dibromofluoromethane	102	81.1 - 122		%Rec	1	8/9/2021 11:48:00 PM
Surr: Toluene-d8	86.9	80 - 120		%Rec	1	8/9/2021 11:48:00 PM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:47:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.0121	0.00500		mg/L	1	8/12/2021 4:47:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:26:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	996	5.00		mg/L	1	8/9/2021 4:44:32 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/4/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
1,2-Dichlorobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
1,2-Diphenylhydrazine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
1,3-Dichlorobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
1,4-Dichlorobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,4,6-Trichlorophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,4-Dichlorophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,4-Dimethylphenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,4-Dinitrophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,4-Dinitrotoluene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2,6-Dinitrotoluene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2-Chloronaphthalene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2-Chlorophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2-Methylphenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
2-Nitrophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
3,3'-Dichlorobenzidine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
3,4-Methylphenol	0.0545	0.00509		µg/L	5	8/25/2021 7:16:00 PM
4,6-Dinitro-2-methylphenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
4-Bromophenyl phenyl ether	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
4-Chloro-3-methylphenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
4-Chlorophenyl phenyl ether	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
4-Nitrophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Acenaphthene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Acenaphthylene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Aniline	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Anthracene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Azobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benz(a)anthracene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzidine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzo(a)pyrene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzo(b)fluoranthene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzo(g,h,i)perylene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzo(k)fluoranthene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Benzoic Acid	0.249	0.0254		µg/L	5	8/25/2021 7:16:00 PM
Bis(2-chloroethoxy)methane	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Bis(2-chloroethyl)ether	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Bis(2-chloroisopropyl)ether	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Bis(2-ethylhexyl)phthalate	0.00402	0.00254		µg/L	5	8/25/2021 7:16:00 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/4/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Carbazole	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Chrysene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Dibenz(a,h)anthracene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Diethyl phthalate	0.00381	0.00254		µg/L	5	8/25/2021 7:16:00 PM
Dimethyl phthalate	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Di-n-butyl phthalate	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Di-n-octyl phthalate	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Fluoranthene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Fluorene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Hexachlorobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Hexachlorobutadiene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Hexachlorocyclopentadiene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Hexachloroethane	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Isophorone	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Naphthalene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Nitrobenzene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
N-Nitrosodimethylamine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
N-Nitrosodi-n-propylamine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
N-Nitrosodiphenylamine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Pentachlorophenol	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Phenanthrene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Phenol	0.00590	0.00254		µg/L	5	8/25/2021 7:16:00 PM
Pyrene	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Pyridine	ND	0.00254	Q	µg/L	5	8/25/2021 7:16:00 PM
Surr: 2,4,6-Tribromophenol	75.8	33.1 - 129.7		%Rec	5	8/25/2021 7:16:00 PM
Surr: 2-Fluorobiphenyl	81.2	33.1 - 126.2		%Rec	5	8/25/2021 7:16:00 PM
Surr: 2-Fluorophenol	30.8	13.4 - 127.1		%Rec	5	8/25/2021 7:16:00 PM
Surr: 4-Terphenyl-d14	100	41 - 122		%Rec	5	8/25/2021 7:16:00 PM
Surr: Nitrobenzene-d5	69.3	28.9 - 129.9		%Rec	5	8/25/2021 7:16:00 PM
Surr: Phenol-d6	22.5	10.6 - 128.5		%Rec	5	8/25/2021 7:16:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/4/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>	Analyst: <b>CK</b>	
1,1-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
2-Butanone	ND	5.00		µg/L	1	8/10/2021 12:10:00 AM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/10/2021 12:10:00 AM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/10/2021 12:10:00 AM
Acrylonitrile	ND	2.00		µg/L	1	8/10/2021 12:10:00 AM
Benzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Bromodichloromethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Bromoform	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Bromomethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Carbon tetrachloride	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Chlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Chloroethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Chloroform	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Chloromethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Dibromochloromethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Ethylbenzene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/10/2021 12:10:00 AM
Methylene chloride	ND	20.0		µg/L	1	8/10/2021 12:10:00 AM
o-Xylene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Styrene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Tetrachloroethene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Toluene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Trichloroethene	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Vinyl chloride	ND	0.500		µg/L	1	8/10/2021 12:10:00 AM
Surr: 1,2-Dichloroethane-d4	87.6	83.4 - 126		%Rec	1	8/10/2021 12:10:00 AM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/10/2021 12:10:00 AM
Surr: Dibromofluoromethane	100	81.1 - 122		%Rec	1	8/10/2021 12:10:00 AM
Surr: Toluene-d8	85.2	80 - 120		%Rec	1	8/10/2021 12:10:00 AM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits



# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-006  
**Client Sample ID** Villabois G

**Collection Date:** 8/4/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	6.78	5.00		µg/L	1	8/17/2021 12:48:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:52:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	1.28	1.00		mg/L	1	8/6/2021 1:31:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	492	5.00		mg/L	1	8/9/2021 4:45:32 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-007  
**Client Sample ID** Parkway C

**Collection Date:** 8/4/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	433	10.0		µg/L	1	8/5/2021 4:27:05 PM
Antimony	0.998	0.500		µg/L	1	8/5/2021 4:27:05 PM
Arsenic	0.855	0.100		µg/L	1	8/5/2021 4:27:05 PM
Cadmium	0.225	0.100		µg/L	1	8/5/2021 4:27:05 PM
Chromium	2.17	0.100		µg/L	1	8/5/2021 4:27:05 PM
Copper	79.6	0.500		µg/L	1	8/5/2021 4:27:05 PM
Iron	1770	50.0		µg/L	1	8/5/2021 4:27:05 PM
Lead	2.86	0.100		µg/L	1	8/5/2021 4:27:05 PM
Molybdenum	6.84	0.500		µg/L	1	8/5/2021 4:27:05 PM
Nickel	5.86	0.500		µg/L	1	8/5/2021 4:27:05 PM
Potassium	29600	100		µg/L	1	8/5/2021 4:27:05 PM
Selenium	ND	1.00		µg/L	1	8/5/2021 4:27:05 PM
Silver	0.654	0.100		µg/L	1	8/5/2021 4:27:05 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 4:27:05 PM
Zinc	290	2.00		µg/L	1	8/5/2021 4:27:05 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	67.4	0.200		mg/L	1	8/5/2021 4:27:05 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	759	2.00		mg/L	1	8/4/2021 5:21:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	388.1	2.0		mg/L	1	8/5/2021 12:18:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	286	10.0		mg/L CaCO3	1	8/5/2021 3:10:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	45.4	0.800		mg/L	40	8/6/2021 2:20:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>NK</b>
Phosphorus, Total	6.82	0.200		mg/L	10	8/6/2021 3:58:43 PM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	67.9	1.00		mg/L	5	8/11/2021 5:38:57 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	442	10.0		mg/L	1	8/6/2021 10:55:20 AM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108028  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108028-008  
**Client Sample ID** Villabois C

**Collection Date:** 8/4/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	204	10.0		µg/L	1	8/5/2021 4:30:30 PM
Antimony	0.551	0.500		µg/L	1	8/5/2021 4:30:30 PM
Arsenic	0.790	0.100		µg/L	1	8/5/2021 4:30:30 PM
Cadmium	ND	0.100		µg/L	1	8/5/2021 4:30:30 PM
Chromium	1.26	0.100		µg/L	1	8/5/2021 4:30:30 PM
Copper	24.3	0.500		µg/L	1	8/5/2021 4:30:30 PM
Iron	197	50.0		µg/L	1	8/5/2021 4:30:30 PM
Lead	0.532	0.100		µg/L	1	8/5/2021 4:30:30 PM
Molybdenum	0.847	0.500		µg/L	1	8/5/2021 4:30:30 PM
Nickel	2.00	0.500		µg/L	1	8/5/2021 4:30:30 PM
Potassium	13000	100		µg/L	1	8/5/2021 4:30:30 PM
Selenium	ND	1.00		µg/L	1	8/5/2021 4:30:30 PM
Silver	0.201	0.100		µg/L	1	8/5/2021 4:30:30 PM
Thallium	ND	0.100		µg/L	1	8/5/2021 4:30:30 PM
Zinc	133	2.00		µg/L	1	8/5/2021 4:30:30 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	69.5	0.200		mg/L	1	8/5/2021 4:30:30 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	<2	2.00		mg/L	1	8/4/2021 5:21:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	299.2	2.0		mg/L	1	8/5/2021 12:18:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>JRH</b>
Alkalinity, Total (As CaCO3)	201	10.0		mg/L CaCO3	1	8/5/2021 3:20:25 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	37.0	0.400		mg/L	20	8/6/2021 1:40:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	4.94	0.200		mg/L	10	8/10/2021 10:44:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	58.4	10.0		mg/L	50	8/19/2021 4:36:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	336	10.0		mg/L	1	8/6/2021 10:56:20 AM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41342</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531254</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	514	10.0	500.0	0	103	90	110				
Antimony	50.5	0.500	50.00	0	101	90	110				
Arsenic	50.2	0.100	50.00	0	100	90	110				
Cadmium	50.8	0.100	50.00	0	102	90	110				
Chromium	50.6	0.100	50.00	0	101	90	110				
Copper	51.5	0.500	50.00	0	103	90	110				
Iron	5460	50.0	5000	0	109	90	110				
Lead	51.3	0.100	50.00	0	103	90	110				
Molybdenum	53.0	0.500	50.00	0	106	90	110				
Nickel	51.2	0.500	50.00	0	102	90	110				
Potassium	5130	100	5000	0	103	90	110				
Selenium	49.9	1.00	50.00	0	99.7	90	110				
Silver	53.7	0.100	50.00	0	107	90	110				
Thallium	52.4	0.100	50.00	0	105	90	110				
Zinc	50.8	2.00	50.00	0	102	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41342</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531259</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	483	10.0	500.0	0	96.5	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41342</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531259</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.1	0.500	50.00	0	92.3	90	110				
Arsenic	47.3	0.100	50.00	0	94.6	90	110				
Cadmium	47.1	0.100	50.00	0	94.2	90	110				
Chromium	47.6	0.100	50.00	0	95.3	90	110				
Copper	48.2	0.500	50.00	0	96.4	90	110				
Iron	5110	50.0	5000	0	102	90	110				
Lead	47.3	0.100	50.00	0	94.7	90	110				
Molybdenum	49.2	0.500	50.00	0	98.3	90	110				
Nickel	48.0	0.500	50.00	0	95.9	90	110				
Potassium	4710	100	5000	0	94.1	90	110				
Selenium	47.2	1.00	50.00	0	94.4	90	110				
Silver	50.0	0.100	50.00	0	100	90	110				
Thallium	47.8	0.100	50.00	0	95.7	90	110				
Zinc	47.7	2.00	50.00	0	95.5	90	110				

Sample ID: <b>MB-18311</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531260</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Antimony	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18311</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531260</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18311</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531261</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	448	10.0	500.0	0	89.7	85	115				
Antimony	48.9	0.500	50.00	0	97.7	85	115				
Arsenic	47.8	0.100	50.00	0	95.6	85	115				
Cadmium	49.6	0.100	50.00	0	99.1	85	115				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>LCS-18311</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531261</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	47.0	0.100	50.00	0	93.9	85	115				
Copper	49.5	0.500	50.00	0	99.1	85	115				
Iron	4990	50.0	5000	0	99.9	85	115				
Lead	49.6	0.100	50.00	0	99.1	85	115				
Molybdenum	49.7	0.500	50.00	0	99.4	85	115				
Nickel	48.8	0.500	50.00	0	97.6	85	115				
Potassium	4500	100	5000	0	90.0	85	115				
Selenium	47.9	1.00	50.00	0	95.9	85	115				
Silver	51.9	0.100	50.00	0	104	85	115				
Thallium	50.8	0.100	50.00	0	102	85	115				
Zinc	49.8	2.00	50.00	0	99.5	85	115				

Sample ID: <b>2108028-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531263</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	266	10.0						268.9	0.975	20	
Antimony	0.709	0.500						0.8623	19.6	20	
Arsenic	0.925	0.100						0.9302	0.534	20	
Cadmium	0.116	0.100						0.1447	21.8	20	RRF
Chromium	1.67	0.100						1.443	14.4	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108028-002ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: 080421LLIC	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531263						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	34.1	0.500						35.93	5.30	20	
Iron	447	50.0						448.7	0.372	20	
Lead	0.810	0.100						0.8803	8.36	20	
Molybdenum	6.14	0.500						6.183	0.628	20	
Nickel	3.02	0.500						2.586	15.3	20	
Potassium	14500	100						14460	0.0386	20	
Selenium	ND	1.00						0	0	20	
Silver	0.304	0.100						0.2635	14.1	20	
Thallium	ND	0.100						0	0	20	RRF
Zinc	140	2.00						138.4	1.24	20	

Sample ID: 2108028-002AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: 080421LLIC	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531264						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	688	10.0	500.0	268.9	83.8	70	130				
Antimony	45.2	0.500	50.00	0.8623	88.7	70	130				
Arsenic	47.8	0.100	50.00	0.9302	93.7	70	130				
Cadmium	46.5	0.100	50.00	0.1447	92.7	70	130				
Chromium	46.8	0.100	50.00	1.443	90.8	70	130				
Copper	83.0	0.500	50.00	35.93	94.2	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108028-002AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: 080421LLIC	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531264						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5200	50.0	5000	448.7	95.1	70	130				
Lead	47.6	0.100	50.00	0.8803	93.5	70	130				
Molybdenum	55.5	0.500	50.00	6.183	98.6	70	130				
Nickel	49.5	0.500	50.00	2.586	93.9	70	130				
Potassium	18200	100	5000	14460	75.2	70	130				
Selenium	46.7	1.00	50.00	0.5973	92.3	70	130				
Silver	47.5	0.100	50.00	0.2635	94.5	70	130				
Zinc	185	2.00	50.00	138.4	93.6	70	130				

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41342						
Client ID: CCV	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531265						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	475	10.0	500.0	0	94.9	90	110				
Antimony	46.0	0.500	50.00	0	92.1	90	110				
Arsenic	46.9	0.100	50.00	0	93.7	90	110				
Cadmium	47.9	0.100	50.00	0	95.8	90	110				
Chromium	47.6	0.100	50.00	0	95.2	90	110				
Copper	47.9	0.500	50.00	0	95.8	90	110				
Iron	5060	50.0	5000	0	101	90	110				
Lead	47.4	0.100	50.00	0	94.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41342</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531265</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	47.9	0.500	50.00	0	95.9	90	110				
Nickel	47.3	0.500	50.00	0	94.7	90	110				
Potassium	4680	100	5000	0	93.5	90	110				
Selenium	47.1	1.00	50.00	0	94.1	90	110				
Silver	49.5	0.100	50.00	0	98.9	90	110				
Thallium	48.2	0.100	50.00	0	96.3	90	110				
Zinc	47.6	2.00	50.00	0	95.2	90	110				

Sample ID: <b>2108028-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531266</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	715	10.0	500.0	268.9	89.1	70	130	687.9	3.79	20	
Antimony	46.7	0.500	50.00	0.8623	91.6	70	130	45.20	3.17	20	
Arsenic	49.5	0.100	50.00	0.9302	97.2	70	130	47.76	3.67	20	
Cadmium	48.5	0.100	50.00	0.1447	96.7	70	130	46.50	4.24	20	
Chromium	49.8	0.100	50.00	1.443	96.7	70	130	46.84	6.11	20	
Copper	86.5	0.500	50.00	35.93	101	70	130	83.03	4.15	20	
Iron	5430	50.0	5000	448.7	99.7	70	130	5205	4.30	20	
Lead	49.5	0.100	50.00	0.8803	97.3	70	130	47.62	3.93	20	
Molybdenum	57.8	0.500	50.00	6.183	103	70	130	55.46	4.16	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>2108028-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531266</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	51.1	0.500	50.00	2.586	97.1	70	130	49.53	3.16	20	
Potassium	18500	100	5000	14460	80.8	70	130	18220	1.53	20	
Selenium	48.2	1.00	50.00	0.5973	95.2	70	130	46.72	3.08	20	
Silver	48.6	0.100	50.00	0.2635	96.7	70	130	47.51	2.30	20	
Thallium	35.7	0.100	50.00	0.04466	71.3	70	130	19.65	58.1	20	R
Zinc	193	2.00	50.00	138.4	109	70	130	185.2	4.02	20	

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41342</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531541</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.3	0.100	50.00	0	98.7	90	110				
Thallium	49.9	0.100	50.00	0	99.9	90	110				

Sample ID: <b>MB-18311</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41342</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531546</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.9	0.100	50.00	0	97.8	90	110				
Thallium	50.7	0.100	50.00	0	101	90	110				

Sample ID: <b>2108028-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41342</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531547</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	35.6	0.100	50.00	0.04466	71.2	70	130				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41342</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18311</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.0	0.100	50.00	0	98.0	90	110				
Thallium	50.9	0.100	50.00	0	102	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	60.5	139.5				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	71	129				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	72.5	127.5				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	50.5	149.5				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	63	137				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	68	132				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	34	166				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	73	127				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	63	137				
2-Butanone	93.3	5.00	80.00	0	117	60	140				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	224				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	60	140				
Acrylonitrile	50.2	2.00	40.00	0	125	50	150				
Benzene	36.5	0.500	40.00	0	91.4	64	136				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	65.5	134.5				
Bromoform	35.5	0.500	40.00	0	88.8	71	129				
Bromomethane	29.4	0.500	40.00	0	73.5	14	186				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	73	127				
Chlorobenzene	33.5	0.500	40.00	0	83.7	66	134				
Chloroethane	29.4	0.500	40.00	0	73.6	38	162				
Chloroform	39.3	0.500	40.00	0	98.2	67.5	132.5				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	204				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	24	176				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	67.5	132.5				
Ethylbenzene	33.5	0.500	40.00	0	83.9	59	141				
m,p-Xylene	61.3	1.00	80.00	0	76.6	65	127				
Methylene chloride	28.2	20.0	40.00	0	70.6	60.5	139.5				
o-Xylene	34.6	0.500	40.00	0	86.6	80	120				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	73.5	126.5				
Toluene	35.8	0.500	40.00	0	89.4	74.5	125.5				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	69.5	130.5				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	50	150				
Trichloroethene	41.3	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	48	152				
Vinyl chloride	29.8	0.500	40.00	0	74.6	4	196				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	96.1		100.0		96.1	83.4	126				
Surr: 4-Bromofluorobenzene	105		100.0		105	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	89.7		100.0		89.7	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	46	157				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	52	150				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	59	155				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	0.01	234				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	18	190				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	49	155				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	59	156				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	18	190				
2-Butanone	93.3	5.00	80.00	0	117	50	150				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	305				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	50	150				
Acrylonitrile	50.2	2.00	40.00	0	125	30	150				
Benzene	36.5	0.500	40.00	0	91.4	37	151				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	35	155				
Bromoform	35.5	0.500	40.00	0	88.8	45	169				
Bromomethane	29.4	0.500	40.00	0	73.5	0.01	242				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	70	140				
Chlorobenzene	33.5	0.500	40.00	0	83.7	37	160				
Chloroethane	29.4	0.500	40.00	0	73.6	14	230				
Chloroform	39.3	0.500	40.00	0	98.2	51	138				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>	SampType: <b>LCS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>LCSW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532083</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	53	149				
Ethylbenzene	33.5	0.500	40.00	0	83.9	37	162				
m,p-Xylene	61.3	1.00	80.00	0	76.6	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.6	0.01	221				
o-Xylene	34.6	0.500	40.00	0	86.6	50	150				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	64	148				
Toluene	35.8	0.500	40.00	0	89.4	47	150				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	54	156				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	17	183				
Trichloroethene	41.3	0.500	40.00	0	103	71	157				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	17	181				
Vinyl chloride	29.8	0.500	40.00	0	74.6	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.0	0.500	40.00	0	110	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	41.3	0.500	40.00	0	103	75	125				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	60.5	139.5				
1,1,2-Trichloroethane	43.5	0.500	40.00	0	109	71	129				
1,1-Dichloroethane	41.4	0.500	40.00	0	103	72.5	127.5				
1,1-Dichloroethene	42.0	0.500	40.00	0	105	50.5	149.5				
1,2-Dichlorobenzene	41.0	0.500	40.00	0	102	63	137				
1,2-Dichloroethane	40.0	0.500	40.00	0	100	68	132				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	34	166				
1,3-Dichlorobenzene	40.7	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.9	0.500	40.00	0	102	63	137				
2-Butanone	86.0	5.00	80.00	0	108	60	140				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	224				
4-Methyl-2-pentanone	90.4	5.00	80.00	0	113	60	140				
Acrylonitrile	43.1	2.00	40.00	0	108	50	150				
Benzene	38.0	0.500	40.00	0	95.1	64	136				
Bromodichloromethane	40.8	0.500	40.00	0	102	65.5	134.5				
Bromoform	44.4	0.500	40.00	0	111	71	129				
Bromomethane	28.6	0.500	40.00	0	71.4	14	186				
Carbon tetrachloride	42.1	0.500	40.00	0	105	73	127				
Chlorobenzene	44.2	0.500	40.00	0	111	66	134				
Chloroethane	49.4	0.500	40.00	0	123	38	162				
Chloroform	41.2	0.500	40.00	0	103	67.5	132.5				
Chloromethane	36.8	0.500	40.00	0	92.0	0.01	204				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532084</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	41.4	0.500	40.00	0	104	24	176				
Dibromochloromethane	45.0	0.500	40.00	0	112	67.5	132.5				
Ethylbenzene	47.9	0.500	40.00	0	120	59	141				
m,p-Xylene	94.4	1.00	80.00	0	118	80	120				
Methylene chloride	31.0	20.0	40.00	0	77.4	60.5	139.5				
o-Xylene	46.2	0.500	40.00	0	116	80	120				
Styrene	46.1	0.500	40.00	0	115	80	120				
Tetrachloroethene	46.7	0.500	40.00	0	117	73.5	126.5				
Toluene	45.4	0.500	40.00	0	114	74.5	125.5				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	105	69.5	130.5				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	50	150				
Trichloroethene	41.2	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	48	152				
Vinyl chloride	32.6	0.500	40.00	0	81.5	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	120		100.0		120	81.1	125				
Surr: Toluene-d8	84.3		100.0		84.3	75	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532086							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	50.7	0.500	40.00	0	127	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.5	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	51.3	0.500	40.00	0	128	59	155				
1,1-Dichloroethene	51.5	0.500	40.00	0	129	47.8	165				
1,2-Dichlorobenzene	34.4	0.500	40.00	0	86.0	18	190				
1,2-Dichloroethane	47.2	0.500	40.00	0	118	49	155				
1,2-Dichloropropane	48.5	0.500	40.00	0	121	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.6	0.500	40.00	0	86.5	18	190				
2-Butanone	109	5.00	80.00	3.350	132	50	150				
2-Chloroethyl vinyl ether	48.5	10.0	40.00	0	121	0.01	305				
4-Methyl-2-pentanone	87.1	5.00	80.00	0	109	50	150				
Acrylonitrile	51.8	2.00	40.00	0	129	20	150				
Benzene	46.8	0.500	40.00	0	117	37	151				
Bromodichloromethane	48.6	0.500	40.00	0	122	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	30.5	0.500	40.00	0	76.2	0.01	242				
Carbon tetrachloride	51.7	0.500	40.00	0	129	70	140				
Chlorobenzene	41.5	0.500	40.00	0	104	37	160				
Chloroethane	75.4	0.500	40.00	0	188	14	230				
Chloroform	52.1	0.500	40.00	1.290	127	51	138				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532086				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	48.4	0.500	40.00	0	121	0.01	273				
cis-1,3-Dichloropropene	48.4	0.500	40.00	0	121	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	1.990	107	50	150				
Methylene chloride	36.2	20.0	40.00	0	90.6	0.01	221				
o-Xylene	41.8	0.500	40.00	0	105	50	150				
Styrene	41.6	0.500	40.00	0	104	70	130				
Tetrachloroethene	38.2	0.500	40.00	0	95.5	64	148				
Toluene	44.5	0.500	40.00	1.940	106	47	150				
trans-1,2-Dichloroethene	51.6	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	42.0	0.500	40.00	0	105	17	183				
Trichloroethene	49.4	0.500	40.00	0	124	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	42.7	0.500	40.00	0	107	0.01	251				

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532087				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.9	0.500	40.00	0	110	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	46	157				
1,1,2-Trichloroethane	42.7	0.500	40.00	0	107	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	39.6	0.500	40.00	0	99.1	18	190				
1,2-Dichloroethane	41.7	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	39.8	0.500	40.00	0	99.6	59	156				
1,4-Dichlorobenzene	39.7	0.500	40.00	0	99.3	18	190				
2-Butanone	89.0	5.00	80.00	0	111	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	90.0	5.00	80.00	0	112	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	40.2	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.0	0.500	40.00	0	105	35	155				
Bromoform	43.9	0.500	40.00	0	110	45	169				
Bromomethane	30.0	0.500	40.00	0	75.1	0.01	242				
Carbon tetrachloride	44.5	0.500	40.00	0	111	70	140				
Chlorobenzene	44.2	0.500	40.00	0	111	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	0	108	51	138				
Chloromethane	40.5	0.500	40.00	0	101	0.01	273				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-003EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532087			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	42.4	0.500	40.00	0	106	0.01	227				
Dibromochloromethane	44.2	0.500	40.00	0	111	53	149				
Ethylbenzene	47.8	0.500	40.00	0	120	37	162				
m,p-Xylene	94.1	1.00	80.00	0	118	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.2	0.01	221				
o-Xylene	45.5	0.500	40.00	0	114	50	150				
Styrene	45.1	0.500	40.00	0	113	70	130				
Tetrachloroethene	42.4	0.500	40.00	0	106	64	148				
Toluene	46.3	0.500	40.00	1.280	112	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	44.6	0.500	40.00	0	112	17	181				
Vinyl chloride	36.1	0.500	40.00	0	90.2	0.01	251				

Sample ID: 2108006-005EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532088			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.6	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.9	0.500	40.00	0	105	52	162				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532088							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	38.7	0.500	40.00	0	96.7	46	157				
1,1,2-Trichloroethane	40.7	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.1	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.1	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.6	18	190				
1,2-Dichloroethane	39.4	0.500	40.00	0	98.5	49	155				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	1.190	88.5	18	190				
2-Butanone	98.9	5.00	80.00	12.59	108	50	150				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	305				
4-Methyl-2-pentanone	87.4	5.00	80.00	0	109	50	150				
Acrylonitrile	44.6	2.00	40.00	0	112	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.4	0.500	40.00	0	101	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	25.6	0.500	40.00	0	64.0	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.6	0.500	40.00	0	169	14	230				
Chloroform	45.0	0.500	40.00	3.280	104	51	138				
Chloromethane	45.4	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-005EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532088			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	42.2	0.500	40.00	0	106	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	0	110	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.6	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	43.3	0.500	40.00	0	108	54	156				
trans-1,3-Dichloropropene	42.8	0.500	40.00	0	107	17	183				
Trichloroethene	40.8	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	104	17	181				
Vinyl chloride	33.6	0.500	40.00	0	83.9	0.01	251				

Sample ID: 2108006-006EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532089			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	41.2	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.4	46	157				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	41.0	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	40.7	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.4	18	190				
1,2-Dichloroethane	46.9	0.500	40.00	0	117	49	155				
1,2-Dichloropropane	41.5	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.5	0.500	40.00	0	86.4	18	190				
2-Butanone	83.9	5.00	80.00	2.380	102	50	150				
2-Chloroethyl vinyl ether	41.5	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	88.4	5.00	80.00	0	110	50	150				
Acrylonitrile	41.4	2.00	40.00	0	104	20	150				
Benzene	54.6	0.500	40.00	0	136	37	151				
Bromodichloromethane	41.6	0.500	40.00	0	104	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	23.3	0.500	40.00	0	58.2	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	41.6	0.500	40.00	0	104	37	160				
Chloroethane	48.2	0.500	40.00	0	120	14	230				
Chloroform	41.4	0.500	40.00	0	103	51	138				
Chloromethane	36.1	0.500	40.00	0	90.3	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108006-006EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532089			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.2	1.00	80.00	0	109	50	150				
Methylene chloride	25.1	20.0	40.00	0	62.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	37.5	0.500	40.00	0	93.8	64	148				
Toluene	43.9	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	42.2	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	42.6	0.500	40.00	0	106	17	181				
Vinyl chloride	34.7	0.500	40.00	0	86.9	0.01	251				

Sample ID: 2108007-001EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532090			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	70	130				
1,1,1-Trichloroethane	39.6	0.500	40.00	0	99.0	52	162				
1,1,2,2-Tetrachloroethane	37.4	0.500	40.00	0	93.5	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.2	52	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532090							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.0	0.500	40.00	0	100	59	155				
1,1-Dichloroethene	41.1	0.500	40.00	0	103	47.8	165				
1,2-Dichlorobenzene	34.0	0.500	40.00	0	85.0	18	190				
1,2-Dichloroethane	37.2	0.500	40.00	0	92.9	49	155				
1,2-Dichloropropane	38.7	0.500	40.00	0	96.8	0.01	210				
1,3-Dichlorobenzene	33.9	0.500	40.00	0	84.8	59	156				
1,4-Dichlorobenzene	34.4	0.500	40.00	0	86.1	18	190				
2-Butanone	84.3	5.00	80.00	2.890	102	50	150				
2-Chloroethyl vinyl ether	38.7	10.0	40.00	0	96.8	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	41.3	2.00	40.00	0	103	20	150				
Benzene	36.5	0.500	40.00	0	91.2	37	151				
Bromodichloromethane	38.6	0.500	40.00	0	96.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	27.1	0.500	40.00	0	67.8	0.01	242				
Carbon tetrachloride	40.3	0.500	40.00	0	101	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	46.6	0.500	40.00	0	116	14	230				
Chloroform	40.9	0.500	40.00	1.480	98.4	51	138				
Chloromethane	36.5	0.500	40.00	0	91.2	0.01	273				
cis-1,3-Dichloropropene	39.0	0.500	40.00	0	97.5	0.01	227				
Dibromochloromethane	41.1	0.500	40.00	0	103	53	149				
Ethylbenzene	43.2	0.500	40.00	0	108	37	162				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532090		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	84.7	1.00	80.00	0	106	50	150				
Methylene chloride	24.8	20.0	40.00	0	62.0	0.01	221				
o-Xylene	41.0	0.500	40.00	0	102	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.1	64	148				
Toluene	43.0	0.500	40.00	1.470	104	47	150				
trans-1,2-Dichloroethene	41.0	0.500	40.00	0	102	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	39.3	0.500	40.00	0	98.3	71	157				
Trichlorofluoromethane	40.6	0.500	40.00	0	102	17	181				
Vinyl chloride	32.0	0.500	40.00	0	80.0	0.01	251				

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532091		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.9	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	40.9	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.2	46	157				
1,1,2-Trichloroethane	41.8	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532091							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	42.4	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	38.3	0.500	40.00	0	95.8	18	190				
1,2-Dichloroethane	38.6	0.500	40.00	0	96.4	49	155				
1,2-Dichloropropane	39.8	0.500	40.00	0	99.6	0.01	210				
1,3-Dichlorobenzene	38.6	0.500	40.00	0	96.5	59	156				
1,4-Dichlorobenzene	38.4	0.500	40.00	0	96.0	18	190				
2-Butanone	85.4	5.00	80.00	0	107	50	150				
2-Chloroethyl vinyl ether	39.8	10.0	40.00	0	99.6	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	42.7	2.00	40.00	0	107	20	150				
Benzene	37.8	0.500	40.00	0	94.4	37	151				
Bromodichloromethane	39.5	0.500	40.00	0	98.8	35	155				
Bromoform	41.6	0.500	40.00	0	104	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	41.6	0.500	40.00	0	104	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	45.2	0.500	40.00	0	113	14	230				
Chloroform	40.7	0.500	40.00	0	102	51	138				
Chloromethane	38.2	0.500	40.00	0	95.6	0.01	273				
cis-1,3-Dichloropropene	40.3	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	46.1	0.500	40.00	0	115	37	162				
m,p-Xylene	90.7	1.00	80.00	0	113	50	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-002EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532091			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	26.2	20.0	40.00	0	65.4	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	43.3	0.500	40.00	0	108	70	130				
Tetrachloroethene	40.3	0.500	40.00	0	101	64	148				
Toluene	44.2	0.500	40.00	1.230	107	47	150				
trans-1,2-Dichloroethene	42.0	0.500	40.00	0	105	54	156				
trans-1,3-Dichloropropene	43.0	0.500	40.00	0	107	17	183				
Trichloroethene	41.0	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: 2108007-003EMS		SampType: MS		TestCode: 624_W		Units: µg/L		Prep Date:		RunNo: 41389	
Client ID: BatchQC		Batch ID: 18334		TestNo: E624.1		Analysis Date: 8/10/2021		SeqNo: 532092			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.7	0.500	40.00	0	104	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.5	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	107	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	34.3	0.500	40.00	0	85.8	18	190				
1,2-Dichloroethane	39.2	0.500	40.00	0	97.9	49	155				
1,2-Dichloropropane	41.0	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	35.1	0.500	40.00	0	87.7	18	190				
2-Butanone	103	5.00	80.00	14.08	111	50	150				
2-Chloroethyl vinyl ether	41.0	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	88.9	5.00	80.00	0	111	50	150				
Acrylonitrile	45.1	2.00	40.00	0	113	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.3	0.500	40.00	0	101	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	32.8	0.500	40.00	0	81.9	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	42.2	0.500	40.00	0	105	37	160				
Chloroethane	46.6	0.500	40.00	0	117	14	230				
Chloroform	43.7	0.500	40.00	2.060	104	51	138				
Chloromethane	41.6	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.3	0.500	40.00	0	106	53	149				
Ethylbenzene	44.5	0.500	40.00	0	111	37	162				
m,p-Xylene	88.2	1.00	80.00	0	110	50	150				
Methylene chloride	27.4	20.0	40.00	0	68.5	0.01	221				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532092							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.6	64	148				
Toluene	44.4	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	43.8	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.6	0.500	40.00	0	109	17	183				
Trichloroethene	41.5	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	41.7	0.500	40.00	0	104	17	181				
Vinyl chloride	32.2	0.500	40.00	0	80.5	0.01	251				

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				
1,1,1-Trichloroethane	40.7	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.0	46	157				
1,1,2-Trichloroethane	40.0	0.500	40.00	0	100	52	150				
1,1-Dichloroethane	42.4	0.500	40.00	0	106	59	155				
1,1-Dichloroethene	42.8	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	32.4	0.500	40.00	0	80.9	18	190				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532093					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	38.3	0.500	40.00	0	95.8	49	155				
1,2-Dichloropropane	39.7	0.500	40.00	0	99.2	0.01	210				
1,3-Dichlorobenzene	32.1	0.500	40.00	0	80.4	59	156				
1,4-Dichlorobenzene	32.6	0.500	40.00	0	81.4	18	190				
2-Butanone	88.3	5.00	80.00	3.320	106	50	150				
2-Chloroethyl vinyl ether	39.7	10.0	40.00	0	99.2	0.01	305				
4-Methyl-2-pentanone	86.1	5.00	80.00	0	108	50	150				
Acrylonitrile	43.8	2.00	40.00	0	110	20	150				
Benzene	38.4	0.500	40.00	0	95.9	37	151				
Bromodichloromethane	39.8	0.500	40.00	0	99.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	32.8	0.500	40.00	0	82.1	0.01	242				
Carbon tetrachloride	40.9	0.500	40.00	0	102	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	45.5	0.500	40.00	0	114	14	230				
Chloroform	47.0	0.500	40.00	7.430	99.0	51	138				
Chloromethane	42.0	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	39.8	0.500	40.00	0	99.5	0.01	227				
Dibromochloromethane	41.4	0.500	40.00	0	104	53	149				
Ethylbenzene	42.6	0.500	40.00	0	107	37	162				
m,p-Xylene	84.0	1.00	80.00	0	105	50	150				
Methylene chloride	26.1	20.0	40.00	0	65.2	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108007-004EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532093</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	40.5	0.500	40.00	0	101	70	130				
Tetrachloroethene	35.5	0.500	40.00	0	88.8	64	148				
Toluene	42.9	0.500	40.00	0	107	47	150				
trans-1,2-Dichloroethene	42.8	0.500	40.00	0	107	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	40.2	0.500	40.00	0	100	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	33.0	0.500	40.00	0	82.5	0.01	251				

Sample ID: <b>2108010-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532094</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.8	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	42.6	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	38.9	0.500	40.00	0	97.3	46	157				
1,1,2-Trichloroethane	40.4	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.1	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	34.5	0.500	40.00	0	86.2	18	190				
1,2-Dichloroethane	39.8	0.500	40.00	0	99.4	49	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.6	0.500	40.00	0	86.4	59	156				
1,4-Dichlorobenzene	34.9	0.500	40.00	0	87.3	18	190				
2-Butanone	93.1	5.00	80.00	3.520	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	87.7	5.00	80.00	0	110	50	150				
Acrylonitrile	44.9	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	27.8	0.500	40.00	0	69.6	0.01	242				
Carbon tetrachloride	43.0	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.0	0.500	40.00	0	167	14	230				
Chloroform	43.8	0.500	40.00	1.210	106	51	138				
Chloromethane	48.0	0.500	40.00	0	120	0.01	273				
cis-1,3-Dichloropropene	41.3	0.500	40.00	0	103	0.01	227				
Dibromochloromethane	41.9	0.500	40.00	0	105	53	149				
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.0	1.00	80.00	0	109	50	150				
Methylene chloride	28.3	20.0	40.00	0	70.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	41.8	0.500	40.00	0	104	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532094</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	37.6	0.500	40.00	0	93.9	64	148				
Toluene	44.5	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	44.4	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	42.5	0.500	40.00	0	106	17	183				
Trichloroethene	42.3	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	43.5	0.500	40.00	0	109	17	181				
Vinyl chloride	33.6	0.500	40.00	0	84.1	0.01	251				

Sample ID: <b>2108010-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532095</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.2	0.500	40.00	0	108	70	130				
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	39.3	0.500	40.00	0	98.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	38.7	0.500	40.00	0	96.7	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	39.0	0.500	40.00	0	97.5	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				
2-Butanone	89.3	5.00	80.00	0	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	89.2	5.00	80.00	0	112	50	150				
Acrylonitrile	44.8	2.00	40.00	0	112	20	150				
Benzene	39.4	0.500	40.00	0	98.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	43.2	0.500	40.00	0	108	45	169				
Bromomethane	26.7	0.500	40.00	0	66.8	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	43.4	0.500	40.00	0	109	37	160				
Chloroethane	55.5	0.500	40.00	0	139	14	230				
Chloroform	42.2	0.500	40.00	0	106	51	138				
Chloromethane	40.6	0.500	40.00	0	101	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	43.5	0.500	40.00	0	109	53	149				
Ethylbenzene	47.5	0.500	40.00	0	119	37	162				
m,p-Xylene	93.4	1.00	80.00	0	117	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.3	0.01	221				
o-Xylene	45.0	0.500	40.00	0	113	50	150				
Styrene	44.8	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.0	0.500	40.00	0	102	64	148				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.2	0.500	40.00	0	105	71	157				
Trichlorofluoromethane	42.9	0.500	40.00	0	107	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: CCV MSVWS-3044	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCV	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532096							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	80	120				
1,1,1-Trichloroethane	47.5	0.500	40.00	0	119	75	125				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	60.5	139.5				
1,1,2-Trichloroethane	41.4	0.500	40.00	0	104	71	129				
1,1-Dichloroethane	48.4	0.500	40.00	0	121	72.5	127.5				
1,1-Dichloroethane	50.1	0.500	40.00	0	125	50.5	149.5				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	63	137				
1,2-Dichloroethane	43.1	0.500	40.00	0	108	68	132				
1,2-Dichloropropane	45.0	0.500	40.00	0	112	34	166				
1,3-Dichlorobenzene	37.5	0.500	40.00	0	93.7	73	127				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.4	63	137				
2-Butanone	91.6	5.00	80.00	0	114	60	140				
2-Chloroethyl vinyl ether	45.0	10.0	40.00	0	112	0.01	224				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	60	140				
Acrylonitrile	47.4	2.00	40.00	0	118	50	150				
Benzene	43.6	0.500	40.00	0	109	64	136				
Bromodichloromethane	44.2	0.500	40.00	0	110	65.5	134.5				
Bromoform	40.4	0.500	40.00	0	101	71	129				
Bromomethane	32.3	0.500	40.00	0	80.7	14	186				
Carbon tetrachloride	47.2	0.500	40.00	0	118	73	127				
Chlorobenzene	43.0	0.500	40.00	0	107	66	134				
Chloroethane	52.4	0.500	40.00	0	131	38	162				
Chloroform	46.8	0.500	40.00	0	117	67.5	132.5				
Chloromethane	47.0	0.500	40.00	0	118	0.01	204				
cis-1,3-Dichloropropene	45.8	0.500	40.00	0	114	24	176				
Dibromochloromethane	42.4	0.500	40.00	0	106	67.5	132.5				
Ethylbenzene	43.1	0.500	40.00	0	108	59	141				
m,p-Xylene	83.6	1.00	80.00	0	105	80	120				
Methylene chloride	37.7	20.0	40.00	0	94.2	60.5	139.5				
o-Xylene	43.9	0.500	40.00	0	110	80	120				
Styrene	43.2	0.500	40.00	0	108	80	120				
Tetrachloroethene	42.7	0.500	40.00	0	107	73.5	126.5				
Toluene	46.5	0.500	40.00	0	116	74.5	125.5				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	50.4	0.500	40.00	0	126	69.5	130.5				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	50	150				
Trichloroethene	47.5	0.500	40.00	0	119	66.5	133.5				
Trichlorofluoromethane	48.9	0.500	40.00	0	122	48	152				
Vinyl chloride	6.95	0.500	40.00	0	17.4	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	84.8		100.0		84.8	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	96.8		100.0		96.8	81.1	125				
Surr: Toluene-d8	92.0		100.0		92.0	75	120				

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	44.4	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	38.1	0.500	40.00	0	95.2	46	157				
1,1,2-Trichloroethane	41.6	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	44.8	0.500	40.00	0	112	59	155				
1,1-Dichloroethene	45.3	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	88.9	18	190				
1,2-Dichloroethane	41.3	0.500	40.00	0	103	49	155				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.4	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	0	91.9	18	190				
2-Butanone	97.0	5.00	80.00	10.06	109	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	88.5	5.00	80.00	0	111	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	40.8	0.500	40.00	0	102	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	32.6	0.500	40.00	0	81.5	0.01	242				
Carbon tetrachloride	45.4	0.500	40.00	0	113	70	140				
Chlorobenzene	42.6	0.500	40.00	0	107	37	160				
Chloroethane	46.9	0.500	40.00	0	117	14	230				
Chloroform	45.1	0.500	40.00	1.310	110	51	138				
Chloromethane	42.7	0.500	40.00	0	107	0.01	273				
cis-1,3-Dichloropropene	44.6	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	43.1	0.500	40.00	0	108	53	149				
Ethylbenzene	45.9	0.500	40.00	0	115	37	162				
m,p-Xylene	90.2	1.00	80.00	0	113	50	150				
Methylene chloride	29.3	20.0	40.00	0	73.2	0.01	221				
o-Xylene	43.4	0.500	40.00	0	108	50	150				
Styrene	43.0	0.500	40.00	0	108	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532098							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				
trans-1,2-Dichloroethene	45.5	0.500	40.00	0	114	54	156				
trans-1,3-Dichloropropene	44.8	0.500	40.00	0	112	17	183				
Trichloroethene	44.3	0.500	40.00	0	111	71	157				
Trichlorofluoromethane	45.9	0.500	40.00	0	115	17	181				
Vinyl chloride	38.3	0.500	40.00	0	95.7	0.01	251				

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.3	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	94.9	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.9	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.8	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	34.8	0.500	40.00	0	87.0	18	190				
1,2-Dichloroethane	40.5	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	34.8	0.500	40.00	0	87.1	59	156				
1,4-Dichlorobenzene	35.0	0.500	40.00	0	87.5	18	190				
2-Butanone	93.2	5.00	80.00	2.820	113	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.3	5.00	80.00	0	110	50	150				
Acrylonitrile	45.3	2.00	40.00	0	113	20	150				
Benzene	40.0	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	106	35	155				
Bromoform	41.3	0.500	40.00	0	103	45	169				
Bromomethane	31.1	0.500	40.00	0	77.7	0.01	242				
Carbon tetrachloride	44.1	0.500	40.00	0	110	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	49.8	0.500	40.00	0	124	14	230				
Chloroform	43.8	0.500	40.00	0	109	51	138				
Chloromethane	43.7	0.500	40.00	0	109	0.01	273				
cis-1,3-Dichloropropene	43.8	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.7	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	96.0	64	148				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108010-008EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532099</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	43.8	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.2	0.500	40.00	0	111	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.1	0.500	40.00	0	82.8	0.01	251				

Sample ID: <b>2108028-001EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>080421LLIG</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532100</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.4	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.8	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.6	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	100	49	155				
1,2-Dichloropropane	42.4	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.1	59	156				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 080421LLIG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	93.2	5.00	80.00	4.490	111	50	150				
2-Chloroethyl vinyl ether	42.4	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.0	5.00	80.00	0	110	50	150				
Acrylonitrile	44.5	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	105	35	155				
Bromoform	41.4	0.500	40.00	0	103	45	169				
Bromomethane	25.9	0.500	40.00	0	64.9	0.01	242				
Carbon tetrachloride	43.8	0.500	40.00	0	109	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	69.3	0.500	40.00	0	173	14	230				
Chloroform	44.1	0.500	40.00	1.410	107	51	138				
Chloromethane	46.4	0.500	40.00	0	116	0.01	273				
cis-1,3-Dichloropropene	43.7	0.500	40.00	0	109	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.7	20.0	40.00	0	71.8	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.4	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.6	0.500	40.00	0	96.4	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>080421LLIG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532100</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	44.5	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.6	0.500	40.00	0	111	17	183				
Trichloroethene	43.6	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.0	0.500	40.00	0	110	17	181				
Vinyl chloride	34.1	0.500	40.00	0	85.3	0.01	251				

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>080421LLEG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.0	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethane	44.5	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.4	18	190				
1,2-Dichloroethane	40.9	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.2	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 080421LLEG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	90.1	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.0	5.00	80.00	0	111	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	43.0	0.500	40.00	0	108	45	169				
Bromomethane	24.8	0.500	40.00	0	62.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	111	70	140				
Chlorobenzene	43.8	0.500	40.00	0	109	37	160				
Chloroethane	47.9	0.500	40.00	0	120	14	230				
Chloroform	42.9	0.500	40.00	0	107	51	138				
Chloromethane	38.8	0.500	40.00	0	97.0	0.01	273				
cis-1,3-Dichloropropene	44.7	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	43.9	0.500	40.00	0	110	53	149				
Ethylbenzene	47.3	0.500	40.00	0	118	37	162				
m,p-Xylene	93.8	1.00	80.00	0	117	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.5	0.01	221				
o-Xylene	45.1	0.500	40.00	0	113	50	150				
Styrene	45.0	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.7	0.500	40.00	0	104	64	148				
Toluene	45.5	0.500	40.00	0	114	47	150				
trans-1,2-Dichloroethene	44.6	0.500	40.00	0	112	54	156				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>080421LLEG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532101</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	45.8	0.500	40.00	0	115	17	183				
Trichloroethene	43.9	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.2	0.500	40.00	0	111	17	181				
Vinyl chloride	32.5	0.500	40.00	0	81.2	0.01	251				

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Parkway G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.8	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	95.9	46	157				
1,1,2-Trichloroethane	41.3	0.500	40.00	0	103	52	150				
1,1-Dichloroethane	44.3	0.500	40.00	0	111	59	155				
1,1-Dichloroethene	44.9	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.5	18	190				
1,2-Dichloroethane	40.7	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.3	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.9	0.500	40.00	1.020	89.7	18	190				
2-Butanone	113	5.00	80.00	22.52	114	50	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532102							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	43.3	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.3	5.00	80.00	0	112	50	150				
Acrylonitrile	45.8	2.00	40.00	0	114	20	150				
Benzene	40.4	0.500	40.00	0	101	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	27.6	0.500	40.00	0	69.0	0.01	242				
Carbon tetrachloride	44.3	0.500	40.00	0	111	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	50.3	0.500	40.00	0	126	14	230				
Chloroform	45.2	0.500	40.00	2.100	108	51	138				
Chloromethane	40.6	0.500	40.00	0	102	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	42.7	0.500	40.00	0	107	53	149				
Ethylbenzene	45.4	0.500	40.00	0	114	37	162				
m,p-Xylene	89.8	1.00	80.00	0	112	50	150				
Methylene chloride	28.6	20.0	40.00	0	71.6	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	42.8	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.2	64	148				
Toluene	45.7	0.500	40.00	1.280	111	47	150				
trans-1,2-Dichloroethene	44.8	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.9	0.500	40.00	0	112	17	183				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Parkway G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	44.0	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.3	0.500	40.00	0	83.3	0.01	251				

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.0	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,1,2-Tetrachloroethane	38.2	0.500	40.00	0	95.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.7	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.5	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.8	0.500	40.00	0	107	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	34.7	0.500	40.00	0	86.8	18	190				
2-Butanone	91.7	5.00	80.00	2.100	112	50	150				
2-Chloroethyl vinyl ether	42.8	10.0	40.00	0	107	0.01	305				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532103							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	88.7	5.00	80.00	0	111	50	150				
Acrylonitrile	45.4	2.00	40.00	0	113	20	150				
Benzene	39.6	0.500	40.00	0	98.9	37	151				
Bromodichloromethane	42.6	0.500	40.00	0	106	35	155				
Bromoform	41.1	0.500	40.00	0	103	45	169				
Bromomethane	28.0	0.500	40.00	0	70.0	0.01	242				
Carbon tetrachloride	43.3	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	53.8	0.500	40.00	0	135	14	230				
Chloroform	43.3	0.500	40.00	0	108	51	138				
Chloromethane	41.9	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	44.1	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.0	0.500	40.00	0	105	53	149				
Ethylbenzene	44.6	0.500	40.00	0	111	37	162				
m,p-Xylene	87.4	1.00	80.00	0	109	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.1	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	44.1	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.1	0.500	40.00	0	110	17	183				
Trichloroethene	43.2	0.500	40.00	0	108	71	157				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	43.7	0.500	40.00	0	109	17	181				
Vinyl chloride	34.0	0.500	40.00	0	85.1	0.01	251				

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.6	0.500	40.00	0	106	70	130				
1,1,1-Trichloroethane	53.6	0.500	40.00	0	134	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	96.9	46	157				
1,1,2-Trichloroethane	41.9	0.500	40.00	0	105	52	150				
1,1-Dichloroethane	54.7	0.500	40.00	0	137	59	155				
1,1-Dichloroethene	55.4	0.500	40.00	0	138	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	89.0	18	190				
1,2-Dichloroethane	50.1	0.500	40.00	0	125	49	155				
1,2-Dichloropropane	52.9	0.500	40.00	0	132	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.6	59	156				
1,4-Dichlorobenzene	36.4	0.500	40.00	0	91.0	18	190				
2-Butanone	116	5.00	80.00	3.370	140	50	150				
2-Chloroethyl vinyl ether	52.9	10.0	40.00	0	132	0.01	305				
4-Methyl-2-pentanone	90.7	5.00	80.00	0	113	50	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532104							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	50.0	0.500	40.00	0	125	37	151				
Bromodichloromethane	52.4	0.500	40.00	0	131	35	155				
Bromoform	42.3	0.500	40.00	0	106	45	169				
Bromomethane	34.7	0.500	40.00	0	86.8	0.01	242				
Carbon tetrachloride	54.3	0.500	40.00	0	136	70	140				
Chlorobenzene	43.0	0.500	40.00	0	108	37	160				
Chloroethane	74.5	0.500	40.00	0	186	14	230				
Chloroform	55.1	0.500	40.00	1.340	134	51	138				
Chloromethane	55.6	0.500	40.00	0	139	0.01	273				
cis-1,3-Dichloropropene	54.0	0.500	40.00	0	135	0.01	227				
Dibromochloromethane	43.2	0.500	40.00	0	108	53	149				
Ethylbenzene	46.0	0.500	40.00	0	115	37	162				
m,p-Xylene	90.8	1.00	80.00	0	114	50	150				
Methylene chloride	40.1	20.0	40.00	0	100	0.01	221				
o-Xylene	43.5	0.500	40.00	0	109	50	150				
Styrene	43.4	0.500	40.00	0	109	70	130				
Tetrachloroethene	39.4	0.500	40.00	0	98.5	64	148				
Toluene	45.9	0.500	40.00	1.220	112	47	150				
trans-1,2-Dichloroethene	55.7	0.500	40.00	0	139	54	156				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	17	183				
Trichloroethene	53.4	0.500	40.00	0	134	71	157				
Trichlorofluoromethane	54.8	0.500	40.00	0	137	17	181				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.9	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	49.9	0.500	40.00	0	125	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	96.0	46	157				
1,1,2-Trichloroethane	42.2	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	50.3	0.500	40.00	0	126	59	155				
1,1-Dichloroethene	51.0	0.500	40.00	0	128	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.6	18	190				
1,2-Dichloroethane	47.5	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	49.7	0.500	40.00	0	124	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.4	59	156				
1,4-Dichlorobenzene	38.9	0.500	40.00	0	97.2	18	190				
2-Butanone	104	5.00	80.00	0	130	50	150				
2-Chloroethyl vinyl ether	49.7	10.0	40.00	0	124	0.01	305				
4-Methyl-2-pentanone	89.8	5.00	80.00	0	112	50	150				
Acrylonitrile	52.4	2.00	40.00	0	131	20	150				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532105							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.4	0.500	40.00	0	116	37	151				
Bromodichloromethane	49.2	0.500	40.00	0	123	35	155				
Bromoform	43.0	0.500	40.00	0	107	45	169				
Bromomethane	35.4	0.500	40.00	0	88.5	0.01	242				
Carbon tetrachloride	50.8	0.500	40.00	0	127	70	140				
Chlorobenzene	43.6	0.500	40.00	0	109	37	160				
Chloroethane	60.0	0.500	40.00	0	150	14	230				
Chloroform	49.6	0.500	40.00	0	124	51	138				
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	51.2	0.500	40.00	0	128	0.01	227				
Dibromochloromethane	43.6	0.500	40.00	0	109	53	149				
Ethylbenzene	47.6	0.500	40.00	0	119	37	162				
m,p-Xylene	94.2	1.00	80.00	0	118	50	150				
Methylene chloride	35.6	20.0	40.00	0	89.1	0.01	221				
o-Xylene	45.4	0.500	40.00	0	114	50	150				
Styrene	45.2	0.500	40.00	0	113	70	130				
Tetrachloroethene	41.3	0.500	40.00	0	103	64	148				
Toluene	45.3	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	51.4	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	46.0	0.500	40.00	0	115	17	183				
Trichloroethene	50.6	0.500	40.00	0	126	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	37.8	0.500	40.00	0	94.6	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532106</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	52.6	0.500	40.00	0	132	52	162				
1,1,2,2-Tetrachloroethane	37.8	0.500	40.00	0	94.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	53.3	0.500	40.00	0	133	59	155				
1,1-Dichloroethene	55.0	0.500	40.00	0	137	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.4	18	190				
1,2-Dichloroethane	49.0	0.500	40.00	0	123	49	155				
1,2-Dichloropropane	51.8	0.500	40.00	0	129	0.01	210				
1,3-Dichlorobenzene	35.3	0.500	40.00	0	88.3	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	1.280	88.8	18	190				
2-Butanone	125	5.00	80.00	12.67	141	50	150				
2-Chloroethyl vinyl ether	51.8	10.0	40.00	0	129	0.01	305				
4-Methyl-2-pentanone	88.2	5.00	80.00	0	110	50	150				
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	49.5	0.500	40.00	0	124	37	151				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	51.2	0.500	40.00	0	128	35	155				
Bromoform	40.2	0.500	40.00	0	101	45	169				
Bromomethane	36.8	0.500	40.00	0	91.9	0.01	242				
Carbon tetrachloride	53.6	0.500	40.00	0	134	70	140				
Chlorobenzene	42.1	0.500	40.00	0	105	37	160				
Chloroethane	66.0	0.500	40.00	0	165	14	230				
Chloroform	54.7	0.500	40.00	2.390	131	51	138				
Chloromethane	49.5	0.500	40.00	0	124	0.01	273				
cis-1,3-Dichloropropene	52.8	0.500	40.00	0	132	0.01	227				
Dibromochloromethane	41.7	0.500	40.00	0	104	53	149				
Ethylbenzene	45.2	0.500	40.00	0	113	37	162				
m,p-Xylene	89.2	1.00	80.00	0	111	50	150				
Methylene chloride	38.8	20.0	40.00	0	97.0	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	95.9	64	148				
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	55.1	0.500	40.00	0	138	54	156				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	17	183				
Trichloroethene	53.3	0.500	40.00	0	133	71	157				
Trichlorofluoromethane	53.6	0.500	40.00	0	134	17	181				
Vinyl chloride	39.7	0.500	40.00	0	99.2	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	51.2	0.500	40.00	0	128	52	162				
1,1,2,2-Tetrachloroethane	36.2	0.500	40.00	0	90.6	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	52.4	0.500	40.00	0	131	59	155				
1,1-Dichloroethene	53.0	0.500	40.00	0	133	47.8	165				
1,2-Dichlorobenzene	33.3	0.500	40.00	0	83.2	18	190				
1,2-Dichloroethane	48.0	0.500	40.00	0	120	49	155				
1,2-Dichloropropane	50.2	0.500	40.00	0	126	0.01	210				
1,3-Dichlorobenzene	33.4	0.500	40.00	0	83.6	59	156				
1,4-Dichlorobenzene	33.6	0.500	40.00	0	84.0	18	190				
2-Butanone	110	5.00	80.00	2.310	135	50	150				
2-Chloroethyl vinyl ether	50.2	10.0	40.00	0	126	0.01	305				
4-Methyl-2-pentanone	84.9	5.00	80.00	0	106	50	150				
Acrylonitrile	54.6	2.00	40.00	0	136	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	49.9	0.500	40.00	0	125	35	155				
Bromoform	39.3	0.500	40.00	0	98.2	45	169				
Bromomethane	35.1	0.500	40.00	0	87.8	0.01	242				
Carbon tetrachloride	51.8	0.500	40.00	0	130	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	60.6	0.500	40.00	0	152	14	230				
Chloroform	52.1	0.500	40.00	0	130	51	138				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	51.9	0.500	40.00	0	130	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	43.1	0.500	40.00	0	108	37	162				
m,p-Xylene	85.3	1.00	80.00	0	107	50	150				
Methylene chloride	37.0	20.0	40.00	0	92.4	0.01	221				
o-Xylene	40.8	0.500	40.00	0	102	50	150				
Styrene	40.6	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.0	64	148				
Toluene	42.4	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	53.1	0.500	40.00	0	133	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	51.5	0.500	40.00	0	129	71	157				
Trichlorofluoromethane	51.7	0.500	40.00	0	129	17	181				
Vinyl chloride	39.3	0.500	40.00	0	98.3	0.01	251				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	17.9	0.500	20.00	0	89.4	80	120				
1,2-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
1,2-Diphenylhydrazine	19.9	0.500	20.00	0	99.6	80	120				
1,3-Dichlorobenzene	19.8	0.500	20.00	0	99.2	80	120				
1,4-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
2,4,6-Trichlorophenol	18.8	0.500	20.00	0	94.0	80	120				
2,4-Dichlorophenol	17.0	0.500	20.00	0	85.0	80	120				
2,4-Dimethylphenol	17.5	0.500	20.00	0	87.7	80	120				
2,4-Dinitrophenol	18.4	0.500	20.00	0	92.2	80	120				
2,4-Dinitrotoluene	18.0	0.500	20.00	0	90.2	80	120				
2,6-Dinitrotoluene	17.6	0.500	20.00	0	88.2	80	120				
2-Chloronaphthalene	18.7	0.500	20.00	0	93.6	80	120				
2-Chlorophenol	19.0	0.500	20.00	0	94.8	80	120				
2-Methylphenol	19.3	0.500	20.00	0	96.5	80	120				
2-Nitrophenol	16.4	0.500	20.00	0	81.8	80	120				
3,3'-Dichlorobenzidine	17.6	0.500	20.00	0	87.8	80	120				
3,4-Methylphenol	19.5	1.00	20.00	0	97.5	80	120				
4-Bromophenyl phenyl ether	20.0	0.500	20.00	0	100	80	120				
4-Chloro-3-methylphenol	18.1	0.500	20.00	0	90.5	80	120				
4-Chlorophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Nitrophenol	19.1	0.500	20.00	0	95.6	80	120				
Acenaphthene	18.6	0.500	20.00	0	93.0	80	120				
Acenaphthylene	18.7	0.500	20.00	0	93.5	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	19.9	0.500	20.00	0	99.4	80	120				
Anthracene	18.6	0.500	20.00	0	93.1	80	120				
Azobenzene	19.9	0.500	20.00	0	99.6	80	120				
Benz(a)anthracene	18.5	0.500	20.00	0	92.3	80	120				
Benzydine	16.6	0.500	20.00	0	82.8	80	120				
Benzo(a)pyrene	18.4	0.500	20.00	0	92.2	80	120				
Benzo(b)fluoranthene	18.4	0.500	20.00	0	92.0	80	120				
Benzo(g,h,i)perylene	18.2	0.500	20.00	0	91.0	80	120				
Benzo(k)fluoranthene	19.2	0.500	20.00	0	96.0	80	120				
Benzoic Acid	20.1	5.00	20.00	0	101	80	120				
Bis(2-chloroethoxy)methane	18.8	0.500	20.00	0	93.8	80	120				
Bis(2-chloroethyl)ether	20.2	0.500	20.00	0	101	80	120				
Bis(2-chloroisopropyl)ether	20.6	0.500	20.00	0	103	80	120				
Bis(2-ethylhexyl)phthalate	21.4	0.500	20.00	0	107	80	120				
Butyl benzyl phthalate	19.3	0.500	20.00	0	96.4	80	120				
Carbazole	18.8	0.500	20.00	0	94.1	80	120				
Chrysene	18.4	0.500	20.00	0	92.2	80	120				
Dibenz(a,h)anthracene	17.8	0.500	20.00	0	88.8	80	120				
Diethyl phthalate	19.9	0.500	20.00	0	99.7	80	120				
Dimethyl phthalate	18.4	0.500	20.00	0	92.2	80	120				
Di-n-butyl phthalate	20.3	0.500	20.00	0	102	80	120				
Di-n-octyl phthalate	19.6	0.500	20.00	0	98.0	80	120				
Fluoranthene	19.2	0.500	20.00	0	96.2	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	18.1	0.500	20.00	0	90.4	80	120				
Hexachlorobenzene	17.7	0.500	20.00	0	88.4	80	120				
Hexachlorobutadiene	17.8	0.500	20.00	0	89.2	80	120				
Hexachlorocyclopentadiene	17.5	0.500	20.00	0	87.6	80	120				
Hexachloroethane	20.6	0.500	20.00	0	103	80	120				
Indeno(1,2,3-cd)pyrene	18.0	0.500	20.00	0	89.8	80	120				
Isophorone	19.1	0.500	20.00	0	95.4	80	120				
Naphthalene	18.4	0.500	20.00	0	92.1	80	120				
Nitrobenzene	18.6	0.500	20.00	0	93.2	80	120				
N-Nitrosodimethylamine	23.1	0.500	20.00	0	115	80	120				
N-Nitrosodi-n-propylamine	19.3	0.500	20.00	0	96.6	80	120				
N-Nitrosodiphenylamine	18.0	0.500	20.00	0	90.0	80	120				
Pentachlorophenol	23.8	0.500	20.00	0	119	80	120				
Phenanthrene	18.7	0.500	20.00	0	93.5	80	120				
Phenol	20.1	0.500	20.00	0	100	80	120				
Pyrene	19.0	0.500	20.00	0	94.8	80	120				
Pyridine	16.1	0.500	20.00	0	80.6	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	64.7		100.0		64.7	33.1	129.7				
Surr: 2-Fluorobiphenyl	68.8		100.0		68.8	33.1	126.2				
Surr: 2-Fluorophenol	45.2		100.0		45.2	13.4	127.1				
Surr: 4-Terphenyl-d14	90.7		100.0		90.7	41	122				
Surr: Nitrobenzene-d5	75.4		100.0		75.4	28.9	129.9				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	29.6		100.0		29.6	10.6	128.5				

Sample ID: <b>2108010-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/4/2021</b>	RunNo: <b>41660</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534990</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	0.0241	0.000504	0.04028	0	59.8	44	142				
1,2-Dichlorobenzene	0.0236	0.000504	0.04028	0	58.5	32	129				
1,2-Diphenylhydrazine	0.0349	0.000504	0.04028	0	86.8	40	140				
1,3-Dichlorobenzene	0.0230	0.000504	0.04028	0	57.0	0.01	172				
1,4-Dichlorobenzene	0.0236	0.000504	0.04028	0	58.5	20	124				
2,4,5-Trichlorophenol	0.0324	0.00201	0.04028	0	80.5	40	130				
2,4,6-Trichlorophenol	0.0385	0.000504	0.04028	0	95.6	37	144				
2,4-Dichlorophenol	0.0289	0.000504	0.04028	0	71.8	39	135				
2,4-Dimethylphenol	0.0270	0.000504	0.04028	0	66.9	32	119				
2,4-Dinitrophenol	0.0379	0.000504	0.04028	0	94.2	0.01	191				
2,4-Dinitrotoluene	0.0342	0.000504	0.04028	0	85.0	39	139				
2,6-Dinitrotoluene	0.0343	0.000504	0.04028	0	85.1	30	158				
2-Chloronaphthalene	0.0287	0.000504	0.04028	0	71.2	30	118				
2-Chlorophenol	0.0251	0.000504	0.04028	0	62.3	23	134				
2-Methylphenol	0.0223	0.000504	0.04028	0	55.3	30	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108010-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/4/2021	RunNo: 41660						
Client ID: BatchQC	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Nitrophenol	0.0277	0.000504	0.04028	0	68.8	29	182				
3,3'-Dichlorobenzidine	0.0216	0.000504	0.04028	0	53.7	0.01	262				
3,4-Methylphenol	0.0201	0.00101	0.04028	0	49.8	30	120				
4,6-Dinitro-2-methylphenol	0.0329	0.000504	0.04028	0	81.6	0.01	181				
4-Bromophenyl phenyl ether	0.0314	0.000504	0.04028	0	78.0	33	127				
4-Chloro-3-methylphenol	0.0308	0.000504	0.04028	0	76.5	22	147				
4-Chlorophenyl phenyl ether	0.0342	0.000504	0.04028	0	84.9	25	158				
4-Nitrophenol	0.0204	0.000504	0.04028	0	50.6	0.01	132				
Acenaphthene	0.0315	0.000504	0.04028	0	78.2	37	145				
Acenaphthylene	0.0300	0.000504	0.04028	0	74.6	33	145				
Aniline	0.0374	0.000504	0.04028	0	92.8	16	134				
Anthracene	0.0339	0.000504	0.04028	0	84.1	27	133				
Azobenzene	0.0349	0.000504	0.04028	0	86.8	70	130				
Benz(a)anthracene	0.0355	0.000504	0.04028	0	88.1	33	143				
Benzdine	0.00192	0.000504	0.04028	0	4.78	0.1	140				
Benzo(a)pyrene	0.0347	0.000504	0.04028	0	86.1	17	163				
Benzo(b)fluoranthene	0.0383	0.000504	0.04028	0	95.2	24	159				
Benzo(g,h,i)perylene	0.0352	0.000504	0.04028	0	87.3	0.01	219				
Benzo(k)fluoranthene	0.0379	0.000504	0.04028	0	94.2	11	162				
Benzoic Acid	ND	0.00504	0.04028	0	10.7	0	250				
Bis(2-chloroethoxy)methane	0.0302	0.000504	0.04028	0	75.0	33	184				
Bis(2-chloroethyl)ether	0.0294	0.000504	0.04028	0	72.9	12	158				
Bis(2-chloroisopropyl)ether	0.0317	0.000504	0.04028	0	78.7	20	140				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: 2108010-003CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/4/2021	RunNo: 41660						
Client ID: BatchQC	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-ethylhexyl)phthalate	0.0335	0.000504	0.04028	0	83.1	8	158				
Butyl benzyl phthalate	0.0369	0.000504	0.04028	0	91.6	0.01	152				
Carbazole	0.0340	0.000504	0.04028	0	84.4	23	131				
Chrysene	0.0355	0.000504	0.04028	0	88.2	17	168				
Dibenz(a,h)anthracene	0.0369	0.000504	0.04028	0	91.6	0.01	224				
Diethyl phthalate	0.0371	0.000504	0.04028	0	92.0	0.01	114				
Dimethyl phthalate	0.0335	0.000504	0.04028	0	83.2	0.01	112				
Di-n-butyl phthalate	0.0360	0.000504	0.04028	0	89.3	1	118				
Di-n-octyl phthalate	0.0363	0.000504	0.04028	0	90.2	4	146				
Fluoranthene	0.0339	0.000504	0.04028	0	84.3	26	137				
Fluorene	0.0324	0.000504	0.04028	0	80.4	19	121				
Hexachlorobenzene	0.0370	0.000504	0.04028	0	91.8	0.01	152				
Hexachlorobutadiene	0.0224	0.000504	0.04028	0	55.6	24	116				
Hexachlorocyclopentadiene	0.0114	0.000504	0.04028	0	28.4	10	110				
Hexachloroethane	0.0193	0.000504	0.04028	0	48.0	40	143				
Indeno(1,2,3-cd)pyrene	0.0372	0.000504	0.04028	0	92.3	0.01	171				
Isophorone	0.0297	0.000504	0.04028	0	73.6	21	196				
Naphthalene	0.0259	0.000504	0.04028	0	64.4	21	133				
Nitrobenzene	0.0302	0.000504	0.04028	0	74.9	35	180				
N-Nitrosodimethylamine	0.0156	0.000504	0.04028	0	38.6	0.01	230				
N-Nitrosodi-n-propylamine	0.0308	0.000504	0.04028	0	76.5	0.01	250				
N-Nitrosodiphenylamine	0.0343	0.000504	0.04028	0	85.2	0.01	250				
Pentachlorophenol	0.0360	0.000504	0.04028	0	89.5	14	176				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: <b>2108010-003CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/4/2021</b>	RunNo: <b>41660</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534990</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	0.0341	0.000504	0.04028	0	84.7	24	120				
Phenol	0.00908	0.000504	0.04028	0	22.6	5	112				
Pyrene	0.0346	0.000504	0.04028	0	85.8	12	115				
Pyridine	0.0153	0.000504	0.04028	0	38.0	13	158				

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41660</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18308</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534992</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.0	0.500	40.00	0	62.6	44	142				
1,2-Dichlorobenzene	26.3	0.500	40.00	0	65.8	32	129				
1,2-Diphenylhydrazine	38.4	0.500	40.00	0	96.0	40	140				
1,3-Dichlorobenzene	25.7	0.500	40.00	0	64.2	0.01	172				
1,4-Dichlorobenzene	26.0	0.500	40.00	0	65.0	20	124				
2,4,6-Trichlorophenol	36.8	0.500	40.00	0	91.9	37	144				
2,4-Dichlorophenol	30.2	0.500	40.00	0	75.5	39	135				
2,4-Dimethylphenol	27.6	0.500	40.00	0	68.9	32	119				
2,4-Dinitrophenol	24.4	0.500	40.00	0	61.0	0.01	191				
2,4-Dinitrotoluene	35.9	0.500	40.00	0	89.8	39	139				
2,6-Dinitrotoluene	36.1	0.500	40.00	0	90.2	30	158				
2-Chloronaphthalene	31.3	0.500	40.00	0	78.3	30	118				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534992						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorophenol	31.8	0.500	40.00	0	79.6	23	134				
2-Methylphenol	27.1	0.500	40.00	0	67.8	30	120				
2-Nitrophenol	30.2	0.500	40.00	0	75.5	29	182				
3,3'-Dichlorobenzidine	29.0	0.500	40.00	0	72.5	0.01	262				
3,4-Methylphenol	23.4	1.00	40.00	0	58.5	30	120				
4,6-Dinitro-2-methylphenol	35.8	0.500	40.00	0	89.4	0.01	181				
4-Bromophenyl phenyl ether	36.5	0.500	40.00	0	91.4	33	127				
4-Chloro-3-methylphenol	29.6	0.500	40.00	0	74.1	22	147				
4-Chlorophenyl phenyl ether	34.2	0.500	40.00	0	85.5	25	158				
4-Nitrophenol	19.5	0.500	40.00	0	48.7	0.01	132				
Acenaphthene	33.6	0.500	40.00	0	83.9	37	145				
Acenaphthylene	33.0	0.500	40.00	0	82.6	33	145				
Aniline	33.4	0.500	40.00	0	83.4	16	134				
Anthracene	36.1	0.500	40.00	0	90.3	27	133				
Azobenzene	38.4	0.500	40.00	0	96.0	70	130				
Benz(a)anthracene	36.6	0.500	40.00	0	91.6	33	143				
Benzidine	8.06	0.500	40.00	0	20.2	0.1	140				
Benzo(a)pyrene	35.8	0.500	40.00	0	89.6	17	163				
Benzo(b)fluoranthene	38.7	0.500	40.00	0	96.8	24	159				
Benzo(g,h,i)perylene	36.1	0.500	40.00	0	90.2	0.01	219				
Benzo(k)fluoranthene	36.1	0.500	40.00	0	90.3	11	162				
Benzoic Acid	35.4	5.00	40.00	0	88.6	0	250				
Bis(2-chloroethoxy)methane	33.4	0.500	40.00	0	83.6	33	184				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534992						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	33.8	0.500	40.00	0	84.6	12	158				
Bis(2-chloroisopropyl)ether	31.8	0.500	40.00	0	79.5	20	140				
Bis(2-ethylhexyl)phthalate	32.0	0.500	40.00	0	80.1	8	158				
Butyl benzyl phthalate	39.1	0.500	40.00	0	97.6	0.01	152				
Carbazole	36.0	0.500	40.00	0	90.1	23	131				
Chrysene	36.9	0.500	40.00	0	92.2	17	168				
Dibenz(a,h)anthracene	37.3	0.500	40.00	0	93.2	0.01	224				
Diethyl phthalate	39.7	0.500	40.00	0	99.3	0.01	114				
Dimethyl phthalate	36.4	0.500	40.00	0	91.0	0.01	112				
Di-n-butyl phthalate	39.3	0.500	40.00	0	98.2	1	118				
Di-n-octyl phthalate	38.9	0.500	40.00	0	97.2	4	146				
Fluoranthene	36.2	0.500	40.00	0	90.5	26	137				
Fluorene	34.3	0.500	40.00	0	85.8	19	121				
Hexachlorobenzene	36.3	0.500	40.00	0	90.7	0.01	152				
Hexachlorobutadiene	22.4	0.500	40.00	0	55.9	24	116				
Hexachlorocyclopentadiene	23.2	0.500	40.00	0	58.0	10	110				
Hexachloroethane	20.0	0.500	40.00	0	49.9	40	143				
Indeno(1,2,3-cd)pyrene	37.8	0.500	40.00	0	94.5	0.01	171				
Isophorone	33.9	0.500	40.00	0	84.8	21	196				
Naphthalene	27.8	0.500	40.00	0	69.6	35	133				
Nitrobenzene	33.4	0.500	40.00	0	83.6	14	150				
N-Nitrosodimethylamine	17.4	0.500	40.00	0	43.6	0.01	250				
N-Nitrosodi-n-propylamine	30.9	0.500	40.00	0	77.2	0.01	230				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L		Prep Date:	RunNo: 41660					
Client ID: LCSW	Batch ID: 18308	TestNo: E625.1	E625		Analysis Date: 8/25/2021	SeqNo: 534992					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	35.7	0.500	40.00	0	89.3	0.01	133				
Pentachlorophenol	24.1	0.500	40.00	0	60.3	24	176				
Phenanthrene	36.1	0.500	40.00	0	90.2	5	120				
Phenol	12.0	0.500	40.00	0	30.1	12	112				
Pyrene	36.5	0.500	40.00	0	91.2	12	115				
Pyridine	14.2	0.500	40.00	0	35.4	13	158				

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L		Prep Date:	RunNo: 41660					
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625		Analysis Date: 8/25/2021	SeqNo: 534993					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.8	0.500	40.00	0	64.4	44	142	25.03	2.95	20	
1,2-Dichlorobenzene	24.0	0.500	40.00	0	60.0	32	129	26.30	9.15	20	
1,2-Diphenylhydrazine	35.1	0.500	40.00	0	87.8	40	140	38.41	8.92	20	
1,3-Dichlorobenzene	23.6	0.500	40.00	0	58.9	0.01	172	25.69	8.65	20	
1,4-Dichlorobenzene	23.9	0.500	40.00	0	59.8	20	124	26.00	8.38	20	
2,4,5-Trichlorophenol	33.6	2.00	40.00	0	84.0	40	130	32.22	4.16	0	
2,4,6-Trichlorophenol	41.4	0.500	40.00	0	104	37	144	36.76	12.0	20	
2,4-Dichlorophenol	31.5	0.500	40.00	0	78.7	39	135	30.20	4.18	20	
2,4-Dimethylphenol	28.3	0.500	40.00	0	70.8	32	119	27.56	2.72	20	
2,4-Dinitrophenol	25.0	0.500	40.00	0	62.5	0.01	191	24.40	2.43	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	35.6	0.500	40.00	0	89.0	39	139	35.94	0.922	20	
2,6-Dinitrotoluene	36.0	0.500	40.00	0	90.1	30	158	36.07	0.139	20	
2-Chloronaphthalene	30.5	0.500	40.00	0	76.2	30	118	31.31	2.65	20	
2-Chlorophenol	28.7	0.500	40.00	0	71.8	23	134	31.84	10.3	20	
2-Methylphenol	24.9	0.500	40.00	0	62.4	30	120	27.12	8.37	20	
2-Nitrophenol	31.9	0.500	40.00	0	79.8	29	182	30.21	5.54	20	
3,3'-Dichlorobenzidine	31.8	0.500	40.00	0	79.6	0.01	262	29.00	9.30	20	
3,4-Methylphenol	22.1	1.00	40.00	0	55.3	30	120	23.39	5.58	20	
4,6-Dinitro-2-methylphenol	33.6	0.500	40.00	0	83.9	0.01	181	35.77	6.41	20	
4-Bromophenyl phenyl ether	32.0	0.500	40.00	0	80.1	33	127	36.54	13.2	20	
4-Chloro-3-methylphenol	32.0	0.500	40.00	0	79.9	22	147	29.62	7.60	20	
4-Chlorophenyl phenyl ether	34.7	0.500	40.00	0	86.8	25	158	34.19	1.54	20	
4-Nitrophenol	21.5	0.500	40.00	0	53.8	0.01	132	19.49	9.81	20	
Acenaphthene	33.4	0.500	40.00	0	83.6	37	145	33.56	0.358	20	
Acenaphthylene	31.0	0.500	40.00	0	77.6	33	145	33.04	6.24	20	
Aniline	30.0	0.500	40.00	0	75.0	16	134	33.37	10.6	20	
Anthracene	33.8	0.500	40.00	0	84.5	27	133	36.10	6.55	20	
Azobenzene	35.1	0.500	40.00	0	87.8	70	130	38.41	8.92	0	
Benz(a)anthracene	36.8	0.500	40.00	0	91.9	33	143	36.64	0.354	20	
Benzidine	10.2	0.500	40.00	0	25.4	0.1	140	8.060	23.0	20	R
Benzo(a)pyrene	37.0	0.500	40.00	0	92.6	17	163	35.85	3.27	20	
Benzo(b)fluoranthene	41.6	0.500	40.00	0	104	24	159	38.72	7.08	20	
Benzo(g,h,i)perylene	36.9	0.500	40.00	0	92.2	0.01	219	36.06	2.19	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	41.1	0.500	40.00	0	103	11	162	36.13	12.9	20	
Benzoic Acid	31.8	5.00	40.00	0	79.5	0	250	35.44	10.9	20	
Bis(2-chloroethoxy)methane	35.1	0.500	40.00	0	87.8	33	184	33.44	4.84	20	
Bis(2-chloroethyl)ether	35.9	0.500	40.00	0	89.7	12	158	33.83	5.85	20	
Bis(2-chloroisopropyl)ether	33.7	0.500	40.00	0	84.2	20	140	31.79	5.80	20	
Bis(2-ethylhexyl)phthalate	34.6	0.500	40.00	0	86.6	8	158	32.02	7.86	20	
Butyl benzyl phthalate	37.5	0.500	40.00	0	93.7	0.01	152	39.06	4.13	20	
Carbazole	34.2	0.500	40.00	0	85.6	23	131	36.04	5.12	20	
Chrysene	36.5	0.500	40.00	0	91.4	17	168	36.86	0.872	20	
Dibenz(a,h)anthracene	38.5	0.500	40.00	0	96.2	0.01	224	37.28	3.14	20	
Diethyl phthalate	37.5	0.500	40.00	0	93.7	0.01	114	39.73	5.80	20	
Dimethyl phthalate	34.9	0.500	40.00	0	87.3	0.01	112	36.38	4.10	20	
Di-n-butyl phthalate	34.5	0.500	40.00	0	86.2	1	118	39.29	13.1	20	
Di-n-octyl phthalate	35.6	0.500	40.00	0	88.9	4	146	38.89	8.97	20	
Fluoranthene	33.9	0.500	40.00	0	84.8	26	137	36.20	6.50	20	
Fluorene	33.7	0.500	40.00	0	84.2	19	121	34.30	1.88	20	
Hexachlorobenzene	41.3	0.500	40.00	0	103	0.01	152	36.26	12.9	20	
Hexachlorobutadiene	23.8	0.500	40.00	0	59.4	24	116	22.37	5.98	20	
Hexachlorocyclopentadiene	21.9	0.500	40.00	0	54.7	10	110	23.22	5.90	20	
Hexachloroethane	20.7	0.500	40.00	0	51.7	40	143	19.96	3.59	20	
Indeno(1,2,3-cd)pyrene	38.5	0.500	40.00	0	96.3	0.01	171	37.79	1.94	20	
Isophorone	33.7	0.500	40.00	0	84.2	21	196	33.90	0.710	20	
Naphthalene	27.7	0.500	40.00	0	69.2	21	133	27.83	0.540	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: LCSS02	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534993						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrobenzene	33.2	0.500	40.00	0	82.9	35	180	33.44	0.871	20	
N-Nitrosodimethylamine	19.1	0.500	40.00	0	47.6	0.01	230	17.43	8.93	20	
N-Nitrosodi-n-propylamine	33.6	0.500	40.00	0	84.1	0.01	250	30.89	8.52	20	
N-Nitrosodiphenylamine	35.8	0.500	40.00	0	89.6	0.01	250	35.73	0.279	20	
Pentachlorophenol	28.0	0.500	40.00	0	70.0	14	176	24.13	14.9	20	
Phenanthrene	34.7	0.500	40.00	0	86.8	24	120	36.09	3.90	20	
Phenol	10.2	0.500	40.00	0	25.6	5	112	12.03	16.0	20	
Pyrene	34.2	0.500	40.00	0	85.4	12	115	36.46	6.46	20	
Pyridine	12.5	0.500	40.00	0	31.2	13	158	14.16	12.5	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2107227-008CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531448</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	366	10.0	100.0	267.0	99.0	80	120				

Sample ID: <b>2107227-008CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531449</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	361	10.0	100.0	267.0	94.0	80	120	366.0	1.38	20	

Sample ID: <b>CCB-R41348</b>	SampType: <b>CCB</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531454</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	275	10.0	100.0	196.0	79.0	80	120				S

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2108028-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531460</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108028-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531461</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	285	10.0	100.0	196.0	89.0	80	120	275.0	3.57	20	

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531465</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	196	10.0	200.0	0	98.0	90	110				

Sample ID: <b>CCV-R41348</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	198	10.0	200.0	0	99.0	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>MBLK-R41348</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41348</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41348</b>	TestNo: <b>M2320 B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531468</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41374</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41374</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41374</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531776</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41374</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41374</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41374</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/4/2021</b>	SeqNo: <b>531777</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	113	2.00	171.0	0	65.9	70	130				S

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41392</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41392</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41392</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531987</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41392</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41392</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41392</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531988</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	190.8	2.0	198.0	0	96.4	84	116				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>ICV-R41433</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0540	0.00500	0.05000	0	108	90	110				

Sample ID: <b>MB-R41433</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41433</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0896	0.00500	0.1000	0	89.6	80	120				

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0477	0.00500	0.05000	0.003290	88.8	67.9	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108006-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0481	0.00500	0.05000	0.003290	89.6	67.9	120	0.04769	0.858	20	

Sample ID: <b>CCV1-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532521</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0972	0.00500	0.1000	0	97.2	90	110				

Sample ID: <b>2108010-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0460	0.00500	0.05000	0.003078	85.9	67.9	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CN\_W

Sample ID: <b>2108010-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0465	0.00500	0.05000	0.003078	86.8	67.9	120	0.04602	1.03	20	

Sample ID: <b>CCV2-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0997	0.00500	0.1000	0	99.7	90	110				

Sample ID: <b>CCV3-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0998	0.00500	0.1000	0	99.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41471</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533006</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41471</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533007</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>2108007-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533013</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	47.8	5.00	50.00	0	95.6	75	125				

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	0	93.8	75	125	47.81	1.88	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533015</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	90	110				

Sample ID: <b>2108010-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533020</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	75	125				

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	44.2	5.00	50.00	0	88.5	75	125	46.03	3.95	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** CR6-CWA

Sample ID: <b>CCV2-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533026</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>CCV3-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41344</b>						
Client ID: <b>ICV</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531362</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	34.2	0.200	33.08	0	103	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41344</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531363</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	32.0	0.200	33.08	0	96.8	90	110				

Sample ID: <b>MB-18312</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531364</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18312</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531365</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	30.3	0.200	33.08	0	91.7	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>LCS-18312</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531365</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108028-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531367</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	55.2	0.200						54.80	0.731	20	

Sample ID: <b>2108028-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531368</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	82.2	0.200	33.08	54.80	82.8	80	120				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41344</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531369</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	31.5	0.200	33.08	0	95.3	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>2108028-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/5/2021</b>	RunNo: <b>41344</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>18312</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531371</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	85.0	0.200	33.08	54.80	91.2	80	120	82.18	3.31	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.982	0.0200	1.000	0	98.2	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV3-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531637</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41356</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531565</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41356</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531566</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.03	0.0200	1.000	0	103	90	110				

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531571</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.6	0.200	5.000	13.82	96.5	80	120				E

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	18.5	0.200	5.000	13.82	94.3	80	120	18.64	0.581	20	E

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531572</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB1-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531583</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531584</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	5.50	0.200	5.000	0.4803	100	80	120	5.502	0	20	

Sample ID: <b>CCV2-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531587</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

Sample ID: <b>CCB2-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531588</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	1.02	0.0200	1.000	0	102	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCV3-R41356</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531594</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB3-R41356</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41356</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41356</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531595</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>MB-R41391</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531965</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41391</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531966</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108045-007BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531974</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	12.8	0.200	5.000	8.562	85.7	80	120				

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	13.2	0.200	5.000	8.562	92.2	80	120	12.85	2.49	20	

Sample ID: <b>2108055-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531981</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	10.5	0.200	5.000	6.024	90.0	80	120				

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	9.86	0.200	5.000	6.024	76.7	80	120	10.52	6.53	20	S

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV-2</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531985</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.989	0.0200	1.000	0	98.9	90	110				

Sample ID: <b>CCB-R41391</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531986</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV-1</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532023</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41359</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41359</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531648</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2108006-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	1.44	1.00						1.440	0	20	

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>080421LLEG</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00						0	0	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Specialty Analytical

WO#: 2108028

8/30/2021

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** SULFIDE\_W

Sample ID: 2108028-003DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: 080421LLEG	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531664							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41414</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532252</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.16	0.200	5.000	0	103	90	110				

Sample ID: <b>MB-R41414</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532254</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>2108006-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532256</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.73	0.200	5.000	1.685	101	57	167				

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.64	0.200	5.000	1.685	99.2	57	167	6.727	1.26	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108006-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532259</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.88	0.200	10.00	0	98.8	90	110				

Sample ID: <b>CCV2-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532261</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.0	0.200	10.00	0	100	90	110				

Sample ID: <b>LCS-R41414</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532262</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	2.66	0.200	2.500	0	107	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2107216-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532266</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	32.9	0.800	5.000	27.59	105	57	167				

Sample ID: <b>2107216-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532267</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	33.6	0.800	5.000	27.59	121	57	167	32.86	2.30	20	

Sample ID: <b>CCV3-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532272</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.90	0.200	10.00	0	99.0	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>CCV4-R41414</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41414</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41414</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/11/2021</b>	SeqNo: <b>532283</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>ICV-R41509</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533550</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.36	0.200	5.000	0	107	90	110				

Sample ID: <b>MB-R41509</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533552</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>LCS-R41509</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533553</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.40	0.200	5.000	0	108	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108045-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533558</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.38	0.200	5.000	1.589	95.7	57	167				

Sample ID: <b>2108045-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533559</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.71	0.200	5.000	1.589	102	57	167	6.375	5.15	20	

Sample ID: <b>CCV1-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533562</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.2	0.200	10.00	0	102	90	110				

Sample ID: <b>CCB1-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533563</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>CCB1-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108089-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	7.22	0.200	5.000	1.918	106	57	167				

Sample ID: <b>2108089-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.58	0.200	5.000	1.918	93.3	57	167	7.218	9.22	20	

Sample ID: <b>CCV4-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>CCB4-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533577</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41409</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532190</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: <b>LCS-R41409</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532191</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1170	5.00	1000	0	117	80	120				

Sample ID: <b>2108010-001FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41409</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41409</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532193</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	616	5.00						631.0	2.41	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108028

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41360</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531671</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41360</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531672</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	88.0	10.0	100.0	0	88.0	80	105				

Sample ID: <b>2108028-002DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>080421LLIC</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531674</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	266	10.0						262.0	1.5	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108028

RcptNo: 1

Date and Time Received 8/4/2021 12:45:00 PM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date:

8/4/2021

Reviewed Date:

8/4/2021 5:16:24 PM

Carrier name: SA

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present	<input type="checkbox"/>
Are matrices correctly identified on Chain of custody?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Is it clear what analyses were requested?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present	<input checked="" type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were correct preservatives used and noted?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA	<input type="checkbox"/>
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Were container labels complete (ID, Pres, Date)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Was an attempt made to cool the samples?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA	<input type="checkbox"/>
All samples received at a temp. of > 0° C to 6.0° C?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA	<input type="checkbox"/>
Response when temperature is outside of range:				
Preservative added to bottles:				
Sample Temp. taken and recorded upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	To	0.8°C
Water - Were bubbles absent in VOC vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No Vials	<input checked="" type="checkbox"/>
Water - Was there Chlorine Present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA	<input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA	<input type="checkbox"/>
Are Samples considered acceptable?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Custody Seals present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Traffic Report or Packing Lists present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Airbill or Sticker?	Air Bill <input type="checkbox"/>	Sticker <input type="checkbox"/>	Not Present	<input checked="" type="checkbox"/>
Airbill No:				
Sample Tags Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Sample Tags Listed on COC?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Tag Numbers:				
Sample Condition?	Intact <input checked="" type="checkbox"/>	Broken <input type="checkbox"/>	Leaking	<input type="checkbox"/>

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by

Any No and/or NA (not applicable) response must be detailed in the comments section be



Specialty Analytical  
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Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: 2108028**

**Work Order Number: 2108096**

August 24, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 4 sample(s) on 8/6/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

**CC:**

Mandy Wehe



---

**CLIENT:** Specialty Analytical  
**Project:** 2108028  
**Work Order:** 2108096

---

**Work Order Sample Summary**

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
2108096-001	080421LLIC	08/04/2021 9:00 AM	08/06/2021 9:56 AM
2108096-002	080421LLEC	08/04/2021 9:30 AM	08/06/2021 9:56 AM
2108096-003	Parkway C	08/04/2021 9:00 AM	08/06/2021 9:56 AM
2108096-004	Villaboix C	08/04/2021 10:00 AM	08/06/2021 9:56 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



---

**CLIENT:** Specialty Analytical  
**Project:** 2108028

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**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2108096-001A

M-1631-W has been Sub Contracted.

2108096-002A

M-1631-W has been Sub Contracted.

2108096-003A

M-1631-W has been Sub Contracted.

2108096-004A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2108096

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 2108096-002A (2108106-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210922.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall".

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2108096-001A	080421LLIC	2108106-01	Wastewater	Sample	08/04/2021	08/09/2021
2108096-002A	080421LLEC	2108106-02	Wastewater	Sample	08/04/2021	08/09/2021
2108096-003A	Parkway C	2108106-03	Wastewater	Sample	08/04/2021	08/09/2021
2108096-004A	Villaboies C	2108106-04	Wastewater	Sample	08/04/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922



## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2108096-001A, 080421LLIC</b> 2108106-01	Hg	Wastewater	TR	27.9		0.68	2.11	ng/L	B212210	S210907
<b>2108096-002A, 080421LLEC</b> 2108106-02	Hg	Wastewater	TR	0.94		0.14	0.42	ng/L	B212210	S210922
<b>2108096-003A, Parkway C</b> 2108106-03	Hg	Wastewater	TR	218		0.68	2.11	ng/L	B212210	S210907
<b>2108096-004A, Villaboies C</b> 2108106-04	Hg	Wastewater	TR	18.8		0.68	2.11	ng/L	B212210	S210907



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS2	Matrix Spike (2108105-04) Hg	23.56	105.3	127.0	ng/L	98% 71-125	
B212210-MSD2	Matrix Spike Duplicate (2108105-04) Hg	23.56	105.3	126.6	ng/L	98% 71-125	0.3% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	0.08	
<b>Limit:</b>	0.50	
<b>Standard Deviation:</b>	0.03	
<b>Limit:</b>	0.13	
<b>MDL:</b>	0.13	
<b>MRL:</b>	0.40	





## Sample Containers

<b>Lab ID:</b> 2108106-01 <b>Sample:</b> 2108096-001A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/04/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108106
<b>Lab ID:</b> 2108106-02 <b>Sample:</b> 2108096-002A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/04/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108106
<b>Lab ID:</b> 2108106-03 <b>Sample:</b> 2108096-003A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/04/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108106
<b>Lab ID:</b> 2108106-04 <b>Sample:</b> 2108096-004A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/04/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108106

## Shipping Containers

### Cooler - 2108106

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



CHAIN OF CUSTODY RECORD

Omega COCID 1095

PAGE: 1

OF: 1

ADDRESS: BAL Report 2108106

Fremont Analytical, Inc.  
3600 Fremont Ave. N.  
Seattle, WA 98103  
TEL: 206-352-3790  
FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>		Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com.  <i>5 Day TAT preferred. Samples have been preserved with BrCl.</i>		
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>				
PHONE:	FAX:			EMAIL:
ACCOUNT #:				

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2108096-001A M-1631-W	080421LLIC	AMBER GLASS 5	Wastewater	8/4/2021 9:00:00 AM	1	
2	2108096-002A M-1631-W	080421LLEC	AMBER GLASS 5	Wastewater	8/4/2021 9:30:00 AM	1	
3	2108096-003A M-1631-W	Parkway C	AMBER GLASS 5	Wastewater	8/4/2021 9:00:00 AM	1	
4	2108096-004A M-1631-W	Villaboies C	AMBER GLASS 5	Wastewater	8/4/2021 10:00:00 AM	1	

Relinquished By: <i>Brianna</i>	Date: <i>8/9/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/9/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	<input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard <input type="checkbox"/> RUSH: Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						Temp of samples _____ °C    Attempt to Cool ? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	

Client Name: **SPECIAL**  
 Logged by: **Brianna Barnes**

Work Order Number: **2108096**  
 Date Received: **8/6/2021 9:56:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Present   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >2°C to 6°C \* **Not Required** Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample	24.2

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-4-21

Page: 1 of 1

Laboratory Project No (Internal):

2108096

Project Name:

~~Water~~ 2108028

Temperature on Receipt:

°C

Project No:

PO No:

Shipped Via: UPS

Collected by:

Custody Seal: Y / N Intact / Broken Cooler / Bottle

State Collected:  OR  WA  OTHER

MDL TIER IV EDD

Report To (PM):

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Client: ~~Water~~ Specialty Analytical  
Address:  
City, State, Zip:  
Telephone: 503-901-9671

AP Email: Mandyl@Specialtyanalytical.com  
PM Email: Julie@Specialtyanalytical.com

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 080421LLEc	8-4-21	0900	WV	1	Requested Tests Low level metals 1651	
2 080421LLEc	8-4-21	0930	WV	1		
3 Pottery C	8-4-21	900	WV	1		
4 Vitabais C	8-4-21	1000	WV	1		
5						
6						
7						
8						
9						
10						

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
Expedited turn-around requests should be coordinated in advance

Reinquired  Date/Time: 8-4-21 1022 Received  Date/Time: 8/6/21 0956

Reinquired  Date/Time: \_\_\_\_\_ Received  Date/Time: \_\_\_\_\_



**Specialty Analytical**  
 9011 SE Janssen Rd  
 Clackamas, OR 97015  
 Phone: 503-607-1331  
 Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-4-21 Page: 1 of 1  
 Project Name: 2108028  
 Project No: 2108028  
 PO No: 2108028

Client: WLSA  
 Address: \_\_\_\_\_  
 City, State, Zip: \_\_\_\_\_  
 Telephone: 503-701-9671  
 AP Email: \_\_\_\_\_

Collected by: \_\_\_\_\_  
 State Collected:  OR  WA  OTHER  
 Report To (PM): \_\_\_\_\_  
 PM Email: \_\_\_\_\_

Laboratory Project No (internal): 2108028  
 Temperature on Receipt: 0.8 °C  
 Cooling: ice Shipped Via: SA  
 Custody Seal:  Intact /  Broken  Cooler /  Bottle  
 MDL  TIER IV  EDD   
 Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
<u>G- grab</u>						
<u>C - Composite</u>						
<u>I - Influent</u>						
<u>E - Effluent</u>						
1 <u>080421LLIG</u>	<u>8-4-21</u>	<u>0900</u>	<u>WW</u>		<u>EPA 200.8 Metals</u> <del>EPA 200.8</del> <u>SM 3500 CrB Hex Chrom</u> <u>SM 4500 Cn</u> <u>SM 4500 NH3+P</u> <u>EPA 351.1 TKN</u> <u>EPA 1684 TS</u> <u>EPA 310.2 AIK</u> <u>EPA 625</u> <u>SM 4500 S2O Sulfides</u> <u>SM 5210B BOD CBOD</u> <u>SM 25400 TSS</u> <u>EPA 624 VOC</u> <u>VOAS</u>	
2 <u>080421LLIC</u>	<u>8-4-21</u>	<u>0900</u>	<u>WW</u>	<u>1</u>		
3 <u>080421LLEG</u>	<u>8-4-21</u>	<u>0930</u>	<u>WW</u>	<u>1</u>		
4 <u>080421LLEC</u>	<u>8-4-21</u>	<u>0930</u>	<u>WW</u>	<u>1</u>		
5 <u>Paulseny G</u>	<u>8-4-21</u>	<u>0900</u>	<u>WW</u>	<u>1</u>		
6 <u>Villabois G</u>	<u>8-4-21</u>	<u>1000</u>	<u>WW</u>	<u>1</u>		
7 <u>Paulseny C</u>	<u>8-4-21</u>	<u>0900</u>	<u>WW</u>	<u>1</u>		
8 <u>Villabois C</u>	<u>8-4-21</u>	<u>1000</u>	<u>WW</u>	<u>1</u>		
9						
10						

\*Matrix: A=Air, AQ=Aqueous, L=Liquid, O=Oil, P=Product, S=Sol, SD=Sediment, S=Solid, W=Water, DW=Drinking Water, GW=Ground Water, SW=Storm Water, WW=Waste Water, M=Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
 Expedited turn-around requests should be coordinated in advance

Released: 8-4-21 10:23  
 Received: 8-4-21 11:50  
 Date/Time: 8-4-21 19:45  
 Date/Time: 8-4-21 17:45



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2108028  
Date: 8/30/2021

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### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

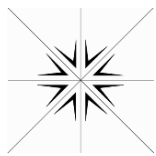
H: Sample was analyzed outside recommended holding time.

HT:  At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Definition Only

WO#: 2108028  
Date: 8/30/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

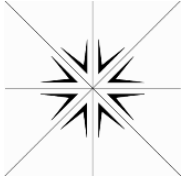
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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August 30, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: 2108045

Order No.: 2108045

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director



# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-001  
**Client Sample ID** 08 21LLIG

**Collection Date:** 8/5/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF		Date Analyzed
					E625.1	E625	
<b>BASE/NEUTRALS/ACIDS</b>							
1,2,4-Trichlorobenzene	ND	2.75	Q	µg/L	5		Analyst: CK 8/25/2021 7:47:00 PM
1,2-Dichlorobenzene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
1,2-Diphenylhydrazine	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
1,3-Dichlorobenzene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
1,4-Dichlorobenzene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,4,6-Trichlorophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,4-Dichlorophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,4-Dimethylphenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,4-Dinitrophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,4-Dinitrotoluene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2,6-Dinitrotoluene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2-Chloronaphthalene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2-Chlorophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2-Methylphenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
2-Nitrophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
3,3'-Dichlorobenzidine	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
3,4-Methylphenol	83.3	5.50		µg/L	5		8/25/2021 7:47:00 PM
4,6-Dinitro-2-methylphenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
4-Bromophenyl phenyl ether	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
4-Chloro-3-methylphenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
4-Chlorophenyl phenyl ether	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
4-Nitrophenol	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Acenaphthene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Acenaphthylene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Aniline	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Anthracene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Azobenzene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benz(a)anthracene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzidine	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzo(a)pyrene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzo(b)fluoranthene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzo(g,h,i)perylene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzo(k)fluoranthene	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Benzoic Acid	482	27.5		µg/L	5		8/25/2021 7:47:00 PM
Bis(2-chloroethoxy)methane	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Bis(2-chloroethyl)ether	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Bis(2-chloroisopropyl)ether	ND	2.75	Q	µg/L	5		8/25/2021 7:47:00 PM
Bis(2-ethylhexyl)phthalate	3.25	2.75		µg/L	5		8/25/2021 7:47:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-001  
**Client Sample ID** 08 21LLIG

**Collection Date:** 8/5/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Carbazole	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Chrysene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Dibenz(a,h)anthracene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Diethyl phthalate	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Dimethyl phthalate	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Di-n-butyl phthalate	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Di-n-octyl phthalate	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Fluoranthene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Fluorene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Hexachlorobenzene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Hexachlorobutadiene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Hexachlorocyclopentadiene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Hexachloroethane	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Isophorone	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Naphthalene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Nitrobenzene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
N-Nitrosodimethylamine	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
N-Nitrosodi-n-propylamine	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
N-Nitrosodiphenylamine	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Pentachlorophenol	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Phenanthrene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Phenol	13.4	2.75		µg/L	5	8/25/2021 7:47:00 PM
Pyrene	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Pyridine	ND	2.75	Q	µg/L	5	8/25/2021 7:47:00 PM
Surr: 2,4,6-Tribromophenol	80.0	33.1 - 129.7		%Rec	5	8/25/2021 7:47:00 PM
Surr: 2-Fluorobiphenyl	84.7	33.1 - 126.2		%Rec	5	8/25/2021 7:47:00 PM
Surr: 2-Fluorophenol	29.4	13.4 - 127.1		%Rec	5	8/25/2021 7:47:00 PM
Surr: 4-Terphenyl-d14	103	41 - 122		%Rec	5	8/25/2021 7:47:00 PM
Surr: Nitrobenzene-d5	82.8	28.9 - 129.9		%Rec	5	8/25/2021 7:47:00 PM
Surr: Phenol-d6	22.6	10.6 - 128.5		%Rec	5	8/25/2021 7:47:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-001  
**Client Sample ID** 08 21LLIG

**Collection Date:** 8/5/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>	Analyst: <b>CK</b>	
1,1-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
2-Butanone	ND	5.00		µg/L	1	8/10/2021 12:32:00 AM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/10/2021 12:32:00 AM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/10/2021 12:32:00 AM
Acrylonitrile	ND	2.00		µg/L	1	8/10/2021 12:32:00 AM
Benzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Bromodichloromethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Bromoform	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Bromomethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Carbon tetrachloride	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Chlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Chloroethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Chloroform	1.34	0.500		µg/L	1	8/10/2021 12:32:00 AM
Chloromethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Dibromochloromethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Ethylbenzene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/10/2021 12:32:00 AM
Methylene chloride	ND	20.0		µg/L	1	8/10/2021 12:32:00 AM
o-Xylene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Styrene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Tetrachloroethene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Toluene	1.22	0.500		µg/L	1	8/10/2021 12:32:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Trichloroethene	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Vinyl chloride	ND	0.500		µg/L	1	8/10/2021 12:32:00 AM
Surr: 1,2-Dichloroethane-d4	86.6	83.4 - 126		%Rec	1	8/10/2021 12:32:00 AM
Surr: 4-Bromofluorobenzene	107	80.9 - 127		%Rec	1	8/10/2021 12:32:00 AM
Surr: Dibromofluoromethane	99.4	81.1 - 122		%Rec	1	8/10/2021 12:32:00 AM
Surr: Toluene-d8	86.9	80 - 120		%Rec	1	8/10/2021 12:32:00 AM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-001  
**Client Sample ID** 08 21LLIG

**Collection Date:** 8/5/2021 9:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:49:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00781	0.00500		mg/L	1	8/12/2021 4:57:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:36:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	706	5.00	B	mg/L	1	8/10/2021 3:29:20 PM

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-002  
**Client Sample ID** 08 21LLIC

**Collection Date:** 8/5/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	300	10.0		µg/L	1	8/9/2021 2:00:23 PM
Antimony	0.927	0.500		µg/L	1	8/9/2021 2:00:23 PM
Arsenic	0.993	0.100		µg/L	1	8/9/2021 2:00:23 PM
Cadmium	0.152	0.100		µg/L	1	8/9/2021 2:00:23 PM
Chromium	1.85	0.100		µg/L	1	8/9/2021 2:00:23 PM
Copper	39.7	0.500		µg/L	1	8/9/2021 2:00:23 PM
Iron	500	50.0		µg/L	1	8/9/2021 2:00:23 PM
Lead	0.915	0.100		µg/L	1	8/9/2021 2:00:23 PM
Molybdenum	4.78	0.500		µg/L	1	8/9/2021 2:00:23 PM
Nickel	2.95	0.500		µg/L	1	8/9/2021 2:00:23 PM
Potassium	16000	100		µg/L	1	8/9/2021 2:00:23 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:00:23 PM
Silver	0.281	0.100		µg/L	1	8/9/2021 2:00:23 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:00:23 PM
Zinc	149	2.00		µg/L	1	8/9/2021 2:00:23 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	59.8	0.200		mg/L	1	8/9/2021 2:00:23 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
CBOD5	370	2.00		mg/L	1	8/5/2021 4:30:24 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	260.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	250	10.0		mg/L CaCO3	1	8/9/2021 12:47:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	38.9	0.400		mg/L	20	8/6/2021 1:45:21 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	5.12	0.200		mg/L	10	8/10/2021 10:45:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	65.2	10.0		mg/L	50	8/19/2021 4:46:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	300	10.0		mg/L	1	8/6/2021 10:57:20 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-003  
**Client Sample ID** 08 21LLEG

**Collection Date:** 8/5/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Analyst: CK	
							E625.1	E625
<b>BASE/NEUTRALS/ACIDS</b>								
1,2,4-Trichlorobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
1,2-Dichlorobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
1,2-Diphenylhydrazine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
1,3-Dichlorobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
1,4-Dichlorobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,4,6-Trichlorophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,4-Dichlorophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,4-Dimethylphenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,4-Dinitrophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,4-Dinitrotoluene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2,6-Dinitrotoluene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2-Chloronaphthalene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2-Chlorophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2-Methylphenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
2-Nitrophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
3,3'-Dichlorobenzidine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
3,4-Methylphenol	ND	0.973		µg/L	1	8/25/2021 8:17:00 PM		
4,6-Dinitro-2-methylphenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
4-Bromophenyl phenyl ether	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
4-Chloro-3-methylphenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
4-Chlorophenyl phenyl ether	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
4-Nitrophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Acenaphthene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Acenaphthylene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Aniline	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Anthracene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Azobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benz(a)anthracene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzidine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzo(a)pyrene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzo(b)fluoranthene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzo(g,h,i)perylene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzo(k)fluoranthene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Benzoic Acid	ND	4.86		µg/L	1	8/25/2021 8:17:00 PM		
Bis(2-chloroethoxy)methane	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Bis(2-chloroethyl)ether	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Bis(2-chloroisopropyl)ether	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		
Bis(2-ethylhexyl)phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM		

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-003  
**Client Sample ID** 08 21LLEG

**Collection Date:** 8/5/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Carbazole	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Chrysene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Dibenz(a,h)anthracene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Diethyl phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Dimethyl phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Di-n-butyl phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Di-n-octyl phthalate	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Fluoranthene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Fluorene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Hexachlorobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Hexachlorobutadiene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Hexachlorocyclopentadiene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Hexachloroethane	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Isophorone	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Naphthalene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Nitrobenzene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
N-Nitrosodimethylamine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
N-Nitrosodi-n-propylamine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
N-Nitrosodiphenylamine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Pentachlorophenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Phenanthrene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Phenol	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Pyrene	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Pyridine	ND	0.486		µg/L	1	8/25/2021 8:17:00 PM
Surr: 2,4,6-Tribromophenol	81.6	33.1 - 129.7		%Rec	1	8/25/2021 8:17:00 PM
Surr: 2-Fluorobiphenyl	62.2	33.1 - 126.2		%Rec	1	8/25/2021 8:17:00 PM
Surr: 2-Fluorophenol	31.5	13.4 - 127.1		%Rec	1	8/25/2021 8:17:00 PM
Surr: 4-Terphenyl-d14	102	41 - 122		%Rec	1	8/25/2021 8:17:00 PM
Surr: Nitrobenzene-d5	66.5	28.9 - 129.9		%Rec	1	8/25/2021 8:17:00 PM
Surr: Phenol-d6	19.5	10.6 - 128.5		%Rec	1	8/25/2021 8:17:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-003  
**Client Sample ID** 08 21LLEG

**Collection Date:** 8/5/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>	Analyst: <b>CK</b>	
1,1-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
2-Butanone	ND	5.00		µg/L	1	8/10/2021 12:54:00 AM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/10/2021 12:54:00 AM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/10/2021 12:54:00 AM
Acrylonitrile	ND	2.00		µg/L	1	8/10/2021 12:54:00 AM
Benzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Bromodichloromethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Bromoform	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Bromomethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Carbon tetrachloride	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Chlorobenzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Chloroethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Chloroform	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Chloromethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Dibromochloromethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Ethylbenzene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/10/2021 12:54:00 AM
Methylene chloride	ND	20.0		µg/L	1	8/10/2021 12:54:00 AM
o-Xylene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Styrene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Tetrachloroethene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Toluene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Trichloroethene	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Vinyl chloride	ND	0.500		µg/L	1	8/10/2021 12:54:00 AM
Surr: 1,2-Dichloroethane-d4	88.6	83.4 - 126		%Rec	1	8/10/2021 12:54:00 AM
Surr: 4-Bromofluorobenzene	107	80.9 - 127		%Rec	1	8/10/2021 12:54:00 AM
Surr: Dibromofluoromethane	101	81.1 - 122		%Rec	1	8/10/2021 12:54:00 AM
Surr: Toluene-d8	84.8	80 - 120		%Rec	1	8/10/2021 12:54:00 AM

## HEXAVALENT CHROMIUM

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-003  
**Client Sample ID** 08 21LLEG

**Collection Date:** 8/5/2021 9:30:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:50:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	ND	0.00500		mg/L	1	8/12/2021 5:02:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:41:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	204	5.00		mg/L	1	8/12/2021 8:55:10 AM

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-004  
**Client Sample ID** 08 21LLEC

**Collection Date:** 8/5/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	10.9	10.0		µg/L	1	8/9/2021 2:24:50 PM
Antimony	ND	0.500		µg/L	1	8/9/2021 2:24:50 PM
Arsenic	0.414	0.100		µg/L	1	8/9/2021 2:24:50 PM
Cadmium	ND	0.100		µg/L	1	8/9/2021 2:24:50 PM
Chromium	0.228	0.100		µg/L	1	8/9/2021 2:24:50 PM
Copper	2.15	0.500		µg/L	1	8/9/2021 2:24:50 PM
Iron	57.7	50.0		µg/L	1	8/9/2021 2:24:50 PM
Lead	0.546	0.100		µg/L	1	8/9/2021 2:24:50 PM
Molybdenum	2.81	0.500		µg/L	1	8/9/2021 2:24:50 PM
Nickel	1.58	0.500		µg/L	1	8/9/2021 2:24:50 PM
Potassium	14100	100		µg/L	1	8/9/2021 2:24:50 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:24:50 PM
Silver	ND	0.100		µg/L	1	8/9/2021 2:24:50 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:24:50 PM
Zinc	134	2.00		µg/L	1	8/9/2021 2:24:50 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	55.1	0.200		mg/L	1	8/9/2021 2:24:50 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
CBOD5	3.90	2.00		mg/L	1	8/5/2021 4:30:24 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	ND	2.0		mg/L	1	8/5/2021 4:17:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/9/2021 1:17:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	0.264	0.0200		mg/L	1	8/18/2021 1:29:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	0.408	0.0200		mg/L	1	8/10/2021 10:46:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	1.59	0.200		mg/L	1	8/19/2021 4:51:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	8/6/2021 10:58:20 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/5/2021 9:15:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
1,2,4-Trichlorobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
1,2-Dichlorobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
1,2-Diphenylhydrazine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
1,3-Dichlorobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
1,4-Dichlorobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,4,6-Trichlorophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,4-Dichlorophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,4-Dimethylphenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,4-Dinitrophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,4-Dinitrotoluene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2,6-Dinitrotoluene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2-Chloronaphthalene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2-Chlorophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2-Methylphenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
2-Nitrophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
3,3'-Dichlorobenzidine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
3,4-Methylphenol	62.7	5.65		µg/L	5	8/25/2021 8:47:00 PM
4,6-Dinitro-2-methylphenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
4-Bromophenyl phenyl ether	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
4-Chloro-3-methylphenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
4-Chlorophenyl phenyl ether	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
4-Nitrophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Acenaphthene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Acenaphthylene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Aniline	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Anthracene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Azobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benz(a)anthracene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzidine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzo(a)pyrene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzo(b)fluoranthene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzo(g,h,i)perylene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzo(k)fluoranthene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Benzoic Acid	160	28.2		µg/L	5	8/25/2021 8:47:00 PM
Bis(2-chloroethoxy)methane	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Bis(2-chloroethyl)ether	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Bis(2-chloroisopropyl)ether	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Bis(2-ethylhexyl)phthalate	7.29	2.82		µg/L	5	8/25/2021 8:47:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/5/2021 9:15:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

Butyl benzyl phthalate	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Carbazole	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Chrysene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Dibenz(a,h)anthracene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Diethyl phthalate	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Dimethyl phthalate	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Di-n-butyl phthalate	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Di-n-octyl phthalate	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Fluoranthene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Fluorene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Hexachlorobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Hexachlorobutadiene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Hexachlorocyclopentadiene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Hexachloroethane	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Isophorone	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Naphthalene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Nitrobenzene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
N-Nitrosodimethylamine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
N-Nitrosodi-n-propylamine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
N-Nitrosodiphenylamine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Pentachlorophenol	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Phenanthrene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Phenol	7.34	2.82		µg/L	5	8/25/2021 8:47:00 PM
Pyrene	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Pyridine	ND	2.82	Q	µg/L	5	8/25/2021 8:47:00 PM
Surr: 2,4,6-Tribromophenol	76.9	33.1 - 129.7		%Rec	5	8/25/2021 8:47:00 PM
Surr: 2-Fluorobiphenyl	90.9	33.1 - 126.2		%Rec	5	8/25/2021 8:47:00 PM
Surr: 2-Fluorophenol	37.1	13.4 - 127.1		%Rec	5	8/25/2021 8:47:00 PM
Surr: 4-Terphenyl-d14	106	41 - 122		%Rec	5	8/25/2021 8:47:00 PM
Surr: Nitrobenzene-d5	88.5	28.9 - 129.9		%Rec	5	8/25/2021 8:47:00 PM
Surr: Phenol-d6	27.9	10.6 - 128.5		%Rec	5	8/25/2021 8:47:00 PM

**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
 S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/5/2021 9:15:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
1,4-Dichlorobenzene	1.28	0.500		µg/L	1	8/10/2021 1:17:00 AM
2-Butanone	12.7	5.00		µg/L	1	8/10/2021 1:17:00 AM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/10/2021 1:17:00 AM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/10/2021 1:17:00 AM
Acrylonitrile	ND	2.00		µg/L	1	8/10/2021 1:17:00 AM
Benzene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Bromodichloromethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Bromoform	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Bromomethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Carbon tetrachloride	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Chlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Chloroethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Chloroform	2.39	0.500		µg/L	1	8/10/2021 1:17:00 AM
Chloromethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Dibromochloromethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Ethylbenzene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/10/2021 1:17:00 AM
Methylene chloride	ND	20.0		µg/L	1	8/10/2021 1:17:00 AM
o-Xylene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Styrene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Tetrachloroethene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Toluene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Trichloroethene	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Vinyl chloride	ND	0.500		µg/L	1	8/10/2021 1:17:00 AM
Surr: 1,2-Dichloroethane-d4	105	83.4 - 126		%Rec	1	8/10/2021 1:17:00 AM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/10/2021 1:17:00 AM
Surr: Dibromofluoromethane	121	81.1 - 122		%Rec	1	8/10/2021 1:17:00 AM
Surr: Toluene-d8	86.2	80 - 120		%Rec	1	8/10/2021 1:17:00 AM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-005  
**Client Sample ID** Parkway G

**Collection Date:** 8/5/2021 9:15:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:51:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00594	0.00500		mg/L	1	8/12/2021 5:07:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	8.00	1.00		mg/L	1	8/6/2021 1:46:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	629	5.00	B	mg/L	1	8/10/2021 3:29:20 PM

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/5/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**BASE/NEUTRALS/ACIDS**

**E625.1**

**E625**

Analyst: **CK**

1,2,4-Trichlorobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
1,2-Dichlorobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
1,2-Diphenylhydrazine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
1,3-Dichlorobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
1,4-Dichlorobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,4,6-Trichlorophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,4-Dichlorophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,4-Dimethylphenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,4-Dinitrophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,4-Dinitrotoluene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2,6-Dinitrotoluene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2-Chloronaphthalene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2-Chlorophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2-Methylphenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
2-Nitrophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
3,3'-Dichlorobenzidine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
3,4-Methylphenol	80.7	5.03		µg/L	5	8/25/2021 9:17:00 PM
4,6-Dinitro-2-methylphenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
4-Bromophenyl phenyl ether	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
4-Chloro-3-methylphenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
4-Chlorophenyl phenyl ether	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
4-Nitrophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Acenaphthene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Acenaphthylene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Aniline	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Anthracene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Azobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benz(a)anthracene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzidine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzo(a)pyrene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzo(b)fluoranthene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzo(g,h,i)perylene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzo(k)fluoranthene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Benzoic Acid	393	25.2		µg/L	5	8/25/2021 9:17:00 PM
Bis(2-chloroethoxy)methane	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Bis(2-chloroethyl)ether	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Bis(2-chloroisopropyl)ether	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Bis(2-ethylhexyl)phthalate	9.86	2.52		µg/L	5	8/25/2021 9:17:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/5/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>BASE/NEUTRALS/ACIDS</b>				<b>E625.1</b>	<b>E625</b>	Analyst: <b>CK</b>
Butyl benzyl phthalate	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Carbazole	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Chrysene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Dibenz(a,h)anthracene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Diethyl phthalate	7.39	2.52		µg/L	5	8/25/2021 9:17:00 PM
Dimethyl phthalate	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Di-n-butyl phthalate	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Di-n-octyl phthalate	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Fluoranthene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Fluorene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Hexachlorobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Hexachlorobutadiene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Hexachlorocyclopentadiene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Hexachloroethane	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Indeno(1,2,3-cd)pyrene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Isophorone	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Naphthalene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Nitrobenzene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
N-Nitrosodimethylamine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
N-Nitrosodi-n-propylamine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
N-Nitrosodiphenylamine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Pentachlorophenol	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Phenanthrene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Phenol	8.10	2.52		µg/L	5	8/25/2021 9:17:00 PM
Pyrene	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Pyridine	ND	2.52	Q	µg/L	5	8/25/2021 9:17:00 PM
Surr: 2,4,6-Tribromophenol	79.8	33.1 - 129.7		%Rec	5	8/25/2021 9:17:00 PM
Surr: 2-Fluorobiphenyl	85.2	33.1 - 126.2		%Rec	5	8/25/2021 9:17:00 PM
Surr: 2-Fluorophenol	25.4	13.4 - 127.1		%Rec	5	8/25/2021 9:17:00 PM
Surr: 4-Terphenyl-d14	103	41 - 122		%Rec	5	8/25/2021 9:17:00 PM
Surr: Nitrobenzene-d5	77.6	28.9 - 129.9		%Rec	5	8/25/2021 9:17:00 PM
Surr: Phenol-d6	19.8	10.6 - 128.5		%Rec	5	8/25/2021 9:17:00 PM
<b>PURGEABLE ORGANIC COMPOUNDS</b>				<b>E624.1</b>		Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,1,1-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,1,2,2-Tetrachloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,1,2-Trichloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits



# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-006  
**Client Sample ID** Villaboiss G

**Collection Date:** 8/5/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**PURGEABLE ORGANIC COMPOUNDS**

**E624.1**

Analyst: **CK**

1,1-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,2-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,2-Dichloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,2-Dichloropropane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,3-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
1,4-Dichlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
2-Butanone	ND	5.00		µg/L	1	8/10/2021 1:39:00 AM
2-Chloroethyl vinyl ether	ND	10.0		µg/L	1	8/10/2021 1:39:00 AM
4-Methyl-2-pentanone	ND	5.00		µg/L	1	8/10/2021 1:39:00 AM
Acrylonitrile	ND	2.00		µg/L	1	8/10/2021 1:39:00 AM
Benzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Bromodichloromethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Bromoform	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Bromomethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Carbon tetrachloride	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Chlorobenzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Chloroethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Chloroform	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Chloromethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
cis-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Dibromochloromethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Ethylbenzene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
m,p-Xylene	ND	1.00		µg/L	1	8/10/2021 1:39:00 AM
Methylene chloride	ND	20.0		µg/L	1	8/10/2021 1:39:00 AM
o-Xylene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Styrene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Tetrachloroethene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Toluene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
trans-1,3-Dichloropropene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Trichloroethene	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Trichlorofluoromethane	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Vinyl chloride	ND	0.500		µg/L	1	8/10/2021 1:39:00 AM
Surr: 1,2-Dichloroethane-d4	89.5	83.4 - 126		%Rec	1	8/10/2021 1:39:00 AM
Surr: 4-Bromofluorobenzene	106	80.9 - 127		%Rec	1	8/10/2021 1:39:00 AM
Surr: Dibromofluoromethane	103	81.1 - 122		%Rec	1	8/10/2021 1:39:00 AM
Surr: Toluene-d8	85.5	80 - 120		%Rec	1	8/10/2021 1:39:00 AM

**HEXAVALENT CHROMIUM**

**M 3500 CR B**

Analyst: **NK**

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-006  
**Client Sample ID** Villabois G

**Collection Date:** 8/5/2021 10:00:00 AM

**Matrix:** WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>HEXAVALENT CHROMIUM</b>				<b>M 3500 CR B</b>		Analyst: <b>NK</b>
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:52:11 PM
<b>CYANIDE, TOTAL</b>				<b>D7284</b>		Analyst: <b>NK</b>
Cyanide	0.00679	0.00500		mg/L	1	8/12/2021 5:12:05 PM
<b>SULFIDE</b>				<b>SM4500-S2 F</b>		Analyst: <b>NK</b>
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:51:24 PM
<b>TOTAL SOLIDS</b>				<b>E1684</b>		Analyst: <b>JRH</b>
Total Solids	557	5.00	B	mg/L	1	8/10/2021 3:29:20 PM

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-007  
**Client Sample ID** Parkway C

**Collection Date:** 8/5/2021 9:15:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	659	10.0		µg/L	1	8/9/2021 2:28:15 PM
Antimony	1.53	0.500		µg/L	1	8/9/2021 2:28:15 PM
Arsenic	0.954	0.100		µg/L	1	8/9/2021 2:28:15 PM
Cadmium	0.289	0.100		µg/L	1	8/9/2021 2:28:15 PM
Chromium	3.16	0.100		µg/L	1	8/9/2021 2:28:15 PM
Copper	77.3	0.500		µg/L	1	8/9/2021 2:28:15 PM
Iron	2740	50.0		µg/L	1	8/9/2021 2:28:15 PM
Lead	3.48	0.100		µg/L	1	8/9/2021 2:28:15 PM
Molybdenum	4.87	0.500		µg/L	1	8/9/2021 2:28:15 PM
Nickel	6.30	0.500		µg/L	1	8/9/2021 2:28:15 PM
Potassium	35500	1000		µg/L	10	8/9/2021 4:25:22 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:28:15 PM
Silver	0.515	0.100		µg/L	1	8/9/2021 2:28:15 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:28:15 PM
Zinc	260	2.00		µg/L	1	8/9/2021 2:28:15 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	71.7	0.200		mg/L	1	8/9/2021 2:28:15 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
CBOD5	426	2.00		mg/L	1	8/5/2021 4:30:24 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	318.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	260	10.0		mg/L CaCO3	1	8/9/2021 1:27:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	51.3	0.800		mg/L	40	8/18/2021 1:34:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	8.56	0.200		mg/L	10	8/10/2021 10:47:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	79.9	10.0		mg/L	50	8/19/2021 5:06:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	222	10.0		mg/L	1	8/6/2021 10:59:20 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# Specialty Analytical

WO#: 2108045  
Date Reported: 8/30/2021

**CLIENT:** City of Wilsonville  
**Project:** 2108045  
**Lab ID:** 2108045-008  
**Client Sample ID** Villaboiss C

**Collection Date:** 8/5/2021 10:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	202	10.0		µg/L	1	8/9/2021 2:31:40 PM
Antimony	ND	0.500		µg/L	1	8/9/2021 2:31:40 PM
Arsenic	0.712	0.100		µg/L	1	8/9/2021 2:31:40 PM
Cadmium	0.101	0.100		µg/L	1	8/9/2021 2:31:40 PM
Chromium	0.911	0.100		µg/L	1	8/9/2021 2:31:40 PM
Copper	23.0	0.500		µg/L	1	8/9/2021 2:31:40 PM
Iron	170	50.0		µg/L	1	8/9/2021 2:31:40 PM
Lead	0.338	0.100		µg/L	1	8/9/2021 2:31:40 PM
Molybdenum	0.970	0.500		µg/L	1	8/9/2021 2:31:40 PM
Nickel	2.83	0.500		µg/L	1	8/9/2021 2:31:40 PM
Potassium	13100	100		µg/L	1	8/9/2021 2:31:40 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:31:40 PM
Silver	0.221	0.100		µg/L	1	8/9/2021 2:31:40 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:31:40 PM
Zinc	145	2.00		µg/L	1	8/9/2021 2:31:40 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	91.9	0.200		mg/L	1	8/9/2021 2:31:40 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
CBOD5	498	2.00		mg/L	1	8/5/2021 4:30:24 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>NK</b>
BOD, 5 Day	388.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	207	10.0		mg/L CaCO3	1	8/9/2021 2:27:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	32.5	0.800		mg/L	40	8/18/2021 1:39:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	5.52	0.200		mg/L	10	8/10/2021 10:50:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	56.0	10.0		mg/L	50	8/19/2021 5:11:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	550	10.0		mg/L	1	8/6/2021 11:00:20 AM

**Qualifiers:** B Analyte detected in the associated Method Blank  
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41380</b>		
Client ID: <b>ICV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>			Analysis Date: <b>8/9/2021</b>			SeqNo: <b>531861</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	496	10.0	500.0	0	99.1	90	110				
Antimony	46.6	0.500	50.00	0	93.3	90	110				
Arsenic	48.5	0.100	50.00	0	97.0	90	110				
Cadmium	47.6	0.100	50.00	0	95.2	90	110				
Chromium	49.1	0.100	50.00	0	98.2	90	110				
Copper	48.8	0.500	50.00	0	97.6	90	110				
Iron	5170	50.0	5000	0	103	90	110				
Lead	47.9	0.100	50.00	0	95.9	90	110				
Molybdenum	49.4	0.500	50.00	0	98.9	90	110				
Nickel	49.1	0.500	50.00	0	98.3	90	110				
Potassium	4940	100	5000	0	98.7	90	110				
Selenium	48.0	1.00	50.00	0	96.1	90	110				
Silver	50.4	0.100	50.00	0	101	90	110				
Thallium	49.6	0.100	50.00	0	99.3	90	110				
Zinc	49.0	2.00	50.00	0	98.0	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41380</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>			Analysis Date: <b>8/9/2021</b>			SeqNo: <b>531865</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	10.0	500.0	0	99.1	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41380</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531865</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.4	0.500	50.00	0	92.8	90	110				
Arsenic	48.2	0.100	50.00	0	96.4	90	110				
Cadmium	48.1	0.100	50.00	0	96.2	90	110				
Chromium	49.0	0.100	50.00	0	98.1	90	110				
Copper	50.4	0.500	50.00	0	101	90	110				
Iron	5120	50.0	5000	0	102	90	110				
Lead	48.8	0.100	50.00	0	97.6	90	110				
Molybdenum	50.2	0.500	50.00	0	100	90	110				
Nickel	50.0	0.500	50.00	0	99.9	90	110				
Potassium	4930	100	5000	0	98.6	90	110				
Selenium	47.8	1.00	50.00	0	95.7	90	110				
Silver	51.8	0.100	50.00	0	104	90	110				
Thallium	50.6	0.100	50.00	0	101	90	110				
Zinc	49.3	2.00	50.00	0	98.6	90	110				

Sample ID: <b>MB-18328</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>					
Client ID: <b>PBW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531866</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Cadmium	ND	0.100									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 200.8

Sample ID: <b>MB-18328</b>		SampType: <b>MBLK</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/9/2021</b>		RunNo: <b>41380</b>	
Client ID: <b>PBW</b>		Batch ID: <b>18328</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>		SeqNo: <b>531866</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18328</b>		SampType: <b>LCS</b>		TestCode: <b>200.8</b>		Units: <b>µg/L</b>		Prep Date: <b>8/9/2021</b>		RunNo: <b>41380</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18328</b>		TestNo: <b>E200.8</b>		<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>		SeqNo: <b>531867</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	492	10.0	500.0	0	98.3	85	115				
Antimony	48.7	0.500	50.00	0	97.5	85	115				
Arsenic	48.8	0.100	50.00	0	97.6	85	115				
Cadmium	49.9	0.100	50.00	0	99.8	85	115				
Chromium	48.8	0.100	50.00	0	97.5	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 200.8

Sample ID: <b>LCS-18328</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531867</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	51.3	0.500	50.00	0	103	85	115				
Iron	5130	50.0	5000	0	103	85	115				
Lead	50.6	0.100	50.00	0	101	85	115				
Molybdenum	51.0	0.500	50.00	0	102	85	115				
Nickel	50.5	0.500	50.00	0	101	85	115				
Potassium	4970	100	5000	0	99.4	85	115				
Selenium	48.8	1.00	50.00	0	97.6	85	115				
Silver	52.7	0.100	50.00	0	105	85	115				
Thallium	52.7	0.100	50.00	0	105	85	115				
Zinc	51.6	2.00	50.00	0	103	85	115				

Sample ID: <b>2108045-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531869</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	305	10.0						300.0	1.58	20	
Antimony	0.741	0.500						0.9267	22.3	20	RRF
Arsenic	1.02	0.100						0.9931	3.06	20	
Cadmium	0.166	0.100						0.1519	8.56	20	
Chromium	1.85	0.100						1.851	0.00673	20	
Copper	38.9	0.500						39.71	1.99	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 200.8

Sample ID: 2108045-002ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: 08 21LLIC	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531869						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	506	50.0						499.7	1.20	20	
Lead	0.890	0.100						0.9145	2.67	20	
Molybdenum	4.87	0.500						4.781	1.84	20	
Nickel	3.45	0.500						2.949	15.5	20	
Potassium	16400	100						16020	2.37	20	
Selenium	ND	1.00						0	0	20	
Silver	0.317	0.100						0.2805	12.2	20	
Thallium	ND	0.100						0	0	20	RRF
Zinc	153	2.00						149.2	2.72	20	

Sample ID: 2108045-002AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: 08 21LLIC	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	749	10.0	500.0	300.0	89.8	70	130				
Antimony	45.2	0.500	50.00	0.9267	88.6	70	130				
Arsenic	48.4	0.100	50.00	0.9931	94.9	70	130				
Cadmium	47.9	0.100	50.00	0.1519	95.5	70	130				
Chromium	49.1	0.100	50.00	1.851	94.4	70	130				
Copper	86.1	0.500	50.00	39.71	92.7	70	130				
Iron	5380	50.0	5000	499.7	97.5	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 200.8

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	48.2	0.100	50.00	0.9145	94.5	70	130				
Molybdenum	54.8	0.500	50.00	4.781	100	70	130				
Nickel	50.6	0.500	50.00	2.949	95.2	70	130				
Potassium	19500	100	5000	16020	70.5	70	130				
Selenium	46.9	1.00	50.00	0.6363	92.6	70	130				
Silver	46.9	0.100	50.00	0.2805	93.2	70	130				
Thallium	47.1	0.100	50.00	0.05390	94.1	70	130				
Zinc	200	2.00	50.00	149.2	101	70	130				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41380</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531871</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	516	10.0	500.0	0	103	90	110				
Antimony	45.9	0.500	50.00	0	91.8	90	110				
Arsenic	48.3	0.100	50.00	0	96.6	90	110				
Cadmium	48.5	0.100	50.00	0	97.0	90	110				
Chromium	49.8	0.100	50.00	0	99.6	90	110				
Copper	50.4	0.500	50.00	0	101	90	110				
Iron	5170	50.0	5000	0	103	90	110				
Lead	48.8	0.100	50.00	0	97.5	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41380</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531871</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	49.5	0.500	50.00	0	99.1	90	110				
Nickel	50.1	0.500	50.00	0	100	90	110				
Potassium	5040	100	5000	0	101	90	110				
Selenium	48.1	1.00	50.00	0	96.3	90	110				
Silver	50.8	0.100	50.00	0	102	90	110				
Thallium	50.9	0.100	50.00	0	102	90	110				
Zinc	49.5	2.00	50.00	0	99.1	90	110				

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531872</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	727	10.0	500.0	300.0	85.3	70	130	749.3	3.08	20	
Antimony	45.0	0.500	50.00	0.9267	88.1	70	130	45.25	0.569	20	
Arsenic	48.3	0.100	50.00	0.9931	94.6	70	130	48.42	0.280	20	
Cadmium	46.7	0.100	50.00	0.1519	93.1	70	130	47.88	2.52	20	
Chromium	48.8	0.100	50.00	1.851	93.8	70	130	49.07	0.662	20	
Copper	83.5	0.500	50.00	39.71	87.5	70	130	86.07	3.05	20	
Iron	5300	50.0	5000	499.7	96.1	70	130	5376	1.37	20	
Lead	48.2	0.100	50.00	0.9145	94.6	70	130	48.15	0.131	20	
Molybdenum	54.8	0.500	50.00	4.781	100	70	130	54.85	0.0718	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

Client: City of Wilsonville  
Project: 2108045

TestCode: 200.8

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531872</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	50.7	0.500	50.00	2.949	95.4	70	130	50.55	0.220	20	
Selenium	47.1	1.00	50.00	0.6363	92.9	70	130	46.91	0.410	20	
Silver	46.6	0.100	50.00	0.2805	92.7	70	130	46.87	0.488	20	
Thallium	46.4	0.100	50.00	0.05390	92.7	70	130	47.10	1.48	20	
Zinc	202	2.00	50.00	149.2	105	70	130	199.6	1.15	20	

Sample ID: <b>MB-18328</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.500									
Arsenic	ND	0.100									

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531905</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	20500	100	5000	16020	90.0	70	130	19540	4.85	20	

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532060</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	75	125				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	60.5	139.5				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	71	129				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	72.5	127.5				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	50.5	149.5				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	63	137				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	68	132				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	34	166				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	73	127				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	63	137				
2-Butanone	93.3	5.00	80.00	0	117	60	140				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	224				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	60	140				
Acrylonitrile	50.2	2.00	40.00	0	125	50	150				
Benzene	36.5	0.500	40.00	0	91.4	64	136				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	65.5	134.5				
Bromoform	35.5	0.500	40.00	0	88.8	71	129				
Bromomethane	29.4	0.500	40.00	0	73.5	14	186				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	73	127				
Chlorobenzene	33.5	0.500	40.00	0	83.7	66	134				
Chloroethane	29.4	0.500	40.00	0	73.6	38	162				
Chloroform	39.3	0.500	40.00	0	98.2	67.5	132.5				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>				SeqNo: <b>532060</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	204				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	24	176				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	67.5	132.5				
Ethylbenzene	33.5	0.500	40.00	0	83.9	59	141				
m,p-Xylene	61.3	1.00	80.00	0	76.6	65	127				
Methylene chloride	28.2	20.0	40.00	0	70.6	60.5	139.5				
o-Xylene	34.6	0.500	40.00	0	86.6	80	120				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	73.5	126.5				
Toluene	35.8	0.500	40.00	0	89.4	74.5	125.5				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	69.5	130.5				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	50	150				
Trichloroethene	41.3	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	48	152				
Vinyl chloride	29.8	0.500	40.00	0	74.6	4	196				

Sample ID: <b>MB</b>		SampType: <b>MBLK</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>PBW</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>				SeqNo: <b>532061</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	0.500									
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532061</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	96.1		100.0		96.1	83.4	126				
Surr: 4-Bromofluorobenzene	105		100.0		105	80.9	127				
Surr: Dibromofluoromethane	102		100.0		102	81.1	122				
Surr: Toluene-d8	89.7		100.0		89.7	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: LCS MSVWS-3044	SampType: LCS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: LCSW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532083							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	33.2	0.500	40.00	0	83.0	80	120				
1,1,1-Trichloroethane	39.3	0.500	40.00	0	98.3	52	162				
1,1,2,2-Tetrachloroethane	39.7	0.500	40.00	0	99.3	46	157				
1,1,2-Trichloroethane	34.6	0.500	40.00	0	86.5	52	150				
1,1-Dichloroethane	40.3	0.500	40.00	0	101	59	155				
1,1-Dichloroethene	40.6	0.500	40.00	0	102	0.01	234				
1,2-Dichlorobenzene	35.3	0.500	40.00	0	88.3	18	190				
1,2-Dichloroethane	38.9	0.500	40.00	0	97.2	49	155				
1,2-Dichloropropane	40.0	0.500	40.00	0	100	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.7	59	156				
1,4-Dichlorobenzene	35.5	0.500	40.00	0	88.6	18	190				
2-Butanone	93.3	5.00	80.00	0	117	50	150				
2-Chloroethyl vinyl ether	40.0	10.0	40.00	0	100	0.01	305				
4-Methyl-2-pentanone	88.1	5.00	80.00	0	110	50	150				
Acrylonitrile	50.2	2.00	40.00	0	125	30	150				
Benzene	36.5	0.500	40.00	0	91.4	37	151				
Bromodichloromethane	39.2	0.500	40.00	0	98.0	35	155				
Bromoform	35.5	0.500	40.00	0	88.8	45	169				
Bromomethane	29.4	0.500	40.00	0	73.5	0.01	242				
Carbon tetrachloride	39.4	0.500	40.00	0	98.6	70	140				
Chlorobenzene	33.5	0.500	40.00	0	83.7	37	160				
Chloroethane	29.4	0.500	40.00	0	73.6	14	230				
Chloroform	39.3	0.500	40.00	0	98.2	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>LCS MSVWS-3044</b>		SampType: <b>LCS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>LCSW</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/9/2021</b>				SeqNo: <b>532083</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	41.7	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	34.4	0.500	40.00	0	85.9	53	149				
Ethylbenzene	33.5	0.500	40.00	0	83.9	37	162				
m,p-Xylene	61.3	1.00	80.00	0	76.6	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.6	0.01	221				
o-Xylene	34.6	0.500	40.00	0	86.6	50	150				
Styrene	34.5	0.500	40.00	0	86.2	80	120				
Tetrachloroethene	33.9	0.500	40.00	0	84.8	64	148				
Toluene	35.8	0.500	40.00	0	89.4	47	150				
trans-1,2-Dichloroethene	41.4	0.500	40.00	0	103	54	156				
trans-1,3-Dichloropropene	36.8	0.500	40.00	0	92.0	17	183				
Trichloroethene	41.3	0.500	40.00	0	103	71	157				
Trichlorofluoromethane	37.6	0.500	40.00	0	94.1	17	181				
Vinyl chloride	29.8	0.500	40.00	0	74.6	0.01	251				

Sample ID: <b>CCV MSVWS-3044</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532084</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.0	0.500	40.00	0	110	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:			RunNo: <b>41389</b>		
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>			SeqNo: <b>532084</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	41.3	0.500	40.00	0	103	75	125				
1,1,2,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	60.5	139.5				
1,1,2-Trichloroethane	43.5	0.500	40.00	0	109	71	129				
1,1-Dichloroethane	41.4	0.500	40.00	0	103	72.5	127.5				
1,1-Dichloroethene	42.0	0.500	40.00	0	105	50.5	149.5				
1,2-Dichlorobenzene	41.0	0.500	40.00	0	102	63	137				
1,2-Dichloroethane	40.0	0.500	40.00	0	100	68	132				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	34	166				
1,3-Dichlorobenzene	40.7	0.500	40.00	0	102	73	127				
1,4-Dichlorobenzene	40.9	0.500	40.00	0	102	63	137				
2-Butanone	86.0	5.00	80.00	0	108	60	140				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	224				
4-Methyl-2-pentanone	90.4	5.00	80.00	0	113	60	140				
Acrylonitrile	43.1	2.00	40.00	0	108	50	150				
Benzene	38.0	0.500	40.00	0	95.1	64	136				
Bromodichloromethane	40.8	0.500	40.00	0	102	65.5	134.5				
Bromoform	44.4	0.500	40.00	0	111	71	129				
Bromomethane	28.6	0.500	40.00	0	71.4	14	186				
Carbon tetrachloride	42.1	0.500	40.00	0	105	73	127				
Chlorobenzene	44.2	0.500	40.00	0	111	66	134				
Chloroethane	49.4	0.500	40.00	0	123	38	162				
Chloroform	41.2	0.500	40.00	0	103	67.5	132.5				
Chloromethane	36.8	0.500	40.00	0	92.0	0.01	204				

**Qualifiers:** B Analyte detected in the associated Method Blank  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>		SampType: <b>CCV</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCV</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532084</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	41.4	0.500	40.00	0	104	24	176				
Dibromochloromethane	45.0	0.500	40.00	0	112	67.5	132.5				
Ethylbenzene	47.9	0.500	40.00	0	120	59	141				
m,p-Xylene	94.4	1.00	80.00	0	118	80	120				
Methylene chloride	31.0	20.0	40.00	0	77.4	60.5	139.5				
o-Xylene	46.2	0.500	40.00	0	116	80	120				
Styrene	46.1	0.500	40.00	0	115	80	120				
Tetrachloroethene	46.7	0.500	40.00	0	117	73.5	126.5				
Toluene	45.4	0.500	40.00	0	114	74.5	125.5				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	105	69.5	130.5				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	50	150				
Trichloroethene	41.2	0.500	40.00	0	103	66.5	133.5				
Trichlorofluoromethane	42.0	0.500	40.00	0	105	48	152				
Vinyl chloride	32.6	0.500	40.00	0	81.5	4	196				

Sample ID: <b>MB</b>		SampType: <b>CCB</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>CCB</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532085</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532085</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	120		100.0		120	81.1	125				
Surr: Toluene-d8	84.3		100.0		84.3	75	120				

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532086							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	50.7	0.500	40.00	0	127	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.5	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	51.3	0.500	40.00	0	128	59	155				
1,1-Dichloroethene	51.5	0.500	40.00	0	129	47.8	165				
1,2-Dichlorobenzene	34.4	0.500	40.00	0	86.0	18	190				
1,2-Dichloroethane	47.2	0.500	40.00	0	118	49	155				
1,2-Dichloropropane	48.5	0.500	40.00	0	121	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.6	0.500	40.00	0	86.5	18	190				
2-Butanone	109	5.00	80.00	3.350	132	50	150				
2-Chloroethyl vinyl ether	48.5	10.0	40.00	0	121	0.01	305				
4-Methyl-2-pentanone	87.1	5.00	80.00	0	109	50	150				
Acrylonitrile	51.8	2.00	40.00	0	129	20	150				
Benzene	46.8	0.500	40.00	0	117	37	151				
Bromodichloromethane	48.6	0.500	40.00	0	122	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	30.5	0.500	40.00	0	76.2	0.01	242				
Carbon tetrachloride	51.7	0.500	40.00	0	129	70	140				
Chlorobenzene	41.5	0.500	40.00	0	104	37	160				
Chloroethane	75.4	0.500	40.00	0	188	14	230				
Chloroform	52.1	0.500	40.00	1.290	127	51	138				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108006-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532086					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	48.4	0.500	40.00	0	121	0.01	273				
cis-1,3-Dichloropropene	48.4	0.500	40.00	0	121	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	1.990	107	50	150				
Methylene chloride	36.2	20.0	40.00	0	90.6	0.01	221				
o-Xylene	41.8	0.500	40.00	0	105	50	150				
Styrene	41.6	0.500	40.00	0	104	70	130				
Tetrachloroethene	38.2	0.500	40.00	0	95.5	64	148				
Toluene	44.5	0.500	40.00	1.940	106	47	150				
trans-1,2-Dichloroethene	51.6	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	42.0	0.500	40.00	0	105	17	183				
Trichloroethene	49.4	0.500	40.00	0	124	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	42.7	0.500	40.00	0	107	0.01	251				

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532087					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.9	0.500	40.00	0	110	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	46	157				
1,1,2-Trichloroethane	42.7	0.500	40.00	0	107	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	39.6	0.500	40.00	0	99.1	18	190				
1,2-Dichloroethane	41.7	0.500	40.00	0	104	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	39.8	0.500	40.00	0	99.6	59	156				
1,4-Dichlorobenzene	39.7	0.500	40.00	0	99.3	18	190				
2-Butanone	89.0	5.00	80.00	0	111	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	90.0	5.00	80.00	0	112	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	40.2	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.0	0.500	40.00	0	105	35	155				
Bromoform	43.9	0.500	40.00	0	110	45	169				
Bromomethane	30.0	0.500	40.00	0	75.1	0.01	242				
Carbon tetrachloride	44.5	0.500	40.00	0	111	70	140				
Chlorobenzene	44.2	0.500	40.00	0	111	37	160				
Chloroethane	50.8	0.500	40.00	0	127	14	230				
Chloroform	43.2	0.500	40.00	0	108	51	138				
Chloromethane	40.5	0.500	40.00	0	101	0.01	273				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108006-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532087		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	42.4	0.500	40.00	0	106	0.01	227				
Dibromochloromethane	44.2	0.500	40.00	0	111	53	149				
Ethylbenzene	47.8	0.500	40.00	0	120	37	162				
m,p-Xylene	94.1	1.00	80.00	0	118	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.2	0.01	221				
o-Xylene	45.5	0.500	40.00	0	114	50	150				
Styrene	45.1	0.500	40.00	0	113	70	130				
Tetrachloroethene	42.4	0.500	40.00	0	106	64	148				
Toluene	46.3	0.500	40.00	1.280	112	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.7	0.500	40.00	0	107	71	157				
Trichlorofluoromethane	44.6	0.500	40.00	0	112	17	181				
Vinyl chloride	36.1	0.500	40.00	0	90.2	0.01	251				

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532088		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.6	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.9	0.500	40.00	0	105	52	162				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532088							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	38.7	0.500	40.00	0	96.7	46	157				
1,1,2-Trichloroethane	40.7	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.1	0.500	40.00	0	108	59	155				
1,1-Dichloroethene	43.1	0.500	40.00	0	108	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.6	18	190				
1,2-Dichloroethane	39.4	0.500	40.00	0	98.5	49	155				
1,2-Dichloropropane	40.4	0.500	40.00	0	101	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.6	0.500	40.00	1.190	88.5	18	190				
2-Butanone	98.9	5.00	80.00	12.59	108	50	150				
2-Chloroethyl vinyl ether	40.4	10.0	40.00	0	101	0.01	305				
4-Methyl-2-pentanone	87.4	5.00	80.00	0	109	50	150				
Acrylonitrile	44.6	2.00	40.00	0	112	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.4	0.500	40.00	0	101	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	25.6	0.500	40.00	0	64.0	0.01	242				
Carbon tetrachloride	42.2	0.500	40.00	0	106	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.6	0.500	40.00	0	169	14	230				
Chloroform	45.0	0.500	40.00	3.280	104	51	138				
Chloromethane	45.4	0.500	40.00	0	113	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108006-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532088							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	42.2	0.500	40.00	0	106	53	149				
Ethylbenzene	44.1	0.500	40.00	0	110	37	162				
m,p-Xylene	87.7	1.00	80.00	0	110	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.6	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	43.3	0.500	40.00	0	108	54	156				
trans-1,3-Dichloropropene	42.8	0.500	40.00	0	107	17	183				
Trichloroethene	40.8	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.4	0.500	40.00	0	104	17	181				
Vinyl chloride	33.6	0.500	40.00	0	83.9	0.01	251				

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	41.2	0.500	40.00	0	103	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.4	46	157				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532089					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	41.0	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	40.7	0.500	40.00	0	102	59	155				
1,1-Dichloroethene	42.3	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.4	18	190				
1,2-Dichloroethane	46.9	0.500	40.00	0	117	49	155				
1,2-Dichloropropane	41.5	0.500	40.00	0	104	0.01	210				
1,3-Dichlorobenzene	34.1	0.500	40.00	0	85.2	59	156				
1,4-Dichlorobenzene	34.5	0.500	40.00	0	86.4	18	190				
2-Butanone	83.9	5.00	80.00	2.380	102	50	150				
2-Chloroethyl vinyl ether	41.5	10.0	40.00	0	104	0.01	305				
4-Methyl-2-pentanone	88.4	5.00	80.00	0	110	50	150				
Acrylonitrile	41.4	2.00	40.00	0	104	20	150				
Benzene	54.6	0.500	40.00	0	136	37	151				
Bromodichloromethane	41.6	0.500	40.00	0	104	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	23.3	0.500	40.00	0	58.2	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	41.6	0.500	40.00	0	104	37	160				
Chloroethane	48.2	0.500	40.00	0	120	14	230				
Chloroform	41.4	0.500	40.00	0	103	51	138				
Chloromethane	36.1	0.500	40.00	0	90.3	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	42.1	0.500	40.00	0	105	53	149				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108006-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532089							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.2	1.00	80.00	0	109	50	150				
Methylene chloride	25.1	20.0	40.00	0	62.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	42.1	0.500	40.00	0	105	70	130				
Tetrachloroethene	37.5	0.500	40.00	0	93.8	64	148				
Toluene	43.9	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	41.8	0.500	40.00	0	104	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	42.2	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	42.6	0.500	40.00	0	106	17	181				
Vinyl chloride	34.7	0.500	40.00	0	86.9	0.01	251				

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532090							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.9	0.500	40.00	0	99.8	70	130				
1,1,1-Trichloroethane	39.6	0.500	40.00	0	99.0	52	162				
1,1,2,2-Tetrachloroethane	37.4	0.500	40.00	0	93.5	46	157				
1,1,2-Trichloroethane	39.7	0.500	40.00	0	99.2	52	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532090							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	40.0	0.500	40.00	0	100	59	155				
1,1-Dichloroethene	41.1	0.500	40.00	0	103	47.8	165				
1,2-Dichlorobenzene	34.0	0.500	40.00	0	85.0	18	190				
1,2-Dichloroethane	37.2	0.500	40.00	0	92.9	49	155				
1,2-Dichloropropane	38.7	0.500	40.00	0	96.8	0.01	210				
1,3-Dichlorobenzene	33.9	0.500	40.00	0	84.8	59	156				
1,4-Dichlorobenzene	34.4	0.500	40.00	0	86.1	18	190				
2-Butanone	84.3	5.00	80.00	2.890	102	50	150				
2-Chloroethyl vinyl ether	38.7	10.0	40.00	0	96.8	0.01	305				
4-Methyl-2-pentanone	84.7	5.00	80.00	0	106	50	150				
Acrylonitrile	41.3	2.00	40.00	0	103	20	150				
Benzene	36.5	0.500	40.00	0	91.2	37	151				
Bromodichloromethane	38.6	0.500	40.00	0	96.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	27.1	0.500	40.00	0	67.8	0.01	242				
Carbon tetrachloride	40.3	0.500	40.00	0	101	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	46.6	0.500	40.00	0	116	14	230				
Chloroform	40.9	0.500	40.00	1.480	98.4	51	138				
Chloromethane	36.5	0.500	40.00	0	91.2	0.01	273				
cis-1,3-Dichloropropene	39.0	0.500	40.00	0	97.5	0.01	227				
Dibromochloromethane	41.1	0.500	40.00	0	103	53	149				
Ethylbenzene	43.2	0.500	40.00	0	108	37	162				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108007-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532090		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	84.7	1.00	80.00	0	106	50	150				
Methylene chloride	24.8	20.0	40.00	0	62.0	0.01	221				
o-Xylene	41.0	0.500	40.00	0	102	50	150				
Styrene	40.9	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.1	64	148				
Toluene	43.0	0.500	40.00	1.470	104	47	150				
trans-1,2-Dichloroethene	41.0	0.500	40.00	0	102	54	156				
trans-1,3-Dichloropropene	42.1	0.500	40.00	0	105	17	183				
Trichloroethene	39.3	0.500	40.00	0	98.3	71	157				
Trichlorofluoromethane	40.6	0.500	40.00	0	102	17	181				
Vinyl chloride	32.0	0.500	40.00	0	80.0	0.01	251				

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532091		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.9	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	40.9	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.2	46	157				
1,1,2-Trichloroethane	41.8	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	41.6	0.500	40.00	0	104	59	155				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532091				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	42.4	0.500	40.00	0	106	47.8	165				
1,2-Dichlorobenzene	38.3	0.500	40.00	0	95.8	18	190				
1,2-Dichloroethane	38.6	0.500	40.00	0	96.4	49	155				
1,2-Dichloropropane	39.8	0.500	40.00	0	99.6	0.01	210				
1,3-Dichlorobenzene	38.6	0.500	40.00	0	96.5	59	156				
1,4-Dichlorobenzene	38.4	0.500	40.00	0	96.0	18	190				
2-Butanone	85.4	5.00	80.00	0	107	50	150				
2-Chloroethyl vinyl ether	39.8	10.0	40.00	0	99.6	0.01	305				
4-Methyl-2-pentanone	86.7	5.00	80.00	0	108	50	150				
Acrylonitrile	42.7	2.00	40.00	0	107	20	150				
Benzene	37.8	0.500	40.00	0	94.4	37	151				
Bromodichloromethane	39.5	0.500	40.00	0	98.8	35	155				
Bromoform	41.6	0.500	40.00	0	104	45	169				
Bromomethane	31.8	0.500	40.00	0	79.6	0.01	242				
Carbon tetrachloride	41.6	0.500	40.00	0	104	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	45.2	0.500	40.00	0	113	14	230				
Chloroform	40.7	0.500	40.00	0	102	51	138				
Chloromethane	38.2	0.500	40.00	0	95.6	0.01	273				
cis-1,3-Dichloropropene	40.3	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	46.1	0.500	40.00	0	115	37	162				
m,p-Xylene	90.7	1.00	80.00	0	113	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108007-002EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532091		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	26.2	20.0	40.00	0	65.4	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	43.3	0.500	40.00	0	108	70	130				
Tetrachloroethene	40.3	0.500	40.00	0	101	64	148				
Toluene	44.2	0.500	40.00	1.230	107	47	150				
trans-1,2-Dichloroethene	42.0	0.500	40.00	0	105	54	156				
trans-1,3-Dichloropropene	43.0	0.500	40.00	0	107	17	183				
Trichloroethene	41.0	0.500	40.00	0	102	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532092		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	41.7	0.500	40.00	0	104	52	162				
1,1,2,2-Tetrachloroethane	39.0	0.500	40.00	0	97.5	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.0	0.500	40.00	0	107	59	155				
1,1-Dichloroethene	43.4	0.500	40.00	0	108	47.8	165				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	34.3	0.500	40.00	0	85.8	18	190				
1,2-Dichloroethane	39.2	0.500	40.00	0	97.9	49	155				
1,2-Dichloropropane	41.0	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	35.1	0.500	40.00	0	87.7	18	190				
2-Butanone	103	5.00	80.00	14.08	111	50	150				
2-Chloroethyl vinyl ether	41.0	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	88.9	5.00	80.00	0	111	50	150				
Acrylonitrile	45.1	2.00	40.00	0	113	20	150				
Benzene	39.0	0.500	40.00	0	97.4	37	151				
Bromodichloromethane	40.3	0.500	40.00	0	101	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	32.8	0.500	40.00	0	81.9	0.01	242				
Carbon tetrachloride	42.0	0.500	40.00	0	105	70	140				
Chlorobenzene	42.2	0.500	40.00	0	105	37	160				
Chloroethane	46.6	0.500	40.00	0	117	14	230				
Chloroform	43.7	0.500	40.00	2.060	104	51	138				
Chloromethane	41.6	0.500	40.00	0	104	0.01	273				
cis-1,3-Dichloropropene	40.5	0.500	40.00	0	101	0.01	227				
Dibromochloromethane	42.3	0.500	40.00	0	106	53	149				
Ethylbenzene	44.5	0.500	40.00	0	111	37	162				
m,p-Xylene	88.2	1.00	80.00	0	110	50	150				
Methylene chloride	27.4	20.0	40.00	0	68.5	0.01	221				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108007-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532092		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	42.5	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.8	0.500	40.00	0	94.6	64	148				
Toluene	44.4	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	43.8	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	43.6	0.500	40.00	0	109	17	183				
Trichloroethene	41.5	0.500	40.00	0	104	71	157				
Trichlorofluoromethane	41.7	0.500	40.00	0	104	17	181				
Vinyl chloride	32.2	0.500	40.00	0	80.5	0.01	251				

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532092		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.1	0.500	40.00	0	100	70	130				
1,1,1-Trichloroethane	40.7	0.500	40.00	0	102	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.0	46	157				
1,1,2-Trichloroethane	40.0	0.500	40.00	0	100	52	150				
1,1-Dichloroethane	42.4	0.500	40.00	0	106	59	155				
1,1-Dichloroethene	42.8	0.500	40.00	0	107	47.8	165				
1,2-Dichlorobenzene	32.4	0.500	40.00	0	80.9	18	190				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532093					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	38.3	0.500	40.00	0	95.8	49	155				
1,2-Dichloropropane	39.7	0.500	40.00	0	99.2	0.01	210				
1,3-Dichlorobenzene	32.1	0.500	40.00	0	80.4	59	156				
1,4-Dichlorobenzene	32.6	0.500	40.00	0	81.4	18	190				
2-Butanone	88.3	5.00	80.00	3.320	106	50	150				
2-Chloroethyl vinyl ether	39.7	10.0	40.00	0	99.2	0.01	305				
4-Methyl-2-pentanone	86.1	5.00	80.00	0	108	50	150				
Acrylonitrile	43.8	2.00	40.00	0	110	20	150				
Benzene	38.4	0.500	40.00	0	95.9	37	151				
Bromodichloromethane	39.8	0.500	40.00	0	99.5	35	155				
Bromoform	40.3	0.500	40.00	0	101	45	169				
Bromomethane	32.8	0.500	40.00	0	82.1	0.01	242				
Carbon tetrachloride	40.9	0.500	40.00	0	102	70	140				
Chlorobenzene	40.7	0.500	40.00	0	102	37	160				
Chloroethane	45.5	0.500	40.00	0	114	14	230				
Chloroform	47.0	0.500	40.00	7.430	99.0	51	138				
Chloromethane	42.0	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	39.8	0.500	40.00	0	99.5	0.01	227				
Dibromochloromethane	41.4	0.500	40.00	0	104	53	149				
Ethylbenzene	42.6	0.500	40.00	0	107	37	162				
m,p-Xylene	84.0	1.00	80.00	0	105	50	150				
Methylene chloride	26.1	20.0	40.00	0	65.2	0.01	221				
o-Xylene	40.3	0.500	40.00	0	101	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108007-004EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532093							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	40.5	0.500	40.00	0	101	70	130				
Tetrachloroethene	35.5	0.500	40.00	0	88.8	64	148				
Toluene	42.9	0.500	40.00	0	107	47	150				
trans-1,2-Dichloroethene	42.8	0.500	40.00	0	107	54	156				
trans-1,3-Dichloropropene	42.2	0.500	40.00	0	106	17	183				
Trichloroethene	40.2	0.500	40.00	0	100	71	157				
Trichlorofluoromethane	41.6	0.500	40.00	0	104	17	181				
Vinyl chloride	33.0	0.500	40.00	0	82.5	0.01	251				

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	40.8	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	42.6	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	38.9	0.500	40.00	0	97.3	46	157				
1,1,2-Trichloroethane	40.4	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.1	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	34.5	0.500	40.00	0	86.2	18	190				
1,2-Dichloroethane	39.8	0.500	40.00	0	99.4	49	155				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532094					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				
1,3-Dichlorobenzene	34.6	0.500	40.00	0	86.4	59	156				
1,4-Dichlorobenzene	34.9	0.500	40.00	0	87.3	18	190				
2-Butanone	93.1	5.00	80.00	3.520	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	87.7	5.00	80.00	0	110	50	150				
Acrylonitrile	44.9	2.00	40.00	0	112	20	150				
Benzene	39.8	0.500	40.00	0	99.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	41.2	0.500	40.00	0	103	45	169				
Bromomethane	27.8	0.500	40.00	0	69.6	0.01	242				
Carbon tetrachloride	43.0	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	67.0	0.500	40.00	0	167	14	230				
Chloroform	43.8	0.500	40.00	1.210	106	51	138				
Chloromethane	48.0	0.500	40.00	0	120	0.01	273				
cis-1,3-Dichloropropene	41.3	0.500	40.00	0	103	0.01	227				
Dibromochloromethane	41.9	0.500	40.00	0	105	53	149				
Ethylbenzene	44.4	0.500	40.00	0	111	37	162				
m,p-Xylene	87.0	1.00	80.00	0	109	50	150				
Methylene chloride	28.3	20.0	40.00	0	70.7	0.01	221				
o-Xylene	42.1	0.500	40.00	0	105	50	150				
Styrene	41.8	0.500	40.00	0	104	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108010-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532094							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	37.6	0.500	40.00	0	93.9	64	148				
Toluene	44.5	0.500	40.00	0	111	47	150				
trans-1,2-Dichloroethene	44.4	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	42.5	0.500	40.00	0	106	17	183				
Trichloroethene	42.3	0.500	40.00	0	106	71	157				
Trichlorofluoromethane	43.5	0.500	40.00	0	109	17	181				
Vinyl chloride	33.6	0.500	40.00	0	84.1	0.01	251				

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.2	0.500	40.00	0	108	70	130				
1,1,1-Trichloroethane	42.4	0.500	40.00	0	106	52	162				
1,1,2,2-Tetrachloroethane	39.3	0.500	40.00	0	98.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.4	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.0	0.500	40.00	0	110	47.8	165				
1,2-Dichlorobenzene	38.7	0.500	40.00	0	96.7	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	41.3	0.500	40.00	0	103	0.01	210				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532095				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	39.0	0.500	40.00	0	97.5	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				
2-Butanone	89.3	5.00	80.00	0	112	50	150				
2-Chloroethyl vinyl ether	41.3	10.0	40.00	0	103	0.01	305				
4-Methyl-2-pentanone	89.2	5.00	80.00	0	112	50	150				
Acrylonitrile	44.8	2.00	40.00	0	112	20	150				
Benzene	39.4	0.500	40.00	0	98.6	37	151				
Bromodichloromethane	41.1	0.500	40.00	0	103	35	155				
Bromoform	43.2	0.500	40.00	0	108	45	169				
Bromomethane	26.7	0.500	40.00	0	66.8	0.01	242				
Carbon tetrachloride	43.7	0.500	40.00	0	109	70	140				
Chlorobenzene	43.4	0.500	40.00	0	109	37	160				
Chloroethane	55.5	0.500	40.00	0	139	14	230				
Chloroform	42.2	0.500	40.00	0	106	51	138				
Chloromethane	40.6	0.500	40.00	0	101	0.01	273				
cis-1,3-Dichloropropene	41.6	0.500	40.00	0	104	0.01	227				
Dibromochloromethane	43.5	0.500	40.00	0	109	53	149				
Ethylbenzene	47.5	0.500	40.00	0	119	37	162				
m,p-Xylene	93.4	1.00	80.00	0	117	50	150				
Methylene chloride	28.1	20.0	40.00	0	70.3	0.01	221				
o-Xylene	45.0	0.500	40.00	0	113	50	150				
Styrene	44.8	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.0	0.500	40.00	0	102	64	148				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108010-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532095							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	44.2	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.5	0.500	40.00	0	111	17	183				
Trichloroethene	42.2	0.500	40.00	0	105	71	157				
Trichlorofluoromethane	42.9	0.500	40.00	0	107	17	181				
Vinyl chloride	32.7	0.500	40.00	0	81.7	0.01	251				

Sample ID: CCV MSVWS-3044	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCV	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532096							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	80	120				
1,1,1-Trichloroethane	47.5	0.500	40.00	0	119	75	125				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	60.5	139.5				
1,1,2-Trichloroethane	41.4	0.500	40.00	0	104	71	129				
1,1-Dichloroethane	48.4	0.500	40.00	0	121	72.5	127.5				
1,1-Dichloroethane	50.1	0.500	40.00	0	125	50.5	149.5				
1,2-Dichlorobenzene	37.0	0.500	40.00	0	92.6	63	137				
1,2-Dichloroethane	43.1	0.500	40.00	0	108	68	132				
1,2-Dichloropropane	45.0	0.500	40.00	0	112	34	166				
1,3-Dichlorobenzene	37.5	0.500	40.00	0	93.7	73	127				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>			Prep Date:	RunNo: <b>41389</b>				
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>				Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	37.3	0.500	40.00	0	93.4	63	137				
2-Butanone	91.6	5.00	80.00	0	114	60	140				
2-Chloroethyl vinyl ether	45.0	10.0	40.00	0	112	0.01	224				
4-Methyl-2-pentanone	85.3	5.00	80.00	0	107	60	140				
Acrylonitrile	47.4	2.00	40.00	0	118	50	150				
Benzene	43.6	0.500	40.00	0	109	64	136				
Bromodichloromethane	44.2	0.500	40.00	0	110	65.5	134.5				
Bromoform	40.4	0.500	40.00	0	101	71	129				
Bromomethane	32.3	0.500	40.00	0	80.7	14	186				
Carbon tetrachloride	47.2	0.500	40.00	0	118	73	127				
Chlorobenzene	43.0	0.500	40.00	0	107	66	134				
Chloroethane	52.4	0.500	40.00	0	131	38	162				
Chloroform	46.8	0.500	40.00	0	117	67.5	132.5				
Chloromethane	47.0	0.500	40.00	0	118	0.01	204				
cis-1,3-Dichloropropene	45.8	0.500	40.00	0	114	24	176				
Dibromochloromethane	42.4	0.500	40.00	0	106	67.5	132.5				
Ethylbenzene	43.1	0.500	40.00	0	108	59	141				
m,p-Xylene	83.6	1.00	80.00	0	105	80	120				
Methylene chloride	37.7	20.0	40.00	0	94.2	60.5	139.5				
o-Xylene	43.9	0.500	40.00	0	110	80	120				
Styrene	43.2	0.500	40.00	0	108	80	120				
Tetrachloroethene	42.7	0.500	40.00	0	107	73.5	126.5				
Toluene	46.5	0.500	40.00	0	116	74.5	125.5				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: <b>CCV MSVWS-3044</b>	SampType: <b>CCV</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532096</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	50.4	0.500	40.00	0	126	69.5	130.5				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	50	150				
Trichloroethene	47.5	0.500	40.00	0	119	66.5	133.5				
Trichlorofluoromethane	48.9	0.500	40.00	0	122	48	152				
Vinyl chloride	6.95	0.500	40.00	0	17.4	4	196				

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,1-Trichloroethane	ND	0.500									
1,1,1,2-Tetrachloroethane	ND	0.500									
1,1,2-Trichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,1-Dichloroethane	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Dichloroethane	ND	0.500									
1,2-Dichloropropane	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	ND	5.00									
2-Chloroethyl vinyl ether	ND	10.0									
4-Methyl-2-pentanone	ND	5.00									
Acrylonitrile	ND	2.00									
Benzene	ND	0.500									
Bromodichloromethane	ND	0.500									
Bromoform	ND	0.500									
Bromomethane	ND	0.500									
Carbon tetrachloride	ND	0.500									
Chlorobenzene	ND	0.500									
Chloroethane	ND	0.500									
Chloroform	ND	0.500									
Chloromethane	ND	0.500									
cis-1,3-Dichloropropene	ND	0.500									
Dibromochloromethane	ND	0.500									
Ethylbenzene	ND	0.500									
m,p-Xylene	ND	1.00									
Methylene chloride	ND	20.0									
o-Xylene	ND	0.500									
Styrene	ND	0.500									
Tetrachloroethene	ND	0.500									
Toluene	ND	0.500									
trans-1,2-Dichloroethene	ND	0.500									

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>MB</b>	SampType: <b>CCB</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532097</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	0.500									
Trichloroethene	ND	0.500									
Trichlorofluoromethane	ND	0.500									
Vinyl chloride	ND	0.500									
Surr: 1,2-Dichloroethane-d4	84.8		100.0		84.8	83.4	126				
Surr: 4-Bromofluorobenzene	107		100.0		107	90.9	117				
Surr: Dibromofluoromethane	96.8		100.0		96.8	81.1	125				
Surr: Toluene-d8	92.0		100.0		92.0	75	120				

Sample ID: <b>2108010-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532098</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.2	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	44.4	0.500	40.00	0	111	52	162				
1,1,2,2-Tetrachloroethane	38.1	0.500	40.00	0	95.2	46	157				
1,1,2-Trichloroethane	41.6	0.500	40.00	0	104	52	150				
1,1-Dichloroethane	44.8	0.500	40.00	0	112	59	155				
1,1-Dichloroethene	45.3	0.500	40.00	0	113	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	88.9	18	190				
1,2-Dichloroethane	41.3	0.500	40.00	0	103	49	155				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108010-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532098					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	43.2	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.4	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	0	91.9	18	190				
2-Butanone	97.0	5.00	80.00	10.06	109	50	150				
2-Chloroethyl vinyl ether	43.2	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	88.5	5.00	80.00	0	111	50	150				
Acrylonitrile	44.0	2.00	40.00	0	110	20	150				
Benzene	40.8	0.500	40.00	0	102	37	151				
Bromodichloromethane	43.2	0.500	40.00	0	108	35	155				
Bromoform	41.8	0.500	40.00	0	105	45	169				
Bromomethane	32.6	0.500	40.00	0	81.5	0.01	242				
Carbon tetrachloride	45.4	0.500	40.00	0	113	70	140				
Chlorobenzene	42.6	0.500	40.00	0	107	37	160				
Chloroethane	46.9	0.500	40.00	0	117	14	230				
Chloroform	45.1	0.500	40.00	1.310	110	51	138				
Chloromethane	42.7	0.500	40.00	0	107	0.01	273				
cis-1,3-Dichloropropene	44.6	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	43.1	0.500	40.00	0	108	53	149				
Ethylbenzene	45.9	0.500	40.00	0	115	37	162				
m,p-Xylene	90.2	1.00	80.00	0	113	50	150				
Methylene chloride	29.3	20.0	40.00	0	73.2	0.01	221				
o-Xylene	43.4	0.500	40.00	0	108	50	150				
Styrene	43.0	0.500	40.00	0	108	70	130				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>2108010-006EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532098</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	40.2	0.500	40.00	0	100	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				
trans-1,2-Dichloroethene	45.5	0.500	40.00	0	114	54	156				
trans-1,3-Dichloropropene	44.8	0.500	40.00	0	112	17	183				
Trichloroethene	44.3	0.500	40.00	0	111	71	157				
Trichlorofluoromethane	45.9	0.500	40.00	0	115	17	181				
Vinyl chloride	38.3	0.500	40.00	0	95.7	0.01	251				

Sample ID: <b>2108010-008EMS</b>		SampType: <b>MS</b>		TestCode: <b>624_W</b>		Units: <b>µg/L</b>		Prep Date:		RunNo: <b>41389</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>18334</b>		TestNo: <b>E624.1</b>		Analysis Date: <b>8/10/2021</b>				SeqNo: <b>532099</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.5	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.3	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	94.9	46	157				
1,1,2-Trichloroethane	40.9	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.9	0.500	40.00	0	110	59	155				
1,1-Dichloroethene	44.8	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	34.8	0.500	40.00	0	87.0	18	190				
1,2-Dichloroethane	40.5	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.3	0.500	40.00	0	106	0.01	210				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108010-008EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532099							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	34.8	0.500	40.00	0	87.1	59	156				
1,4-Dichlorobenzene	35.0	0.500	40.00	0	87.5	18	190				
2-Butanone	93.2	5.00	80.00	2.820	113	50	150				
2-Chloroethyl vinyl ether	42.3	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.3	5.00	80.00	0	110	50	150				
Acrylonitrile	45.3	2.00	40.00	0	113	20	150				
Benzene	40.0	0.500	40.00	0	100	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	106	35	155				
Bromoform	41.3	0.500	40.00	0	103	45	169				
Bromomethane	31.1	0.500	40.00	0	77.7	0.01	242				
Carbon tetrachloride	44.1	0.500	40.00	0	110	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	49.8	0.500	40.00	0	124	14	230				
Chloroform	43.8	0.500	40.00	0	109	51	138				
Chloromethane	43.7	0.500	40.00	0	109	0.01	273				
cis-1,3-Dichloropropene	43.8	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.4	20.0	40.00	0	70.9	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.7	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	96.0	64	148				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>2108010-008EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532099</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	43.8	0.500	40.00	0	110	47	150				
trans-1,2-Dichloroethene	44.7	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.2	0.500	40.00	0	111	17	183				
Trichloroethene	43.4	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.1	0.500	40.00	0	82.8	0.01	251				

Sample ID: <b>2108028-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532100</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.4	0.500	40.00	0	104	70	130				
1,1,1-Trichloroethane	43.2	0.500	40.00	0	108	52	162				
1,1,2,2-Tetrachloroethane	38.0	0.500	40.00	0	95.1	46	157				
1,1,2-Trichloroethane	40.8	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.3	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.6	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	100	49	155				
1,2-Dichloropropane	42.4	0.500	40.00	0	106	0.01	210				
1,3-Dichlorobenzene	35.2	0.500	40.00	0	88.1	59	156				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	35.8	0.500	40.00	0	89.4	18	190				
2-Butanone	93.2	5.00	80.00	4.490	111	50	150				
2-Chloroethyl vinyl ether	42.4	10.0	40.00	0	106	0.01	305				
4-Methyl-2-pentanone	88.0	5.00	80.00	0	110	50	150				
Acrylonitrile	44.5	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.2	0.500	40.00	0	105	35	155				
Bromoform	41.4	0.500	40.00	0	103	45	169				
Bromomethane	25.9	0.500	40.00	0	64.9	0.01	242				
Carbon tetrachloride	43.8	0.500	40.00	0	109	70	140				
Chlorobenzene	42.0	0.500	40.00	0	105	37	160				
Chloroethane	69.3	0.500	40.00	0	173	14	230				
Chloroform	44.1	0.500	40.00	1.410	107	51	138				
Chloromethane	46.4	0.500	40.00	0	116	0.01	273				
cis-1,3-Dichloropropene	43.7	0.500	40.00	0	109	0.01	227				
Dibromochloromethane	42.4	0.500	40.00	0	106	53	149				
Ethylbenzene	45.1	0.500	40.00	0	113	37	162				
m,p-Xylene	88.6	1.00	80.00	0	111	50	150				
Methylene chloride	28.7	20.0	40.00	0	71.8	0.01	221				
o-Xylene	42.6	0.500	40.00	0	106	50	150				
Styrene	42.4	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.6	0.500	40.00	0	96.4	64	148				
Toluene	44.9	0.500	40.00	0	112	47	150				

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

Client: City of Wilsonville  
Project: 2108045

TestCode: 624\_W

Sample ID: 2108028-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	44.5	0.500	40.00	0	111	54	156				
trans-1,3-Dichloropropene	44.6	0.500	40.00	0	111	17	183				
Trichloroethene	43.6	0.500	40.00	0	109	71	157				
Trichlorofluoromethane	44.0	0.500	40.00	0	110	17	181				
Vinyl chloride	34.1	0.500	40.00	0	85.3	0.01	251				

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	43.0	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,2,2-Tetrachloroethane	38.5	0.500	40.00	0	96.3	46	157				
1,1,2-Trichloroethane	42.3	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	43.6	0.500	40.00	0	109	59	155				
1,1-Dichloroethane	44.5	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.4	18	190				
1,2-Dichloroethane	40.9	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.1	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.2	59	156				
1,4-Dichlorobenzene	38.8	0.500	40.00	0	97.1	18	190				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532101		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone	90.1	5.00	80.00	0	113	50	150				
2-Chloroethyl vinyl ether	43.1	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.0	5.00	80.00	0	111	50	150				
Acrylonitrile	44.4	2.00	40.00	0	111	20	150				
Benzene	39.8	0.500	40.00	0	99.4	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	43.0	0.500	40.00	0	108	45	169				
Bromomethane	24.8	0.500	40.00	0	62.0	0.01	242				
Carbon tetrachloride	44.6	0.500	40.00	0	111	70	140				
Chlorobenzene	43.8	0.500	40.00	0	109	37	160				
Chloroethane	47.9	0.500	40.00	0	120	14	230				
Chloroform	42.9	0.500	40.00	0	107	51	138				
Chloromethane	38.8	0.500	40.00	0	97.0	0.01	273				
cis-1,3-Dichloropropene	44.7	0.500	40.00	0	112	0.01	227				
Dibromochloromethane	43.9	0.500	40.00	0	110	53	149				
Ethylbenzene	47.3	0.500	40.00	0	118	37	162				
m,p-Xylene	93.8	1.00	80.00	0	117	50	150				
Methylene chloride	28.2	20.0	40.00	0	70.5	0.01	221				
o-Xylene	45.1	0.500	40.00	0	113	50	150				
Styrene	45.0	0.500	40.00	0	112	70	130				
Tetrachloroethene	41.7	0.500	40.00	0	104	64	148				
Toluene	45.5	0.500	40.00	0	114	47	150				
trans-1,2-Dichloroethene	44.6	0.500	40.00	0	112	54	156				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108028-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	45.8	0.500	40.00	0	115	17	183				
Trichloroethene	43.9	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.2	0.500	40.00	0	111	17	181				
Vinyl chloride	32.5	0.500	40.00	0	81.2	0.01	251				

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532102							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.8	0.500	40.00	0	105	70	130				
1,1,1-Trichloroethane	43.5	0.500	40.00	0	109	52	162				
1,1,1,2-Tetrachloroethane	38.4	0.500	40.00	0	95.9	46	157				
1,1,2-Trichloroethane	41.3	0.500	40.00	0	103	52	150				
1,1-Dichloroethane	44.3	0.500	40.00	0	111	59	155				
1,1-Dichloroethene	44.9	0.500	40.00	0	112	47.8	165				
1,2-Dichlorobenzene	35.4	0.500	40.00	0	88.5	18	190				
1,2-Dichloroethane	40.7	0.500	40.00	0	102	49	155				
1,2-Dichloropropane	43.3	0.500	40.00	0	108	0.01	210				
1,3-Dichlorobenzene	35.5	0.500	40.00	0	88.8	59	156				
1,4-Dichlorobenzene	36.9	0.500	40.00	1.020	89.7	18	190				
2-Butanone	113	5.00	80.00	22.52	114	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108028-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L		Prep Date:	RunNo: 41389					
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1			Analysis Date: 8/10/2021	SeqNo: 532102					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chloroethyl vinyl ether	43.3	10.0	40.00	0	108	0.01	305				
4-Methyl-2-pentanone	89.3	5.00	80.00	0	112	50	150				
Acrylonitrile	45.8	2.00	40.00	0	114	20	150				
Benzene	40.4	0.500	40.00	0	101	37	151				
Bromodichloromethane	42.8	0.500	40.00	0	107	35	155				
Bromoform	41.5	0.500	40.00	0	104	45	169				
Bromomethane	27.6	0.500	40.00	0	69.0	0.01	242				
Carbon tetrachloride	44.3	0.500	40.00	0	111	70	140				
Chlorobenzene	42.5	0.500	40.00	0	106	37	160				
Chloroethane	50.3	0.500	40.00	0	126	14	230				
Chloroform	45.2	0.500	40.00	2.100	108	51	138				
Chloromethane	40.6	0.500	40.00	0	102	0.01	273				
cis-1,3-Dichloropropene	44.4	0.500	40.00	0	111	0.01	227				
Dibromochloromethane	42.7	0.500	40.00	0	107	53	149				
Ethylbenzene	45.4	0.500	40.00	0	114	37	162				
m,p-Xylene	89.8	1.00	80.00	0	112	50	150				
Methylene chloride	28.6	20.0	40.00	0	71.6	0.01	221				
o-Xylene	43.6	0.500	40.00	0	109	50	150				
Styrene	42.8	0.500	40.00	0	107	70	130				
Tetrachloroethene	38.9	0.500	40.00	0	97.2	64	148				
Toluene	45.7	0.500	40.00	1.280	111	47	150				
trans-1,2-Dichloroethene	44.8	0.500	40.00	0	112	54	156				
trans-1,3-Dichloropropene	44.9	0.500	40.00	0	112	17	183				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>2108028-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532102</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	44.0	0.500	40.00	0	110	71	157				
Trichlorofluoromethane	44.4	0.500	40.00	0	111	17	181				
Vinyl chloride	33.3	0.500	40.00	0	83.3	0.01	251				

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	41.0	0.500	40.00	0	102	70	130				
1,1,1-Trichloroethane	43.0	0.500	40.00	0	108	52	162				
1,1,1,2-Tetrachloroethane	38.2	0.500	40.00	0	95.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	102	52	150				
1,1-Dichloroethane	43.7	0.500	40.00	0	109	59	155				
1,1-Dichloroethene	44.6	0.500	40.00	0	111	47.8	165				
1,2-Dichlorobenzene	34.2	0.500	40.00	0	85.5	18	190				
1,2-Dichloroethane	40.2	0.500	40.00	0	101	49	155				
1,2-Dichloropropane	42.8	0.500	40.00	0	107	0.01	210				
1,3-Dichlorobenzene	34.3	0.500	40.00	0	85.7	59	156				
1,4-Dichlorobenzene	34.7	0.500	40.00	0	86.8	18	190				
2-Butanone	91.7	5.00	80.00	2.100	112	50	150				
2-Chloroethyl vinyl ether	42.8	10.0	40.00	0	107	0.01	305				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108028-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:			RunNo: 41389		
Client ID: BatchQC	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021			SeqNo: 532103		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	88.7	5.00	80.00	0	111	50	150				
Acrylonitrile	45.4	2.00	40.00	0	113	20	150				
Benzene	39.6	0.500	40.00	0	98.9	37	151				
Bromodichloromethane	42.6	0.500	40.00	0	106	35	155				
Bromoform	41.1	0.500	40.00	0	103	45	169				
Bromomethane	28.0	0.500	40.00	0	70.0	0.01	242				
Carbon tetrachloride	43.3	0.500	40.00	0	108	70	140				
Chlorobenzene	41.7	0.500	40.00	0	104	37	160				
Chloroethane	53.8	0.500	40.00	0	135	14	230				
Chloroform	43.3	0.500	40.00	0	108	51	138				
Chloromethane	41.9	0.500	40.00	0	105	0.01	273				
cis-1,3-Dichloropropene	44.1	0.500	40.00	0	110	0.01	227				
Dibromochloromethane	42.0	0.500	40.00	0	105	53	149				
Ethylbenzene	44.6	0.500	40.00	0	111	37	162				
m,p-Xylene	87.4	1.00	80.00	0	109	50	150				
Methylene chloride	28.4	20.0	40.00	0	71.1	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	37.6	0.500	40.00	0	94.0	64	148				
Toluene	43.6	0.500	40.00	0	109	47	150				
trans-1,2-Dichloroethene	44.1	0.500	40.00	0	110	54	156				
trans-1,3-Dichloropropene	44.1	0.500	40.00	0	110	17	183				
Trichloroethene	43.2	0.500	40.00	0	108	71	157				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: <b>2108028-006EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane	43.7	0.500	40.00	0	109	17	181				
Vinyl chloride	34.0	0.500	40.00	0	85.1	0.01	251				

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>08 21LLIG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.6	0.500	40.00	0	106	70	130				
1,1,1-Trichloroethane	53.6	0.500	40.00	0	134	52	162				
1,1,2,2-Tetrachloroethane	38.8	0.500	40.00	0	96.9	46	157				
1,1,2-Trichloroethane	41.9	0.500	40.00	0	105	52	150				
1,1-Dichloroethane	54.7	0.500	40.00	0	137	59	155				
1,1-Dichloroethene	55.4	0.500	40.00	0	138	47.8	165				
1,2-Dichlorobenzene	35.6	0.500	40.00	0	89.0	18	190				
1,2-Dichloroethane	50.1	0.500	40.00	0	125	49	155				
1,2-Dichloropropane	52.9	0.500	40.00	0	132	0.01	210				
1,3-Dichlorobenzene	35.8	0.500	40.00	0	89.6	59	156				
1,4-Dichlorobenzene	36.4	0.500	40.00	0	91.0	18	190				
2-Butanone	116	5.00	80.00	3.370	140	50	150				
2-Chloroethyl vinyl ether	52.9	10.0	40.00	0	132	0.01	305				
4-Methyl-2-pentanone	90.7	5.00	80.00	0	113	50	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108045-001EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 08 21LLIG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532104							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	50.0	0.500	40.00	0	125	37	151				
Bromodichloromethane	52.4	0.500	40.00	0	131	35	155				
Bromoform	42.3	0.500	40.00	0	106	45	169				
Bromomethane	34.7	0.500	40.00	0	86.8	0.01	242				
Carbon tetrachloride	54.3	0.500	40.00	0	136	70	140				
Chlorobenzene	43.0	0.500	40.00	0	108	37	160				
Chloroethane	74.5	0.500	40.00	0	186	14	230				
Chloroform	55.1	0.500	40.00	1.340	134	51	138				
Chloromethane	55.6	0.500	40.00	0	139	0.01	273				
cis-1,3-Dichloropropene	54.0	0.500	40.00	0	135	0.01	227				
Dibromochloromethane	43.2	0.500	40.00	0	108	53	149				
Ethylbenzene	46.0	0.500	40.00	0	115	37	162				
m,p-Xylene	90.8	1.00	80.00	0	114	50	150				
Methylene chloride	40.1	20.0	40.00	0	100	0.01	221				
o-Xylene	43.5	0.500	40.00	0	109	50	150				
Styrene	43.4	0.500	40.00	0	109	70	130				
Tetrachloroethene	39.4	0.500	40.00	0	98.5	64	148				
Toluene	45.9	0.500	40.00	1.220	112	47	150				
trans-1,2-Dichloroethene	55.7	0.500	40.00	0	139	54	156				
trans-1,3-Dichloropropene	45.5	0.500	40.00	0	114	17	183				
Trichloroethene	53.4	0.500	40.00	0	134	71	157				
Trichlorofluoromethane	54.8	0.500	40.00	0	137	17	181				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: <b>2108045-001EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>08 21LLIG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532104</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>08 21LLEG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	42.9	0.500	40.00	0	107	70	130				
1,1,1-Trichloroethane	49.9	0.500	40.00	0	125	52	162				
1,1,2,2-Tetrachloroethane	38.4	0.500	40.00	0	96.0	46	157				
1,1,2-Trichloroethane	42.2	0.500	40.00	0	106	52	150				
1,1-Dichloroethane	50.3	0.500	40.00	0	126	59	155				
1,1-Dichloroethene	51.0	0.500	40.00	0	128	47.8	165				
1,2-Dichlorobenzene	38.6	0.500	40.00	0	96.6	18	190				
1,2-Dichloroethane	47.5	0.500	40.00	0	119	49	155				
1,2-Dichloropropane	49.7	0.500	40.00	0	124	0.01	210				
1,3-Dichlorobenzene	38.9	0.500	40.00	0	97.4	59	156				
1,4-Dichlorobenzene	38.9	0.500	40.00	0	97.2	18	190				
2-Butanone	104	5.00	80.00	0	130	50	150				
2-Chloroethyl vinyl ether	49.7	10.0	40.00	0	124	0.01	305				
4-Methyl-2-pentanone	89.8	5.00	80.00	0	112	50	150				
Acrylonitrile	52.4	2.00	40.00	0	131	20	150				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108045-003EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: 08 21LLEG	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532105							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	46.4	0.500	40.00	0	116	37	151				
Bromodichloromethane	49.2	0.500	40.00	0	123	35	155				
Bromoform	43.0	0.500	40.00	0	107	45	169				
Bromomethane	35.4	0.500	40.00	0	88.5	0.01	242				
Carbon tetrachloride	50.8	0.500	40.00	0	127	70	140				
Chlorobenzene	43.6	0.500	40.00	0	109	37	160				
Chloroethane	60.0	0.500	40.00	0	150	14	230				
Chloroform	49.6	0.500	40.00	0	124	51	138				
Chloromethane	46.0	0.500	40.00	0	115	0.01	273				
cis-1,3-Dichloropropene	51.2	0.500	40.00	0	128	0.01	227				
Dibromochloromethane	43.6	0.500	40.00	0	109	53	149				
Ethylbenzene	47.6	0.500	40.00	0	119	37	162				
m,p-Xylene	94.2	1.00	80.00	0	118	50	150				
Methylene chloride	35.6	20.0	40.00	0	89.1	0.01	221				
o-Xylene	45.4	0.500	40.00	0	114	50	150				
Styrene	45.2	0.500	40.00	0	113	70	130				
Tetrachloroethene	41.3	0.500	40.00	0	103	64	148				
Toluene	45.3	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	51.4	0.500	40.00	0	129	54	156				
trans-1,3-Dichloropropene	46.0	0.500	40.00	0	115	17	183				
Trichloroethene	50.6	0.500	40.00	0	126	71	157				
Trichlorofluoromethane	50.5	0.500	40.00	0	126	17	181				
Vinyl chloride	37.8	0.500	40.00	0	94.6	0.01	251				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: <b>2108045-003EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>08 21LLEG</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532105</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-005EMS</b>	SampType: <b>MS</b>	TestCode: <b>624_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41389</b>						
Client ID: <b>Parkway G</b>	Batch ID: <b>18334</b>	TestNo: <b>E624.1</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532106</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	41.2	0.500	40.00	0	103	70	130				
1,1,1-Trichloroethane	52.6	0.500	40.00	0	132	52	162				
1,1,2,2-Tetrachloroethane	37.8	0.500	40.00	0	94.4	46	157				
1,1,2-Trichloroethane	40.6	0.500	40.00	0	101	52	150				
1,1-Dichloroethane	53.3	0.500	40.00	0	133	59	155				
1,1-Dichloroethene	55.0	0.500	40.00	0	137	47.8	165				
1,2-Dichlorobenzene	35.0	0.500	40.00	0	87.4	18	190				
1,2-Dichloroethane	49.0	0.500	40.00	0	123	49	155				
1,2-Dichloropropane	51.8	0.500	40.00	0	129	0.01	210				
1,3-Dichlorobenzene	35.3	0.500	40.00	0	88.3	59	156				
1,4-Dichlorobenzene	36.8	0.500	40.00	1.280	88.8	18	190				
2-Butanone	125	5.00	80.00	12.67	141	50	150				
2-Chloroethyl vinyl ether	51.8	10.0	40.00	0	129	0.01	305				
4-Methyl-2-pentanone	88.2	5.00	80.00	0	110	50	150				
Acrylonitrile	56.3	2.00	40.00	0	141	20	150				
Benzene	49.5	0.500	40.00	0	124	37	151				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 624\_W

Sample ID: 2108045-005EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Parkway G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532106							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	51.2	0.500	40.00	0	128	35	155				
Bromoform	40.2	0.500	40.00	0	101	45	169				
Bromomethane	36.8	0.500	40.00	0	91.9	0.01	242				
Carbon tetrachloride	53.6	0.500	40.00	0	134	70	140				
Chlorobenzene	42.1	0.500	40.00	0	105	37	160				
Chloroethane	66.0	0.500	40.00	0	165	14	230				
Chloroform	54.7	0.500	40.00	2.390	131	51	138				
Chloromethane	49.5	0.500	40.00	0	124	0.01	273				
cis-1,3-Dichloropropene	52.8	0.500	40.00	0	132	0.01	227				
Dibromochloromethane	41.7	0.500	40.00	0	104	53	149				
Ethylbenzene	45.2	0.500	40.00	0	113	37	162				
m,p-Xylene	89.2	1.00	80.00	0	111	50	150				
Methylene chloride	38.8	20.0	40.00	0	97.0	0.01	221				
o-Xylene	42.3	0.500	40.00	0	106	50	150				
Styrene	42.3	0.500	40.00	0	106	70	130				
Tetrachloroethene	38.4	0.500	40.00	0	95.9	64	148				
Toluene	45.1	0.500	40.00	0	113	47	150				
trans-1,2-Dichloroethene	55.1	0.500	40.00	0	138	54	156				
trans-1,3-Dichloropropene	44.4	0.500	40.00	0	111	17	183				
Trichloroethene	53.3	0.500	40.00	0	133	71	157				
Trichlorofluoromethane	53.6	0.500	40.00	0	134	17	181				
Vinyl chloride	39.7	0.500	40.00	0	99.2	0.01	251				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L			Prep Date:	RunNo: 41389				
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1				Analysis Date: 8/10/2021	SeqNo: 532107				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	39.6	0.500	40.00	0	98.9	70	130				
1,1,1-Trichloroethane	51.2	0.500	40.00	0	128	52	162				
1,1,2,2-Tetrachloroethane	36.2	0.500	40.00	0	90.6	46	157				
1,1,2-Trichloroethane	39.3	0.500	40.00	0	98.2	52	150				
1,1-Dichloroethane	52.4	0.500	40.00	0	131	59	155				
1,1-Dichloroethene	53.0	0.500	40.00	0	133	47.8	165				
1,2-Dichlorobenzene	33.3	0.500	40.00	0	83.2	18	190				
1,2-Dichloroethane	48.0	0.500	40.00	0	120	49	155				
1,2-Dichloropropane	50.2	0.500	40.00	0	126	0.01	210				
1,3-Dichlorobenzene	33.4	0.500	40.00	0	83.6	59	156				
1,4-Dichlorobenzene	33.6	0.500	40.00	0	84.0	18	190				
2-Butanone	110	5.00	80.00	2.310	135	50	150				
2-Chloroethyl vinyl ether	50.2	10.0	40.00	0	126	0.01	305				
4-Methyl-2-pentanone	84.9	5.00	80.00	0	106	50	150				
Acrylonitrile	54.6	2.00	40.00	0	136	20	150				
Benzene	47.5	0.500	40.00	0	119	37	151				
Bromodichloromethane	49.9	0.500	40.00	0	125	35	155				
Bromoform	39.3	0.500	40.00	0	98.2	45	169				
Bromomethane	35.1	0.500	40.00	0	87.8	0.01	242				
Carbon tetrachloride	51.8	0.500	40.00	0	130	70	140				
Chlorobenzene	40.4	0.500	40.00	0	101	37	160				
Chloroethane	60.6	0.500	40.00	0	152	14	230				
Chloroform	52.1	0.500	40.00	0	130	51	138				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 624\_W

Sample ID: 2108045-006EMS	SampType: MS	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: Villabois G	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532107							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane	49.0	0.500	40.00	0	123	0.01	273				
cis-1,3-Dichloropropene	51.9	0.500	40.00	0	130	0.01	227				
Dibromochloromethane	40.4	0.500	40.00	0	101	53	149				
Ethylbenzene	43.1	0.500	40.00	0	108	37	162				
m,p-Xylene	85.3	1.00	80.00	0	107	50	150				
Methylene chloride	37.0	20.0	40.00	0	92.4	0.01	221				
o-Xylene	40.8	0.500	40.00	0	102	50	150				
Styrene	40.6	0.500	40.00	0	102	70	130				
Tetrachloroethene	36.4	0.500	40.00	0	91.0	64	148				
Toluene	42.4	0.500	40.00	0	106	47	150				
trans-1,2-Dichloroethene	53.1	0.500	40.00	0	133	54	156				
trans-1,3-Dichloropropene	42.6	0.500	40.00	0	106	17	183				
Trichloroethene	51.5	0.500	40.00	0	129	71	157				
Trichlorofluoromethane	51.7	0.500	40.00	0	129	17	181				
Vinyl chloride	39.3	0.500	40.00	0	98.3	0.01	251				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534994</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	17.9	0.500	20.00	0	89.4	80	120				
1,2-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
1,2-Diphenylhydrazine	19.9	0.500	20.00	0	99.6	80	120				
1,3-Dichlorobenzene	19.8	0.500	20.00	0	99.2	80	120				
1,4-Dichlorobenzene	19.8	0.500	20.00	0	99.0	80	120				
2,4,6-Trichlorophenol	18.8	0.500	20.00	0	94.0	80	120				
2,4-Dichlorophenol	17.0	0.500	20.00	0	85.0	80	120				
2,4-Dimethylphenol	17.5	0.500	20.00	0	87.7	80	120				
2,4-Dinitrophenol	18.4	0.500	20.00	0	92.2	80	120				
2,4-Dinitrotoluene	18.0	0.500	20.00	0	90.2	80	120				
2,6-Dinitrotoluene	17.6	0.500	20.00	0	88.2	80	120				
2-Chloronaphthalene	18.7	0.500	20.00	0	93.6	80	120				
2-Chlorophenol	19.0	0.500	20.00	0	94.8	80	120				
2-Methylphenol	19.3	0.500	20.00	0	96.5	80	120				
2-Nitrophenol	16.4	0.500	20.00	0	81.8	80	120				
3,3'-Dichlorobenzidine	17.6	0.500	20.00	0	87.8	80	120				
3,4-Methylphenol	19.5	1.00	20.00	0	97.5	80	120				
4-Bromophenyl phenyl ether	19.9	0.500	20.00	0	99.4	80	120				
4-Chloro-3-methylphenol	18.1	0.500	20.00	0	90.5	80	120				
4-Chlorophenyl phenyl ether	20.3	0.500	20.00	0	102	80	120				
4-Nitrophenol	19.1	0.500	20.00	0	95.6	80	120				
Acenaphthene	18.6	0.500	20.00	0	93.0	80	120				
Acenaphthylene	18.7	0.500	20.00	0	93.5	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534994</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aniline	19.9	0.500	20.00	0	99.4	80	120				
Anthracene	18.6	0.500	20.00	0	93.1	80	120				
Azobenzene	19.9	0.500	20.00	0	99.6	80	120				
Benz(a)anthracene	18.5	0.500	20.00	0	92.3	80	120				
Benzidine	16.6	0.500	20.00	0	82.8	80	120				
Benzo(a)pyrene	18.4	0.500	20.00	0	92.2	80	120				
Benzo(b)fluoranthene	18.4	0.500	20.00	0	92.0	80	120				
Benzo(g,h,i)perylene	18.2	0.500	20.00	0	91.0	80	120				
Benzo(k)fluoranthene	19.2	0.500	20.00	0	96.0	80	120				
Benzoic Acid	20.1	5.00	20.00	0	101	80	120				
Bis(2-chloroethoxy)methane	20.0	0.500	20.00	0	100	80	120				
Bis(2-chloroethyl)ether	20.2	0.500	20.00	0	101	80	120				
Bis(2-chloroisopropyl)ether	23.1	0.500	20.00	0	116	80	120				
Bis(2-ethylhexyl)phthalate	22.6	0.500	20.00	0	113	80	120				
Butyl benzyl phthalate	19.3	0.500	20.00	0	96.4	80	120				
Carbazole	18.8	0.500	20.00	0	94.1	80	120				
Chrysene	18.4	0.500	20.00	0	92.2	80	120				
Dibenz(a,h)anthracene	17.8	0.500	20.00	0	88.8	80	120				
Diethyl phthalate	19.9	0.500	20.00	0	99.7	80	120				
Dimethyl phthalate	18.4	0.500	20.00	0	92.2	80	120				
Di-n-butyl phthalate	20.3	0.500	20.00	0	102	80	120				
Di-n-octyl phthalate	19.6	0.500	20.00	0	98.0	80	120				
Fluoranthene	19.2	0.500	20.00	0	96.2	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>CCV MSVWS-2000</b>	SampType: <b>CCV</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534994</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	18.1	0.500	20.00	0	90.4	80	120				
Hexachlorobenzene	17.7	0.500	20.00	0	88.4	80	120				
Hexachlorobutadiene	17.8	0.500	20.00	0	89.2	80	120				
Hexachlorocyclopentadiene	17.5	0.500	20.00	0	87.6	80	120				
Hexachloroethane	20.6	0.500	20.00	0	103	80	120				
Indeno(1,2,3-cd)pyrene	18.0	0.500	20.00	0	89.8	80	120				
Isophorone	19.1	0.500	20.00	0	95.4	80	120				
Naphthalene	18.4	0.500	20.00	0	92.1	80	120				
Nitrobenzene	18.6	0.500	20.00	0	93.2	80	120				
N-Nitrosodimethylamine	23.1	0.500	20.00	0	115	80	120				
N-Nitrosodi-n-propylamine	19.2	0.500	20.00	0	96.1	80	120				
N-Nitrosodiphenylamine	18.0	0.500	20.00	0	90.0	80	120				
Pentachlorophenol	23.8	0.500	20.00	0	119	80	120				
Phenanthrene	18.7	0.500	20.00	0	93.5	80	120				
Phenol	20.1	0.500	20.00	0	100	80	120				
Pyrene	19.0	0.500	20.00	0	94.8	80	120				
Pyridine	16.1	0.500	20.00	0	80.6	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534995</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,2-Diphenylhydrazine	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitrophenol	ND	0.500									
3,3'-Dichlorobenzidine	ND	0.500									
3,4-Methylphenol	ND	1.00									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitrophenol	ND	0.500									
Acenaphthene	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534995</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.500									
Aniline	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzidine	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534995</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	64.7		100.0		64.7	33.1	129.7				
Surr: 2-Fluorobiphenyl	68.8		100.0		68.8	33.1	126.2				
Surr: 2-Fluorophenol	45.2		100.0		45.2	13.4	127.1				
Surr: 4-Terphenyl-d14	90.7		100.0		90.7	41	122				
Surr: Nitrobenzene-d5	75.4		100.0		75.4	28.9	129.9				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>534995</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Phenol-d6	29.6		100.0		29.6	10.6	128.5				

Sample ID: <b>2108045-006CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/10/2021</b>	RunNo: <b>41661</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>535009</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	28.5	2.67	42.69	0	66.8	44	142				
1,2-Dichlorobenzene	23.0	2.67	42.69	0	53.9	32	129				
1,2-Diphenylhydrazine	39.4	2.67	42.69	0	92.3	40	140				
1,3-Dichlorobenzene	22.2	2.67	42.69	0	52.0	0.01	172				
1,4-Dichlorobenzene	23.3	2.67	42.69	0	54.5	20	124				
2,4,6-Trichlorophenol	35.6	2.67	42.69	0	83.5	37	144				
2,4-Dichlorophenol	33.0	2.67	42.69	0	77.4	39	135				
2,4-Dimethylphenol	32.5	2.67	42.69	0	76.1	32	119				
2,4-Dinitrophenol	18.2	2.67	42.69	0	42.6	0.01	191				
2,4-Dinitrotoluene	32.4	2.67	42.69	0	76.0	39	139				
2,6-Dinitrotoluene	33.8	2.67	42.69	0	79.3	30	158				
2-Chloronaphthalene	34.0	2.67	42.69	0	79.6	30	118				
2-Chlorophenol	26.4	2.67	42.69	0	61.8	23	134				
2-Methylphenol	23.6	2.67	42.69	0	55.4	30	120				
2-Nitrophenol	30.4	2.67	42.69	0	71.1	29	182				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 625X\_W

Sample ID: 2108045-006CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/10/2021	RunNo: 41661						
Client ID: Villaboix G	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535009						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	17.6	2.67	42.69	0	41.2	0.01	262				
3,4-Methylphenol	90.3	5.34	42.69	80.68	22.5	30	120				SMI
4,6-Dinitro-2-methylphenol	34.0	2.67	42.69	0	79.6	0.01	181				
4-Bromophenyl phenyl ether	32.1	2.67	42.69	0	75.3	33	127				
4-Chloro-3-methylphenol	32.0	2.67	42.69	0	74.9	22	147				
4-Chlorophenyl phenyl ether	35.2	2.67	42.69	0	82.4	25	158				
4-Nitrophenol	16.3	2.67	42.69	0	38.2	0.01	132				
Acenaphthene	34.2	2.67	42.69	0	80.0	37	145				
Acenaphthylene	35.0	2.67	42.69	0	82.0	33	145				
Aniline	16.6	2.67	42.69	0	38.9	16	134				
Anthracene	37.5	2.67	42.69	0	87.8	27	133				
Azobenzene	39.4	2.67	42.69	0	92.3	70	130				
Benz(a)anthracene	36.7	2.67	42.69	0	85.9	33	143				
Benzdine	2.72	2.67	42.69	0	6.38	0.1	140				
Benzo(a)pyrene	34.9	2.67	42.69	0	81.8	17	163				
Benzo(b)fluoranthene	37.8	2.67	42.69	0	88.6	24	159				
Benzo(g,h,i)perylene	35.4	2.67	42.69	0	83.0	0.01	219				
Benzo(k)fluoranthene	36.6	2.67	42.69	0	85.6	11	162				
Benzoic Acid	336	26.7	42.69	393.3	-133	0	250				SMI
Bis(2-chloroethoxy)methane	35.0	2.67	42.69	0	81.9	33	184				
Bis(2-chloroethyl)ether	26.8	2.67	42.69	0	62.8	12	158				
Bis(2-chloroisopropyl)ether	33.2	2.67	42.69	0	77.9	20	140				
Bis(2-ethylhexyl)phthalate	40.5	2.67	42.69	9.859	71.8	8	158				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: 2108045-006CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/10/2021	RunNo: 41661						
Client ID: Villabois G	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535009						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl benzyl phthalate	39.6	2.67	42.69	0	92.9	0.01	152				
Carbazole	36.8	2.67	42.69	0	86.2	23	131				
Chrysene	36.7	2.67	42.69	0	85.9	17	168				
Dibenz(a,h)anthracene	35.5	2.67	42.69	0	83.1	0.01	224				
Diethyl phthalate	45.1	2.67	42.69	7.394	88.4	0.01	114				
Dimethyl phthalate	35.9	2.67	42.69	0	84.1	0.01	112				
Di-n-butyl phthalate	50.3	2.67	42.69	0	118	1	118				
Di-n-octyl phthalate	40.1	2.67	42.69	0	94.0	4	146				
Fluoranthene	37.1	2.67	42.69	0	87.0	26	137				
Fluorene	34.1	2.67	42.69	0	79.9	19	121				
Hexachlorobenzene	34.8	2.67	42.69	0	81.5	0.01	152				
Hexachlorobutadiene	28.2	2.67	42.69	0	66.1	24	116				
Hexachlorocyclopentadiene	7.52	2.67	42.69	0	17.6	10	110				
Hexachloroethane	17.6	2.67	42.69	0	41.2	40	143				
Indeno(1,2,3-cd)pyrene	36.5	2.67	42.69	0	85.5	0.01	171				
Isophorone	35.4	2.67	42.69	0	83.0	21	196				
Naphthalene	31.0	2.67	42.69	0	72.6	21	133				
Nitrobenzene	32.7	2.67	42.69	0	76.5	35	180				
N-Nitrosodimethylamine	17.6	2.67	42.69	0	41.1	0.01	230				
N-Nitrosodi-n-propylamine	32.6	2.67	42.69	0	76.4	0.01	250				
N-Nitrosodiphenylamine	34.7	2.67	42.69	0	81.2	0.01	250				
Pentachlorophenol	45.2	2.67	42.69	0	106	14	176				
Phenanthrene	37.6	2.67	42.69	0	88.1	24	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>2108045-006CMS</b>	SampType: <b>MS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date: <b>8/10/2021</b>	RunNo: <b>41661</b>						
Client ID: <b>Villaboix G</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>535009</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	20.7	2.67	42.69	8.099	29.4	5	112				
Pyrene	37.1	2.67	42.69	0	87.0	12	115				
Pyridine	9.82	2.67	42.69	0	23.0	13	158				

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>535010</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.0	0.500	40.00	0	62.6	44	142				
1,2-Dichlorobenzene	26.3	0.500	40.00	0	65.8	32	129				
1,2-Diphenylhydrazine	38.4	0.500	40.00	0	96.0	40	140				
1,3-Dichlorobenzene	25.7	0.500	40.00	0	64.2	0.01	172				
1,4-Dichlorobenzene	26.0	0.500	40.00	0	65.0	20	124				
2,4,6-Trichlorophenol	36.8	0.500	40.00	0	91.9	37	144				
2,4-Dichlorophenol	30.2	0.500	40.00	0	75.5	39	135				
2,4-Dimethylphenol	27.6	0.500	40.00	0	68.9	32	119				
2,4-Dinitrophenol	24.4	0.500	40.00	0	61.0	0.01	191				
2,4-Dinitrotoluene	35.9	0.500	40.00	0	89.8	39	139				
2,6-Dinitrotoluene	36.1	0.500	40.00	0	90.2	30	158				
2-Chloronaphthalene	31.3	0.500	40.00	0	78.3	30	118				
2-Chlorophenol	31.8	0.500	40.00	0	79.6	23	134				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: LCSW	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylphenol	27.1	0.500	40.00	0	67.8	30	120				
2-Nitrophenol	30.2	0.500	40.00	0	75.5	29	182				
3,3'-Dichlorobenzidine	29.0	0.500	40.00	0	72.5	0.01	262				
3,4-Methylphenol	23.4	1.00	40.00	0	58.5	30	120				
4,6-Dinitro-2-methylphenol	33.8	0.500	40.00	0	84.4	0.01	181				
4-Bromophenyl phenyl ether	32.0	0.500	40.00	0	80.1	33	127				
4-Chloro-3-methylphenol	29.6	0.500	40.00	0	74.1	22	147				
4-Chlorophenyl phenyl ether	31.4	0.500	40.00	0	78.6	25	158				
4-Nitrophenol	19.5	0.500	40.00	0	48.7	0.01	132				
Acenaphthene	33.6	0.500	40.00	0	83.9	37	145				
Acenaphthylene	33.0	0.500	40.00	0	82.6	33	145				
Aniline	33.4	0.500	40.00	0	83.4	16	134				
Anthracene	36.1	0.500	40.00	0	90.3	27	133				
Azobenzene	38.4	0.500	40.00	0	96.0	70	130				
Benz(a)anthracene	36.6	0.500	40.00	0	91.6	33	143				
Benzidine	8.06	0.500	40.00	0	20.2	0.1	140				
Benzo(a)pyrene	35.8	0.500	40.00	0	89.6	17	163				
Benzo(b)fluoranthene	38.7	0.500	40.00	0	96.8	24	159				
Benzo(g,h,i)perylene	36.1	0.500	40.00	0	90.2	0.01	219				
Benzo(k)fluoranthene	36.1	0.500	40.00	0	90.3	11	162				
Benzoic Acid	26.1	5.00	40.00	0	65.3	0	250				
Bis(2-chloroethoxy)methane	33.2	0.500	40.00	0	83.1	33	184				
Bis(2-chloroethyl)ether	33.8	0.500	40.00	0	84.6	12	158				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: LCS	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: LCSW	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bis(2-chloroisopropyl)ether	32.6	0.500	40.00	0	81.6	20	140				
Bis(2-ethylhexyl)phthalate	31.5	0.500	40.00	0	78.7	8	158				
Butyl benzyl phthalate	39.1	0.500	40.00	0	97.6	0.01	152				
Carbazole	36.0	0.500	40.00	0	90.1	23	131				
Chrysene	36.9	0.500	40.00	0	92.2	17	168				
Dibenz(a,h)anthracene	37.3	0.500	40.00	0	93.2	0.01	224				
Diethyl phthalate	39.7	0.500	40.00	0	99.3	0.01	114				
Dimethyl phthalate	36.4	0.500	40.00	0	91.0	0.01	112				
Di-n-butyl phthalate	39.3	0.500	40.00	0	98.2	1	118				
Di-n-octyl phthalate	38.9	0.500	40.00	0	97.2	4	146				
Fluoranthene	36.2	0.500	40.00	0	90.5	26	137				
Fluorene	34.3	0.500	40.00	0	85.8	19	121				
Hexachlorobenzene	36.3	0.500	40.00	0	90.7	0.01	152				
Hexachlorobutadiene	22.4	0.500	40.00	0	55.9	24	116				
Hexachlorocyclopentadiene	9.19	0.500	40.00	0	23.0	10	110				
Hexachloroethane	20.0	0.500	40.00	0	49.9	40	143				
Indeno(1,2,3-cd)pyrene	37.8	0.500	40.00	0	94.5	0.01	171				
Isophorone	33.9	0.500	40.00	0	84.8	21	196				
Naphthalene	27.8	0.500	40.00	0	69.6	35	133				
Nitrobenzene	33.4	0.500	40.00	0	83.6	14	150				
N-Nitrosodimethylamine	17.4	0.500	40.00	0	43.6	0.01	250				
N-Nitrosodi-n-propylamine	31.5	0.500	40.00	0	78.7	0.01	230				
N-Nitrosodiphenylamine	35.7	0.500	40.00	0	89.3	0.01	133				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>535010</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	24.1	0.500	40.00	0	60.3	24	176				
Phenanthrene	36.1	0.500	40.00	0	90.2	5	120				
Phenol	12.0	0.500	40.00	0	30.1	12	112				
Pyrene	36.5	0.500	40.00	0	91.2	12	115				
Pyridine	14.2	0.500	40.00	0	35.4	13	158				

Sample ID: <b>LCSD</b>	SampType: <b>LCSD</b>	TestCode: <b>625X_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41661</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>18346</b>	TestNo: <b>E625.1</b>	<b>E625</b>	Analysis Date: <b>8/25/2021</b>	SeqNo: <b>535011</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	25.8	0.500	40.00	0	64.4	44	142	25.03	2.95	20	
1,2-Dichlorobenzene	24.0	0.500	40.00	0	60.0	32	129	26.30	9.15	20	
1,2-Diphenylhydrazine	35.1	0.500	40.00	0	87.8	40	140	38.41	8.92	20	
1,3-Dichlorobenzene	23.6	0.500	40.00	0	58.9	0.01	172	25.69	8.65	20	
1,4-Dichlorobenzene	23.9	0.500	40.00	0	59.8	20	124	26.00	8.38	20	
2,4,5-Trichlorophenol	33.6	2.00	40.00	0	84.0	80	120	32.22	4.16	0	
2,4,6-Trichlorophenol	41.4	0.500	40.00	0	104	37	144	36.76	12.0	20	
2,4-Dichlorophenol	31.5	0.500	40.00	0	78.7	39	135	30.20	4.18	20	
2,4-Dimethylphenol	28.3	0.500	40.00	0	70.8	32	119	27.56	2.72	20	
2,4-Dinitrophenol	25.4	0.500	40.00	0	63.6	0.01	191	24.40	4.17	20	
2,4-Dinitrotoluene	35.6	0.500	40.00	0	89.0	39	139	35.94	0.922	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: LCSS02	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535011						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	36.0	0.500	40.00	0	90.1	30	158	36.07	0.139	20	
2-Chloronaphthalene	30.5	0.500	40.00	0	76.2	30	118	31.31	2.65	20	
2-Chlorophenol	28.7	0.500	40.00	0	71.8	23	134	31.84	10.3	20	
2-Methylphenol	24.9	0.500	40.00	0	62.4	30	120	27.12	8.37	20	
2-Nitrophenol	31.9	0.500	40.00	0	79.8	29	182	30.21	5.54	20	
3,3'-Dichlorobenzidine	31.8	0.500	40.00	0	79.6	0.01	262	29.00	9.30	20	
3,4-Methylphenol	22.1	1.00	40.00	0	55.3	30	120	23.39	5.58	20	
4,6-Dinitro-2-methylphenol	33.6	0.500	40.00	0	84.0	0.01	181	33.78	0.564	20	
4-Bromophenyl phenyl ether	34.0	0.500	40.00	0	85.0	33	127	32.02	6.03	20	
4-Chloro-3-methylphenol	32.0	0.500	40.00	0	79.9	22	147	29.62	7.60	20	
4-Chlorophenyl phenyl ether	35.7	0.500	40.00	0	89.2	25	158	31.44	12.7	20	
4-Nitrophenol	21.5	0.500	40.00	0	53.8	0.01	132	19.49	9.81	20	
Acenaphthene	33.4	0.500	40.00	0	83.6	37	145	33.56	0.358	20	
Acenaphthylene	31.0	0.500	40.00	0	77.6	33	145	33.04	6.24	20	
Aniline	28.4	0.500	40.00	0	71.1	16	134	33.37	15.9	20	
Anthracene	33.8	0.500	40.00	0	84.5	27	133	36.10	6.55	20	
Azobenzene	35.1	0.500	40.00	0	87.8	70	130	38.41	8.92	0	
Benz(a)anthracene	36.8	0.500	40.00	0	91.9	33	143	36.64	0.354	20	
Benzidine	10.2	0.500	40.00	0	25.4	0.1	140	8.060	23.0	20	R
Benzo(a)pyrene	37.0	0.500	40.00	0	92.6	17	163	35.85	3.27	20	
Benzo(b)fluoranthene	41.6	0.500	40.00	0	104	24	159	38.72	7.08	20	
Benzo(g,h,i)perylene	36.9	0.500	40.00	0	92.2	0.01	219	36.06	2.19	20	
Benzo(k)fluoranthene	40.2	0.500	40.00	0	101	11	162	36.13	10.8	20	

Qualifiers: B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: LCSS02	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535011						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzoic Acid	27.9	5.00	40.00	0	69.8	0	250	26.11	6.66	20	
Bis(2-chloroethoxy)methane	34.9	0.500	40.00	0	87.3	33	184	33.25	4.87	20	
Bis(2-chloroethyl)ether	35.9	0.500	40.00	0	89.7	12	158	33.83	5.85	20	
Bis(2-chloroisopropyl)ether	32.9	0.500	40.00	0	82.2	20	140	32.65	0.732	20	
Bis(2-ethylhexyl)phthalate	33.6	0.500	40.00	0	84.0	8	158	31.49	6.45	20	
Butyl benzyl phthalate	37.5	0.500	40.00	0	93.7	0.01	152	39.06	4.13	20	
Carbazole	34.2	0.500	40.00	0	85.6	23	131	36.04	5.12	20	
Chrysene	36.5	0.500	40.00	0	91.4	17	168	36.86	0.872	20	
Dibenz(a,h)anthracene	38.5	0.500	40.00	0	96.2	0.01	224	37.28	3.14	20	
Diethyl phthalate	37.5	0.500	40.00	0	93.7	0.01	114	39.73	5.80	20	
Dimethyl phthalate	34.9	0.500	40.00	0	87.3	0.01	112	36.38	4.10	20	
Di-n-butyl phthalate	34.5	0.500	40.00	0	86.2	1	118	39.29	13.1	20	
Di-n-octyl phthalate	35.6	0.500	40.00	0	88.9	4	146	38.89	8.97	20	
Fluoranthene	33.9	0.500	40.00	0	84.8	26	137	36.20	6.50	20	
Fluorene	33.7	0.500	40.00	0	84.2	19	121	34.30	1.88	20	
Hexachlorobenzene	41.3	0.500	40.00	0	103	0.01	152	36.26	12.9	20	
Hexachlorobutadiene	23.8	0.500	40.00	0	59.4	24	116	22.37	5.98	20	
Hexachlorocyclopentadiene	10.0	0.500	40.00	0	25.0	10	110	9.190	8.44	20	
Hexachloroethane	20.7	0.500	40.00	0	51.7	40	143	19.96	3.59	20	
Indeno(1,2,3-cd)pyrene	38.5	0.500	40.00	0	96.3	0.01	171	37.79	1.94	20	
Isophorone	33.7	0.500	40.00	0	84.2	21	196	33.90	0.710	20	
Naphthalene	27.7	0.500	40.00	0	69.2	21	133	27.83	0.540	20	
Nitrobenzene	33.2	0.500	40.00	0	82.9	35	180	33.44	0.871	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** 625X\_W

Sample ID: LCSD	SampType: LCSD	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: LCSS02	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 535011						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
N-Nitrosodimethylamine	19.1	0.500	40.00	0	47.6	0.01	230	17.43	8.93	20	
N-Nitrosodi-n-propylamine	33.4	0.500	40.00	0	83.6	0.01	250	31.49	6.04	20	
N-Nitrosodiphenylamine	35.8	0.500	40.00	0	89.6	0.01	250	35.73	0.279	20	
Pentachlorophenol	26.7	0.500	40.00	0	66.8	14	176	24.13	10.3	20	
Phenanthrene	34.7	0.500	40.00	0	86.8	24	120	36.09	3.90	20	
Phenol	10.2	0.500	40.00	0	25.6	5	112	12.03	16.0	20	
Pyrene	34.2	0.500	40.00	0	85.4	12	115	36.46	6.46	20	
Pyridine	12.5	0.500	40.00	0	31.2	13	158	14.16	12.5	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** ALK\_CWA

Sample ID: <b>LCS-R41387</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531932</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	202	10.0	200.0	0	101	87.5	111				

Sample ID: <b>MB-R41387</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531933</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108045-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531935</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	298	10.0	100.0	250.0	48.0	80	120				SMI

Sample ID: <b>2108045-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531936</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	300	10.0	100.0	250.0	50.0	80	120	298.0	0.669	20	SMI

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** ALK\_CWA

Sample ID: <b>2108045-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531936</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41387</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531939</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	202	10.0	200.0	0	101	90	110				

Sample ID: <b>CCV2-R41387</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531946</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	205	10.0	200.0	0	103	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** BOD\_C

Sample ID: <b>MB-R41393</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41393</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41393</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531998</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41393</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41393</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41393</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531999</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	181	2.00	198.0	0	91.3	70	130				

**Qualifiers:**  
B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41392</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41392</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41392</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531987</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41392</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41392</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41392</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/5/2021</b>	SeqNo: <b>531988</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	190.8	2.0	198.0	0	96.4	84	116				

**Qualifiers:**  
B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** CN\_W

Sample ID: <b>ICV-R41433</b>	SampType: <b>ICV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0540	0.00500	0.05000	0	108	90	110				

Sample ID: <b>MB-R41433</b>	SampType: <b>MBLK</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532512</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: <b>LCS-R41433</b>	SampType: <b>LCS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0896	0.00500	0.1000	0	89.6	80	120				

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0477	0.00500	0.05000	0.003290	88.8	67.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** CN\_W

Sample ID: <b>2108006-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108006-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532517</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0481	0.00500	0.05000	0.003290	89.6	67.9	120	0.04769	0.858	20	

Sample ID: <b>CCV1-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532521</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0972	0.00500	0.1000	0	97.2	90	110				

Sample ID: <b>2108010-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532527</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0460	0.00500	0.05000	0.003078	85.9	67.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: CN\_W

Sample ID: <b>2108010-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0465	0.00500	0.05000	0.003078	86.8	67.9	120	0.04602	1.03	20	

Sample ID: <b>CCV2-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532532</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0997	0.00500	0.1000	0	99.7	90	110				

Sample ID: <b>CCV3-R41433</b>	SampType: <b>CCV</b>	TestCode: <b>CN_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41433</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41433</b>	TestNo: <b>D7284</b>		Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532540</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	0.0998	0.00500	0.1000	0	99.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** CR6-CWA

Sample ID: <b>MB-R41471</b>	SampType: <b>MBLK</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533006</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: <b>LCS-R41471</b>	SampType: <b>LCS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533007</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>2108007-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533013</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	47.8	5.00	50.00	0	95.6	75	125				

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>		Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.9	5.00	50.00	0	93.8	75	125	47.81	1.88	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** CR6-CWA

Sample ID: <b>2108007-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533014</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533015</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	90	110				

Sample ID: <b>2108010-003AMS</b>	SampType: <b>MS</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533020</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	46.0	5.00	50.00	0	92.1	75	125				

Sample ID: <b>2108010-003AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533021</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	44.2	5.00	50.00	0	88.5	75	125	46.03	3.95	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** CR6-CWA

Sample ID: <b>CCV2-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533026</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

Sample ID: <b>CCV3-R41471</b>	SampType: <b>CCV</b>	TestCode: <b>CR6-CWA</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41471</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41471</b>	TestNo: <b>M 3500 Cr B</b>	Analysis Date: <b>8/17/2021</b>	SeqNo: <b>533034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	45.1	5.00	50.00	0	90.3	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** HARDCALC

Sample ID: <b>MB-18329</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531828</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18329</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531829</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.6	0.200	33.08	0	101	80	120				

Sample ID: <b>2108045-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531831</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	61.6	0.200						59.76	2.98	20	

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	88.2	0.200	33.08	59.76	86.0	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** HARDCALC

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>08 21LLIC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531834</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	86.8	0.200	33.08	59.76	81.8	80	120	88.20	1.57	20	

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41358</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531614</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.496	0.0200	0.5000	0	99.2	90	110				

Sample ID: <b>ICB-R41358</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531615</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41358</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531617</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.991	0.0200	1.000	0	99.1	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41358</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531618</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531623</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.993	0.0200	1.000	0	99.3	90	110				

Sample ID: <b>2108016-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531628</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0.02400	98.2	68.7	124				

Sample ID: <b>2108016-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531629</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.03	0.0200	1.000	0.02400	101	68.7	124	1.006	2.36	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531631</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.981	0.0200	1.000	0	98.1	90	110				

Sample ID: <b>2108017-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531632</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.24	0.0200	1.000	0.6570	58.0	68.7	124				SMI

Sample ID: <b>2108017-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531633</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.10	0.0200	1.000	0.6570	43.9	68.7	124	1.237	12.1	20	SMI

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV5-R41358</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41358</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41358</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531646</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>ICV-R41488</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533223</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.512	0.0200	0.5000	0	102	90	110				

Sample ID: <b>ICB-R41488</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533224</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41488</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533226</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41488</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533227</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0	101	80	120				

Sample ID: <b>2108030-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533230</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.19	0.0200	1.000	0.1950	99.9	68.7	124				

Sample ID: <b>2108030-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533231</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.20	0.0200	1.000	0.1950	101	68.7	124	1.194	0.501	20	

Sample ID: <b>CCV2-R41488</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533241</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Specialty Analytical

WO#: 2108045

8/30/2021

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41488</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533241</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41391</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>PBW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531965</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: <b>LCS-R41391</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>LCSW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531966</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8 90 110

Sample ID: <b>2108045-007BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>Parkway C</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531974</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	12.8	0.200	5.000	8.562	85.7 80 120

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>
Client ID: <b>Parkway C</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	13.2	0.200	5.000	8.562	92.2 80 120 12.85 2.49 20

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: P-TOTAL

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>Parkway C</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108055-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531981</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	10.5	0.200	5.000	6.024	90.0	80	120				

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	9.86	0.200	5.000	6.024	76.7	80	120	10.52	6.53	20	S

Sample ID: <b>CCV-2</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531985</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.989	0.0200	1.000	0	98.9	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** P-TOTAL

Sample ID: <b>CCB-R41391</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531986</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV-1</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532023</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** SULFIDE\_W

Sample ID: <b>MB-R41359</b>	SampType: <b>MBLK</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531647</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00									

Sample ID: <b>LCS-R41359</b>	SampType: <b>LCS</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531648</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	83.2	1.00	100.0	0	83.2	80	115				

Sample ID: <b>2108006-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531650</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	1.44	1.00						1.440	0	20	

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide (As S)	ND	1.00						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Specialty Analytical

WO#: 2108045

8/30/2021

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** SULFIDE\_W

Sample ID: <b>2108028-003DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>SULFIDE_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41359</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41359</b>	TestNo: <b>SM4500-S2 F</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531664</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41509</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533550</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.36	0.200	5.000	0	107	90	110				

Sample ID: <b>MB-R41509</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533552</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>LCS-R41509</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533553</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.40	0.200	5.000	0	108	90	110				

Sample ID: <b>2108045-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>08 21LLEC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533558</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.38	0.200	5.000	1.589	95.7	57	167				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

Client: City of Wilsonville

Project: 2108045

TestCode: TKN\_SM

Sample ID: <b>2108045-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>08 21LLEC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>08 21LLEC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.71	0.200	5.000	1.589	102	57	167	6.375	5.15	20	

Sample ID: <b>CCV1-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533562</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.2	0.200	10.00	0	102	90	110				

Sample ID: <b>CCB1-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045  
8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** 2108045

**TestCode:** TKN\_SM

Sample ID: <b>2108089-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	7.22	0.200	5.000	1.918	106	57	167				

Sample ID: <b>2108089-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.58	0.200	5.000	1.918	93.3	57	167	7.218	9.22	20	

Sample ID: <b>CCV4-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCB4-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533577</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Specialty Analytical

WO#: 2108045

8/30/2021

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** TKN\_SM

Sample ID: <b>CCB4-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533577</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41411</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41411</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41411</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532217</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	34.0	5.00									

Sample ID: <b>LCS-R41411</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41411</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41411</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532218</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1130	5.00	1000	0	113	80	120				B

Sample ID: <b>A2108045-003FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41411</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41411</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532221</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	230	5.00						253.0	9.52	20	B

Sample ID: <b>MB-R41450</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41450</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41450</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532818</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** TS\_1684\_W

Sample ID: <b>MB-R41450</b>	SampType: <b>MBLK</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41450</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41450</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532818</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>LCS-R41450</b>	SampType: <b>LCS</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41450</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41450</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532819</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	1110	5.00	1000	0	111	80	120				

Sample ID: <b>2108045-003FDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TS_1684_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41450</b>						
Client ID: <b>08 21LLEG</b>	Batch ID: <b>R41450</b>	TestNo: <b>E1684</b>	Analysis Date: <b>8/12/2021</b>	SeqNo: <b>532821</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	184	5.00						204.0	10.3	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108045

8/30/2021

## Specialty Analytical

**Client:** City of Wilsonville

**Project:** 2108045

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41360</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531671</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41360</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531672</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	88.0	10.0	100.0	0	88.0	80	105				

Sample ID: <b>2108028-002DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41360</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41360</b>	TestNo: <b>M2540 D</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>531674</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	266	10.0						262.0	1.5	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108045

RcptNo: 1

Date and Time Received 8/5/2021 12:49:27 PM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date: 8/6/2021 4:32:02 PM

Reviewed Date: 8/6/2021 4:32:04 PM

Carrier name: SA

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To          | 0.6°C                               |
| Water - Were bubbles absent in VOC vials?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | No Vials    | <input type="checkbox"/>            |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be





*Specialty Analytical*  
9011 SE Jannsen Rd  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



**Specialty Analytical**

Julie Clay

9011 SE Janssen Rd

Clackamas, OR 97015

**RE: 2108045**

**Work Order Number: 2108099**

August 23, 2021

**Attention Julie Clay:**

Fremont Analytical, Inc. received 4 sample(s) on 8/6/2021 for the analyses presented in the following report.

***Mercury by Method 1631E***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes  
Project Manager

**CC:**

Mandy Wehe



---

**CLIENT:** Specialty Analytical  
**Project:** 2108045  
**Work Order:** 2108099

---

**Work Order Sample Summary**

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Date/Time Collected</b>	<b>Date/Time Received</b>
2108099-001	080521LLIC	08/05/2021 9:00 AM	08/06/2021 9:48 AM
2108099-002	080521LLEC	08/05/2021 9:30 AM	08/06/2021 9:48 AM
2108099-003	Parkway C	08/05/2021 9:15 AM	08/06/2021 9:48 AM
2108099-004	Villaboix C	08/05/2021 10:00 AM	08/06/2021 9:48 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

---

**CLIENT:** Specialty Analytical  
**Project:** 2108045

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

2108099-001A

M-1631-W has been Sub Contracted.

2108099-002A

M-1631-W has been Sub Contracted.

2108099-003A

M-1631-W has been Sub Contracted.

2108099-004A

M-1631-W has been Sub Contracted.



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

August 23, 2021

Fremont Analytical  
ATTN: Brianna Barnes  
3600 Fremont Ave N  
Seattle, WA 98103  
bbarnes@fremontanalytical.com

RE: Project FMA-SE2101

Client Project: 2108099

Dear Brianna Barnes,

On August 9, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 2108099-002A (2108105-02) was less than the MRL when originally analyzed in sequence S210907. The sample was re-analyzed at a higher volume and reported in sequence S210922.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goddall".

Amy Goddall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.





## Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
2108099-001A	080521LLIC	2108105-01	Wastewater	Sample	08/05/2021	08/09/2021
2108099-002A	080521LLEC	2108105-02	Wastewater	Sample	08/05/2021	08/09/2021
2108099-003A	Parkway C	2108105-03	Wastewater	Sample	08/05/2021	08/09/2021
2108099-004A	Villaboies C	2108105-04	Wastewater	Sample	08/05/2021	08/09/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/10/2021	08/12/2021	B212210	S210907
Hg	Water	EPA 1631 E	08/10/2021	08/14/2021	B212210	S210922



## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>2108099-001A, 080521LLIC</b> 2108105-01	Hg	Wastewater	TR	74.7		0.68	2.11	ng/L	B212210	S210907
<b>2108099-002A, 080521LLEC</b> 2108105-02	Hg	Wastewater	TR	0.86		0.14	0.42	ng/L	B212210	S210922
<b>2108099-003A, Parkway C</b> 2108105-03	Hg	Wastewater	TR	298		0.68	2.11	ng/L	B212210	S210907
<b>2108099-004A, Villabois C</b> 2108105-04	Hg	Wastewater	TR	23.6		0.68	2.11	ng/L	B212210	S210907



## Accuracy & Precision Summary

Batch: B212210  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212210-MS2	Matrix Spike (2108105-04) Hg	23.56	105.3	127.0	ng/L	98% 71-125	
B212210-MSD2	Matrix Spike Duplicate (2108105-04) Hg	23.56	105.3	126.6	ng/L	98% 71-125	0.3% 24

## Method Blanks & Reporting Limits

Batch: B212210  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212210-BLK1	0.08	ng/L
B212210-BLK2	0.11	ng/L
B212210-BLK3	0.09	ng/L
B212210-BLK4	0.05	ng/L
<b>Average:</b>	0.08	
<b>Limit:</b>	0.50	
<b>Standard Deviation:</b>	0.03	
<b>Limit:</b>	0.13	
<b>MDL:</b>	0.13	
<b>MRL:</b>	0.40	



## Sample Containers

<b>Lab ID:</b> 2108105-01 <b>Sample:</b> 2108099-001A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/05/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108105
<b>Lab ID:</b> 2108105-02 <b>Sample:</b> 2108099-002A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/05/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108105
<b>Lab ID:</b> 2108105-03 <b>Sample:</b> 2108099-003A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/05/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108105
<b>Lab ID:</b> 2108105-04 <b>Sample:</b> 2108099-004A		<b>Report Matrix:</b> Wastewater <b>Sample Type:</b> Sample			<b>Collected:</b> 08/05/2021 <b>Received:</b> 08/09/2021	
<b>Des</b>	<b>Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH</b> <b>Ship. Cont.</b>
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1   Cooler - 2108105

## Shipping Containers

### Cooler - 2108105

**Received:** August 9, 2021 13:57  
**Tracking No:** N/A via Courier  
**Coolant Type:** Blue Ice  
**Temperature:** 7.1 °C

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No  
**Comments:** IR#31

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes



CHAIN OF CUSTODY RECORD

Omega COCID 1097 PAGE: 1 OF: 1

ADDRESS: BAA Report 2108105  
 Fremont Analytical, Inc.  
 3600 Fremont Ave. N.  
 Seattle, WA 98103  
 TEL: 206-352-3790  
 FAX: 206-352-7178  
 Website: www.fremontanalytical.com

SUB CONTRACTOR: <b>Brooks Applied Labs</b> COMPANY: <b>Brooks Applied Labs</b>		SPECIAL INSTRUCTIONS / COMMENTS: Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. <i>5 Day TAT preferred. Samples preserved w/BarCl.</i>	
ADDRESS: <b>18804 North Creek Parkway, Ste 100</b>			
CITY, STATE, ZIP: <b>Bothell, WA 98011</b>			
PHONE:	FAX:		EMAIL:
ACCOUNT #:			

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	2108099-001A M-1631-W	080521LLIC	AMBER GLASS 5	Wastewater	8/5/2021 9:00:00 AM	1	
2	2108099-002A M-1631-W	080521LLEC	AMBER GLASS 5	Wastewater	8/5/2021 9:30:00 AM	1	
3	2108099-003A M-1631-W	Parkway C	AMBER GLASS 5	Wastewater	8/5/2021 9:15:00 AM	1	
4	2108099-004A M-1631-W	Villaboies C	AMBER GLASS 5	Wastewater	8/5/2021 10:00:00 AM	1	

Relinquished By: <i>Brianna</i>	Date: <i>8/9/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/9/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE  FOR LAB USE ONLY Temp of samples _____ °C    Attempt to Cool? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT:    Standard <input type="checkbox"/> RUSH:    Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/> Note: RUSH requests will incur surcharges!						Page 4 of 14 Page 9 of 9

Client Name: **SPECIAL**

 Work Order Number: **2108099**

 Logged by: **Matt Langston**

 Date Received: **8/6/2021 9:48:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA
4. Shipping container/cooler in good condition? Yes  No
5. Custody Seals present on shipping container/cooler?  
(Refer to comments for Custody Seals not intact) Yes  No  Not Present
6. Was an attempt made to cool the samples? Yes  No  NA
7. Were all items received at a temperature of >2°C to 6°C \* **Not Required** Yes  No  NA
8. Sample(s) in proper container(s)? Yes  No
9. Sufficient sample volume for indicated test(s)? Yes  No
10. Are samples properly preserved? Yes  No
11. Was preservative added to bottles? Yes  No  NA
12. Is there headspace in the VOA vials? Yes  No  NA
13. Did all samples containers arrive in good condition(unbroken)? Yes  No
14. Does paperwork match bottle labels? Yes  No
15. Are matrices correctly identified on Chain of Custody? Yes  No
16. Is it clear what analyses were requested? Yes  No
17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text" value="Julie Clav"/>	Date:	<input type="text" value="8/6/2021"/>
By Whom:	<input type="text" value="Brianna Barnes"/>	Via:	<input checked="" type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text" value="OK to subcontract due to instrument issues?"/>		
Client Instructions:	<input type="text" value="Subcontract to Brooks Applied Labs."/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Sample	24.2

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



**Specialty Analytical**

9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

**Chain of Custody Record**

Date: 8-5-21 Page: 1 of 1

Project Name: 2108045

Project No: PO No:

Collected by:

State Collected:  OR  WA  OTHER

Report To (PM):

Laboratory Project No (Internal): 2108099

Temperature on Receipt: °C

Cooling: Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

MIDL TIER IV EDD

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

Client: Specialty Analytical

City, State, Zip:

Telephone:

AP Email: Mandy@specialtyanalytical.com

PM Email: Julie@specialtyanalytical.com

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 080521LLIC	8-5-21	900	WW	1	LL Mercury	
2 080521LLIC	8-5-21	930	WW	1	1601	
3 Parkway C	8-5-21	0915	WW	1		
4 Villabars C	8-5-21	1000	WW	1		
5						
6						
7						
8						
9						
10						

\*Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_

Expedited turn-around requests should be coordinated in advance

Relinquished  Date/Time 8-5-21 Received  Date/Time 8/6/21 0948

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_

Relinquished  Date/Time \_\_\_\_\_ Received  Date/Time \_\_\_\_\_



**Specialty Analytical**

9011 SE Janssen Rd

Clackamas, OR 97015

Phone: 503-607-1331

Fax: 503-607-1336

### Chain of Custody Record

Date: 8-5-21

Page: 1 of 1

Project Name: 2108045

Project No: 2108045

Project No:

PO No:

Collected by:

State Collected: OR  WA  OTHER

Report To (PM):

PM Email:

Laboratory Project No (Internal): 2108045

Temperature on Receipt: 06 °C

Cooling: ice Shipped Via: SA

Custody Seal: Y / (N) Intact / Broken Cooler / Bottle

MDL  TIER IV  EDD

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

City, State, Zip: WLSM  
 Telephone: 503-701-9671

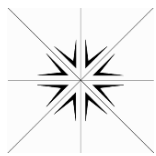
AP Email:

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G - grab C - Composite I - Influent E - Effluent						
08 21LLEIG	8-5-21	0900	W/D	1	EPA 200.8 Metals <del>EPA 351.1 TRN</del> SM 3500 CrB Hex Chrom SM 4560 CN SM 4500 NH <sub>3</sub> XP EPA 351.1 TRN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S <sub>2</sub> O Sulfides SM 5210B BOD CBOD SM 25400 TSS EPA 624 VOC VOC	
08 21LLEIC	8-5-21	900	W/D	1		
08 21LLEIG	8-5-21	930	W/D	1		
08 21LLEIC	8-5-21	930	W/D	1		
08 21LLEIC	8-5-21	930	W/D	1		
Palway G	8-5-21	0915	W/D	1		
Vilabois G	8-5-21	1000	W/D	1		
Palway C	8-5-21	0915	W/D	1		
Vilabois C	8-5-21	1000	W/D	1		

Turn-around Time: Standard (5-7 Business)  3 Day  2 Day  Next Day  Same Day

Reinquired: Kella McClelland 8-5-21  
 Date/Time: 8-5-21  
 Received: *[Signature]*  
 Date/Time: 8-5-21 1345  
 Expedited turn-around requests should be coordinated in advance





Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2108045  
Date: 8/30/2021

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### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

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Specialty Analytical  
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Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

## Definition Only

WO#: 2108045  
Date: 8/30/2021

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### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

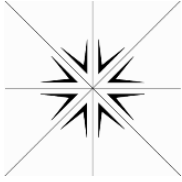
RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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# Specialty Analytical

9011 SE Janssen Rd  
Clackamas, OR 97015  
TEL: (503) 607-1331

Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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September 07, 2021

Mia Pan  
City of Wilsonville  
29799 SW town Center Loop E  
Wilsonville, OR 97070  
TEL: (503) 552-7761  
FAX: (503) 682-1015

RE: Wilsonville

Order No.: 2108055

Dear Mia Pan:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

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

Sincerely,

Marty French  
Lab Director

# Specialty Analytical

WO#: 2108055  
Date Reported: 9/7/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108055-001  
**Client Sample ID** 080621LLIC

**Collection Date:** 8/6/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	282	10.0		µg/L	1	8/9/2021 2:45:21 PM
Antimony	0.723	0.500		µg/L	1	8/9/2021 2:45:21 PM
Arsenic	0.853	0.100		µg/L	1	8/9/2021 2:45:21 PM
Cadmium	0.147	0.100		µg/L	1	8/9/2021 2:45:21 PM
Chromium	1.72	0.100		µg/L	1	8/9/2021 2:45:21 PM
Copper	37.7	0.500		µg/L	1	8/9/2021 2:45:21 PM
Iron	464	50.0		µg/L	1	8/9/2021 2:45:21 PM
Lead	0.819	0.100		µg/L	1	8/9/2021 2:45:21 PM
Molybdenum	4.92	0.500		µg/L	1	8/9/2021 2:45:21 PM
Nickel	2.82	0.500		µg/L	1	8/9/2021 2:45:21 PM
Potassium	15700	100		µg/L	1	8/9/2021 2:45:21 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:45:21 PM
Silver	0.356	0.100		µg/L	1	8/9/2021 2:45:21 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:45:21 PM
Zinc	142	2.00		µg/L	1	8/9/2021 2:45:21 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	59.4	0.200		mg/L	1	8/9/2021 2:45:21 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	369	2.00		mg/L	1	8/6/2021 4:38:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	566.1	2.0		mg/L	1	8/6/2021 4:54:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	210	10.0		mg/L CaCO3	1	8/9/2021 1:47:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	37.5	0.800		mg/L	40	8/18/2021 1:49:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	5.83	0.200		mg/L	10	8/10/2021 10:51:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	58.4	1.00		mg/L	5	8/20/2021 10:15:49 AM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	352	10.0		mg/L	1	8/9/2021 1:41:41 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108055  
Date Reported: 9/7/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108055-002  
**Client Sample ID** 080621LLEC

**Collection Date:** 8/6/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	10.8	10.0		µg/L	1	8/9/2021 2:48:46 PM
Antimony	ND	0.500		µg/L	1	8/9/2021 2:48:46 PM
Arsenic	0.458	0.100		µg/L	1	8/9/2021 2:48:46 PM
Cadmium	ND	0.100		µg/L	1	8/9/2021 2:48:46 PM
Chromium	0.333	0.100		µg/L	1	8/9/2021 2:48:46 PM
Copper	2.41	0.500		µg/L	1	8/9/2021 2:48:46 PM
Iron	59.7	50.0		µg/L	1	8/9/2021 2:48:46 PM
Lead	0.602	0.100		µg/L	1	8/9/2021 2:48:46 PM
Molybdenum	3.14	0.500		µg/L	1	8/9/2021 2:48:46 PM
Nickel	2.26	0.500		µg/L	1	8/9/2021 2:48:46 PM
Potassium	14400	100		µg/L	1	8/9/2021 2:48:46 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:48:46 PM
Silver	ND	0.100		µg/L	1	8/9/2021 2:48:46 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:48:46 PM
Zinc	135	2.00		µg/L	1	8/9/2021 2:48:46 PM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	54.2	0.200		mg/L	1	8/9/2021 2:48:46 PM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	2.40	2.00		mg/L	1	8/6/2021 4:38:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	2.9	2.0		mg/L	1	8/6/2021 4:54:00 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	60.0	10.0		mg/L CaCO3	1	8/9/2021 1:57:36 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	0.169	0.0200		mg/L	1	8/18/2021 1:54:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	0.460	0.0200		mg/L	1	8/10/2021 10:52:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	1.44	0.200		mg/L	1	8/19/2021 5:26:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	ND	10.0		mg/L	1	8/9/2021 1:43:41 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108055  
Date Reported: 9/7/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108055-003  
**Client Sample ID** Parkway C

**Collection Date:** 8/6/2021 9:00:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	261	10.0		µg/L	1	8/9/2021 2:52:11 PM
Antimony	1.62	0.500		µg/L	1	8/9/2021 2:52:11 PM
Arsenic	0.904	0.100		µg/L	1	8/9/2021 2:52:11 PM
Cadmium	0.136	0.100		µg/L	1	8/9/2021 2:52:11 PM
Chromium	2.27	0.100		µg/L	1	8/9/2021 2:52:11 PM
Copper	63.6	0.500		µg/L	1	8/9/2021 2:52:11 PM
Iron	1270	50.0		µg/L	1	8/9/2021 2:52:11 PM
Lead	1.64	0.100		µg/L	1	8/9/2021 2:52:11 PM
Molybdenum	4.26	0.500		µg/L	1	8/9/2021 2:52:11 PM
Nickel	5.61	0.500		µg/L	1	8/9/2021 2:52:11 PM
Potassium	36100	1000		µg/L	10	8/9/2021 4:28:47 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 2:52:11 PM
Silver	0.367	0.100		µg/L	1	8/9/2021 2:52:11 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 2:52:11 PM
Zinc	181	2.00		µg/L	1	8/9/2021 2:52:11 PM
<b>HARDNESS (CALC.)</b>				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	57.8	0.200		mg/L	1	8/9/2021 2:52:11 PM
<b>CARBONACEOUS BOD</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	395	2.00		mg/L	1	8/6/2021 4:38:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	410.1	2.0		mg/L	1	8/6/2021 4:54:00 PM
<b>ALKALINITY</b>				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	245	10.0		mg/L CaCO3	1	8/9/2021 2:07:36 PM
<b>AMMONIA AS NITROGEN</b>				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	46.9	0.800		mg/L	40	8/18/2021 1:59:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	8.96	0.200		mg/L	10	8/10/2021 10:53:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	74.4	10.0		mg/L	50	8/19/2021 5:31:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	376	10.0		mg/L	1	8/9/2021 1:44:41 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# Specialty Analytical

WO#: 2108055  
Date Reported: 9/7/2021

**CLIENT:** City of Wilsonville  
**Project:** Wilsonville  
**Lab ID:** 2108055-004  
**Client Sample ID** Villaboiss C

**Collection Date:** 8/6/2021 9:30:00 AM

**Matrix:** WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ICP/MS METALS- TOTAL RECOVERABLE</b>						
				<b>E200.8</b>	<b>E200.8</b>	Analyst: <b>JRC</b>
Aluminum	408	10.0		µg/L	1	8/9/2021 3:02:27 PM
Antimony	0.732	0.500		µg/L	1	8/9/2021 3:02:27 PM
Arsenic	0.613	0.100		µg/L	1	8/9/2021 3:02:27 PM
Cadmium	0.148	0.100		µg/L	1	8/9/2021 3:02:27 PM
Chromium	1.88	0.100		µg/L	1	8/9/2021 3:02:27 PM
Copper	36.0	0.500		µg/L	1	8/9/2021 3:02:27 PM
Iron	387	50.0		µg/L	1	8/9/2021 3:02:27 PM
Lead	2.90	0.100		µg/L	1	8/9/2021 3:02:27 PM
Molybdenum	1.56	0.500		µg/L	1	8/9/2021 3:02:27 PM
Nickel	4.42	0.500		µg/L	1	8/9/2021 3:02:27 PM
Potassium	16200	100		µg/L	1	8/9/2021 3:02:27 PM
Selenium	ND	1.00		µg/L	1	8/9/2021 3:02:27 PM
Silver	0.311	0.100		µg/L	1	8/9/2021 3:02:27 PM
Thallium	ND	0.100		µg/L	1	8/9/2021 3:02:27 PM
Zinc	249	2.00		µg/L	1	8/9/2021 3:02:27 PM
<b>HARDNESS (CALC.)</b>						
				<b>M2340 B</b>	<b>SW3010A</b>	Analyst: <b>JRC</b>
Hardness (Calc.)	79.6	0.200		mg/L	1	8/9/2021 3:02:27 PM
<b>CARBONACEOUS BOD</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
CBOD5	312	2.00		mg/L	1	8/6/2021 4:38:00 PM
<b>BIOLOGICAL OXYGEN DEMAND- 5</b>						
				<b>SM5210B</b>		Analyst: <b>JW</b>
BOD, 5 Day	374.0	2.0		mg/L	1	8/6/2021 4:54:00 PM
<b>ALKALINITY</b>						
				<b>M2320 B</b>		Analyst: <b>NK</b>
Alkalinity, Total (As CaCO3)	215	10.0		mg/L CaCO3	1	8/9/2021 2:17:36 PM
<b>AMMONIA AS NITROGEN</b>						
				<b>SM4500-NH3 H</b>		Analyst: <b>NK</b>
Nitrogen, Ammonia (As N)	39.4	0.800		mg/L	40	8/18/2021 2:04:33 PM
<b>PHOSPHOROUS, ALL FORMS</b>						
				<b>E365.3</b>		Analyst: <b>JRH</b>
Phosphorus, Total	6.02	0.200		mg/L	10	8/10/2021 10:54:00 AM
<b>KJELDAHL NITROGEN, TOTAL</b>						
				<b>SM 4500-NORG C</b>		Analyst: <b>NK</b>
TKN as N	66.0	10.0		mg/L	50	8/19/2021 5:36:49 PM
<b>TOTAL SUSPENDED SOLIDS</b>						
				<b>M2540 D</b>		Analyst: <b>JRH</b>
Total Suspended Solids	272	10.0		mg/L	1	8/9/2021 1:45:41 PM

**Qualifiers:** H Holding times for preparation or analysis exceeded  
S Spike Recovery outside accepted recovery limits

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41380</b>					
Client ID: <b>ICV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531861</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	496	10.0	500.0	0	99.1	90	110				
Antimony	46.6	0.500	50.00	0	93.3	90	110				
Arsenic	48.5	0.100	50.00	0	97.0	90	110				
Cadmium	47.6	0.100	50.00	0	95.2	90	110				
Chromium	49.1	0.100	50.00	0	98.2	90	110				
Copper	48.8	0.500	50.00	0	97.6	90	110				
Iron	5170	50.0	5000	0	103	90	110				
Lead	47.9	0.100	50.00	0	95.9	90	110				
Molybdenum	49.4	0.500	50.00	0	98.9	90	110				
Nickel	49.1	0.500	50.00	0	98.3	90	110				
Potassium	4940	100	5000	0	98.7	90	110				
Selenium	48.0	1.00	50.00	0	96.1	90	110				
Silver	50.4	0.100	50.00	0	101	90	110				
Thallium	49.6	0.100	50.00	0	99.3	90	110				
Zinc	49.0	2.00	50.00	0	98.0	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41380</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531865</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	10.0	500.0	0	99.1	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41380</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531865</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	46.4	0.500	50.00	0	92.8	90	110				
Arsenic	48.2	0.100	50.00	0	96.4	90	110				
Cadmium	48.1	0.100	50.00	0	96.2	90	110				
Chromium	49.0	0.100	50.00	0	98.1	90	110				
Copper	50.4	0.500	50.00	0	101	90	110				
Iron	5120	50.0	5000	0	102	90	110				
Lead	48.8	0.100	50.00	0	97.6	90	110				
Molybdenum	50.2	0.500	50.00	0	100	90	110				
Nickel	50.0	0.500	50.00	0	99.9	90	110				
Potassium	4930	100	5000	0	98.6	90	110				
Selenium	47.8	1.00	50.00	0	95.7	90	110				
Silver	51.8	0.100	50.00	0	104	90	110				
Thallium	50.6	0.100	50.00	0	101	90	110				
Zinc	49.3	2.00	50.00	0	98.6	90	110				

Sample ID: <b>MB-18328</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>					
Client ID: <b>PBW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531866</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Cadmium	ND	0.100									

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>MB-18328</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531866</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.100									
Copper	ND	0.500									
Iron	ND	50.0									
Lead	ND	0.100									
Molybdenum	ND	0.500									
Nickel	ND	0.500									
Potassium	ND	100									
Selenium	ND	1.00									
Silver	ND	0.100									
Thallium	ND	0.100									
Zinc	ND	2.00									

Sample ID: <b>LCS-18328</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531867</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	492	10.0	500.0	0	98.3	85	115				
Antimony	48.7	0.500	50.00	0	97.5	85	115				
Arsenic	48.8	0.100	50.00	0	97.6	85	115				
Cadmium	49.9	0.100	50.00	0	99.8	85	115				
Chromium	48.8	0.100	50.00	0	97.5	85	115				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>LCS-18328</b>	SampType: <b>LCS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531867</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	51.3	0.500	50.00	0	103	85	115				
Iron	5130	50.0	5000	0	103	85	115				
Lead	50.6	0.100	50.00	0	101	85	115				
Molybdenum	51.0	0.500	50.00	0	102	85	115				
Nickel	50.5	0.500	50.00	0	101	85	115				
Potassium	4970	100	5000	0	99.4	85	115				
Selenium	48.8	1.00	50.00	0	97.6	85	115				
Silver	52.7	0.100	50.00	0	105	85	115				
Thallium	52.7	0.100	50.00	0	105	85	115				
Zinc	51.6	2.00	50.00	0	103	85	115				

Sample ID: <b>2108045-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531869</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	305	10.0						300.0	1.58	20	
Antimony	0.741	0.500						0.9267	22.3	20	RRF
Arsenic	1.02	0.100						0.9931	3.06	20	
Cadmium	0.166	0.100						0.1519	8.56	20	
Chromium	1.85	0.100						1.851	0.00673	20	
Copper	38.9	0.500						39.71	1.99	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108045-002ADUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: BatchQC	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531869						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	506	50.0						499.7	1.20	20	
Lead	0.890	0.100						0.9145	2.67	20	
Molybdenum	4.87	0.500						4.781	1.84	20	
Nickel	3.45	0.500						2.949	15.5	20	
Potassium	16400	100						16020	2.37	20	
Selenium	ND	1.00						0	0	20	
Silver	0.317	0.100						0.2805	12.2	20	
Thallium	ND	0.100						0	0	20	RRF
Zinc	153	2.00						149.2	2.72	20	

Sample ID: 2108045-002AMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: BatchQC	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	749	10.0	500.0	300.0	89.8	70	130				
Antimony	45.2	0.500	50.00	0.9267	88.6	70	130				
Arsenic	48.4	0.100	50.00	0.9931	94.9	70	130				
Cadmium	47.9	0.100	50.00	0.1519	95.5	70	130				
Chromium	49.1	0.100	50.00	1.851	94.4	70	130				
Copper	86.1	0.500	50.00	39.71	92.7	70	130				
Iron	5380	50.0	5000	499.7	97.5	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531870</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	48.2	0.100	50.00	0.9145	94.5	70	130				
Molybdenum	54.8	0.500	50.00	4.781	100	70	130				
Nickel	50.6	0.500	50.00	2.949	95.2	70	130				
Potassium	19500	100	5000	16020	70.5	70	130				
Selenium	46.9	1.00	50.00	0.6363	92.6	70	130				
Silver	46.9	0.100	50.00	0.2805	93.2	70	130				
Thallium	47.1	0.100	50.00	0.05390	94.1	70	130				
Zinc	200	2.00	50.00	149.2	101	70	130				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41380</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531871</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	516	10.0	500.0	0	103	90	110				
Antimony	45.9	0.500	50.00	0	91.8	90	110				
Arsenic	48.3	0.100	50.00	0	96.6	90	110				
Cadmium	48.5	0.100	50.00	0	97.0	90	110				
Chromium	49.8	0.100	50.00	0	99.6	90	110				
Copper	50.4	0.500	50.00	0	101	90	110				
Iron	5170	50.0	5000	0	103	90	110				
Lead	48.8	0.100	50.00	0	97.5	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date:	RunNo: <b>41380</b>					
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531871</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	49.5	0.500	50.00	0	99.1	90	110				
Nickel	50.1	0.500	50.00	0	100	90	110				
Potassium	5040	100	5000	0	101	90	110				
Selenium	48.1	1.00	50.00	0	96.3	90	110				
Silver	50.8	0.100	50.00	0	102	90	110				
Thallium	50.9	0.100	50.00	0	102	90	110				
Zinc	49.5	2.00	50.00	0	99.1	90	110				

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>		Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>					
Client ID: <b>BatchQC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531872</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	727	10.0	500.0	300.0	85.3	70	130	749.3	3.08	20	
Antimony	45.0	0.500	50.00	0.9267	88.1	70	130	45.25	0.569	20	
Arsenic	48.3	0.100	50.00	0.9931	94.6	70	130	48.42	0.280	20	
Cadmium	46.7	0.100	50.00	0.1519	93.1	70	130	47.88	2.52	20	
Chromium	48.8	0.100	50.00	1.851	93.8	70	130	49.07	0.662	20	
Copper	83.5	0.500	50.00	39.71	87.5	70	130	86.07	3.05	20	
Iron	5300	50.0	5000	499.7	96.1	70	130	5376	1.37	20	
Lead	48.2	0.100	50.00	0.9145	94.6	70	130	48.15	0.131	20	
Molybdenum	54.8	0.500	50.00	4.781	100	70	130	54.85	0.0718	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: 2108045-002AMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: BatchQC	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531872						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	50.7	0.500	50.00	2.949	95.4	70	130	50.55	0.220	20	
Selenium	47.1	1.00	50.00	0.6363	92.9	70	130	46.91	0.410	20	
Silver	46.6	0.100	50.00	0.2805	92.7	70	130	46.87	0.488	20	
Thallium	46.4	0.100	50.00	0.05390	92.7	70	130	47.10	1.48	20	
Zinc	202	2.00	50.00	149.2	105	70	130	199.6	1.15	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41380						
Client ID: CCV	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531882						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	522	10.0	500.0	0	104	90	110				
Antimony	46.6	0.500	50.00	0	93.1	90	110				
Arsenic	48.0	0.100	50.00	0	96.0	90	110				
Cadmium	49.3	0.100	50.00	0	98.6	90	110				
Chromium	49.9	0.100	50.00	0	99.9	90	110				
Copper	51.4	0.500	50.00	0	103	90	110				
Iron	5170	50.0	5000	0	103	90	110				
Lead	49.7	0.100	50.00	0	99.4	90	110				
Molybdenum	50.2	0.500	50.00	0	100	90	110				
Nickel	51.1	0.500	50.00	0	102	90	110				
Potassium	5140	100	5000	0	103	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** 200.8

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>41380</b>						
Client ID: <b>CCV</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531882</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	47.6	1.00	50.00	0	95.1	90	110				
Silver	52.0	0.100	50.00	0	104	90	110				
Thallium	51.7	0.100	50.00	0	103	90	110				
Zinc	50.3	2.00	50.00	0	101	90	110				

Sample ID: <b>MB-18328</b>	SampType: <b>MBLK</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.500									
Arsenic	ND	0.100									

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>200.8</b>	Units: <b>µg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41380</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18328</b>	TestNo: <b>E200.8</b>	<b>E200.8</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531905</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	20500	100	5000	16020	90.0	70	130	19540	4.85	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>LCS-R41387</b>	SampType: <b>LCS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531932</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	202	10.0	200.0	0	101	87.5	111				

Sample ID: <b>MB-R41387</b>	SampType: <b>MBLK</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531933</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	10.0									

Sample ID: <b>2108045-002CMS</b>	SampType: <b>MS</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531935</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	298	10.0	100.0	250.0	48.0	80	120				SMI

Sample ID: <b>2108045-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531936</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	300	10.0	100.0	250.0	50.0	80	120	298.0	0.669	20	SMI

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** ALK\_CWA

Sample ID: <b>2108045-002CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531936</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV1-R41387</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531939</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	202	10.0	200.0	0	101	90	110				

Sample ID: <b>CCV2-R41387</b>	SampType: <b>CCV</b>	TestCode: <b>ALK_CWA</b>	Units: <b>mg/L CaCO3</b>	Prep Date:	RunNo: <b>41387</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41387</b>	TestNo: <b>M2320 B</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531946</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	205	10.0	200.0	0	103	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** BOD\_C

Sample ID: <b>MB-R41407</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41407</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41407</b>	TestNo: <b>SM5210B</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>532173</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: <b>LCS-R41407</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_C</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41407</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41407</b>	TestNo: <b>SM5210B</b>		Analysis Date: <b>8/6/2021</b>	SeqNo: <b>532174</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	221	2.00	171.0	0	129	70	130				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** BOD\_CWA

Sample ID: <b>MB-R41406</b>	SampType: <b>MBLK</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41406</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41406</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>532166</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	ND	2.0									

Sample ID: <b>LCS-R41406</b>	SampType: <b>LCS</b>	TestCode: <b>BOD_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41406</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41406</b>	TestNo: <b>SM5210B</b>	Analysis Date: <b>8/6/2021</b>	SeqNo: <b>532167</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
BOD, 5 Day	153.8	2.0	198.0	0	77.7	84	116				S

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>MB-18329</b>	SampType: <b>MBLK</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>PBW</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531828</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: <b>LCS-18329</b>	SampType: <b>LCS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531829</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	33.6	0.200	33.08	0	101	80	120				

Sample ID: <b>2108045-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531831</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	61.6	0.200						59.76	2.98	20	

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	88.2	0.200	33.08	59.76	86.0	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** HARDCALC

Sample ID: <b>2108045-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HARDCALC</b>	Units: <b>mg/L</b>	Prep Date: <b>8/9/2021</b>	RunNo: <b>41378</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>18329</b>	TestNo: <b>M2340 B</b>	<b>SW3010A</b>	Analysis Date: <b>8/9/2021</b>	SeqNo: <b>531834</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	86.8	0.200	33.08	59.76	81.8	80	120	88.20	1.57	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>ICV-R41488</b>	SampType: <b>ICV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533223</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.512	0.0200	0.5000	0	102	90	110				

Sample ID: <b>ICB-R41488</b>	SampType: <b>ICB</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>ICB</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533224</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>MB-R41488</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533226</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	ND	0.0200									

Sample ID: <b>LCS-R41488</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533227</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.01	0.0200	1.000	0	101	80	120				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>LCS-R41488</b>	SampType: <b>LCS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533227</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108030-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533230</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.19	0.0200	1.000	0.1950	99.9	68.7	124				

Sample ID: <b>2108030-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.20	0.0200	1.000	0.1950	101	68.7	124	1.194	0.501	20	

Sample ID: <b>CCV1-R41488</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>		Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533235</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.973	0.0200	1.000	0	97.3	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** NH3-N\_CWA

Sample ID: <b>CCV2-R41488</b>	SampType: <b>CCV</b>	TestCode: <b>NH3-N_CWA</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41488</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41488</b>	TestNo: <b>SM4500-NH3</b>	Analysis Date: <b>8/18/2021</b>	SeqNo: <b>533241</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.976	0.0200	1.000	0	97.6	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>MB-R41391</b>	SampType: <b>MBLK</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531965</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>LCS-R41391</b>	SampType: <b>LCS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531966</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

Sample ID: <b>2108045-007BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531974</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	12.8	0.200	5.000	8.562	85.7	80	120				

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	13.2	0.200	5.000	8.562	92.2	80	120	12.85	2.49	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>2108045-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531975</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108055-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>Villaboic C</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531981</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	10.5	0.200	5.000	6.024	90.0	80	120				

Sample ID: <b>2108055-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>Villaboic C</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531982</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	9.86	0.200	5.000	6.024	76.7	80	120	10.52	6.53	20	S

Sample ID: <b>CCV-2</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531985</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.989	0.0200	1.000	0	98.9	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** P-TOTAL

Sample ID: <b>CCB-R41391</b>	SampType: <b>CCB</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>531986</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: <b>CCV-1</b>	SampType: <b>CCV</b>	TestCode: <b>P-TOTAL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41391</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41391</b>	TestNo: <b>E365.3</b>		Analysis Date: <b>8/10/2021</b>	SeqNo: <b>532023</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	0.988	0.0200	1.000	0	98.8	90	110				

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>ICV-R41509</b>	SampType: <b>ICV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>ICV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533550</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.36	0.200	5.000	0	107	90	110				

Sample ID: <b>MB-R41509</b>	SampType: <b>MBLK</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533552</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

Sample ID: <b>LCS-R41509</b>	SampType: <b>LCS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533553</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	5.40	0.200	5.000	0	108	90	110				

Sample ID: <b>2108045-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.38	0.200	5.000	1.589	95.7	57	167				

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108045-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533558</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>2108045-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533559</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.71	0.200	5.000	1.589	102	57	167	6.375	5.15	20	

Sample ID: <b>CCV1-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533562</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.2	0.200	10.00	0	102	90	110				

Sample ID: <b>CCB1-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533563</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>2108089-003BMS</b>	SampType: <b>MS</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533568</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	7.22	0.200	5.000	1.918	106	57	167				

Sample ID: <b>2108089-003BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533569</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	6.58	0.200	5.000	1.918	93.3	57	167	7.218	9.22	20	

Sample ID: <b>CCV3-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533573</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	10.2	0.200	10.00	0	102	90	110				

Sample ID: <b>CCB3-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>	Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533574</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TKN\_SM

Sample ID: <b>CCB3-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/19/2021</b>	SeqNo: <b>533574</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV4-R41509</b>	SampType: <b>CCV</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	9.81	0.200	10.00	0	98.1	90	110				

Sample ID: <b>CCB4-R41509</b>	SampType: <b>CCB</b>	TestCode: <b>TKN_SM</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41509</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R41509</b>	TestNo: <b>SM 4500-Nor</b>		Analysis Date: <b>8/20/2021</b>	SeqNo: <b>533577</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TKN as N	ND	0.200									

**Qualifiers:** H Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2108055  
9/7/2021

## Specialty Analytical

**Client:** City of Wilsonville  
**Project:** Wilsonville

**TestCode:** TSS\_WW

Sample ID: <b>MB-R41396</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41396</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R41396</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532024</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	10.0									

Sample ID: <b>LCS-R41396</b>	SampType: <b>LCS</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41396</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R41396</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532025</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	85.0	10.0	100.0	0	85.0	80	105				

Sample ID: <b>2108055-001DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS_WW</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>41396</b>						
Client ID: <b>080621LLIC</b>	Batch ID: <b>R41396</b>	TestNo: <b>M2540 D</b>		Analysis Date: <b>8/9/2021</b>	SeqNo: <b>532027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	310	10.0						352.0	12.7	20	

**Qualifiers:** H Holding times for preparation or analysis exceeded      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery limits



Specialty Analytical  
 9011 SE Jannsen Rd  
 Clackamas, Oregon 97015  
 TEL: 503-607-1331 FAX: 503-607-1336  
 Website: www.specialtyanalytical.com

# Sample Receipt Checklist

Client Name WILSONVILLE

Work Order Number 2108055

RcptNo: 1

Date and Time Received 8/6/2021 11:58:15 AM

Received by: Mandy Wehe

Completed by

Reviewed by:

Completed Date:

8/6/2021

Reviewed Date:

8/6/2021 3:19:58 PM

Carrier name: SA

- |   |  |  |             |                                     |
|---|--|--|-------------|-------------------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | Not Present | <input type="checkbox"/>            |
| Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | Not Present | <input checked="" type="checkbox"/> |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were correct preservatives used and noted?              | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Were container labels complete (ID, Pres, Date)?        | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| All samples received at a temp. of > 0° C to 6.0° C?    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Response when temperature is outside of range:          |  |  |             |                                     |
| Preservative added to bottles:                          |  |  |             |                                     |
| Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | To          | 0.9°C                               |
| Water - Were bubbles absent in VOC vials?               | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | No Vials    | <input checked="" type="checkbox"/> |
| Water - Was there Chlorine Present?                     | Yes <input type="checkbox"/>               | No <input type="checkbox"/>            | NA          | <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            | NA          | <input type="checkbox"/>            |
| Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |             |                                     |
| Custody Seals present?                                  | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Traffic Report or Packing Lists present?                | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Airbill or Sticker?                                     | Air Bill <input type="checkbox"/>          | Sticker <input type="checkbox"/>       | Not Present | <input checked="" type="checkbox"/> |
| Airbill No:   |  |  |             |                                     |
| Sample Tags Present?                                    | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Sample Tags Listed on COC?                              | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |             |                                     |
| Tag Numbers:  |  |  |             |                                     |
| Sample Condition?                                       | Intact <input checked="" type="checkbox"/> | Broken <input type="checkbox"/>        | Leaking     | <input type="checkbox"/>            |

Case Number:

SDG:

SAS:

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Any No and/or NA (not applicable) response must be detailed in the comments section be



Specialty Analytical  
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## Sample Receipt Checklist

---

Client Contacted?  Yes  No  NA Person Contacted: \_\_\_\_\_ Comments: \_\_\_\_\_  
Contact Mode:  Phone:  Fax:  Email:  In Person: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_  
Date Contacted: \_\_\_\_\_ Contacted By: \_\_\_\_\_  
Regarding: \_\_\_\_\_  
CorrectiveAction: \_\_\_\_\_

---



18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

September 7, 2021

Specialty Analytical  
ATTN: Julie Clay  
9011 SE Jannsen Rd  
Clackamas, OR 97015  
julie@specialtyanalytical.com

RE: Project SPA-CL2101

Client Project: 2108055

Dear Julie Clay,

On August 11, 2021, Brooks Applied Labs (BAL) received four (4) water samples. The samples were logged-in for the analyses of total mercury (Hg) according to the chain-of-custody form. All samples were received and stored according to BAL SOPs and EPA methodology.

Total Mercury using MERX

Water samples were preserved with bromine monochloride in their initial container and analyzed in accordance with EPA Method 1631.

The Hg result for 080621 LLEC (2108141-02) was less than the MRL when originally analyzed in sequence S210956. The sample was re-analyzed at a higher volume and reported in sequence S210967.

The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. This report should be used in its entirety for interpretation of results.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink that reads "Amy Goodall".

Amy Goodall  
Project Manager  
Brooks Applied Labs  
amy@brooksapplied.com



## Report Information

### Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

### Common Abbreviations

<b>AR</b>	as received	<b>MS</b>	matrix spike
<b>BAL</b>	Brooks Applied Labs	<b>MSD</b>	matrix spike duplicate
<b>BLK</b>	method blank	<b>ND</b>	non-detect
<b>BS</b>	blank spike	<b>NR</b>	non-reportable
<b>CAL</b>	calibration standard	<b>N/C</b>	not calculated
<b>CCB</b>	continuing calibration blank	<b>PS</b>	post preparation spike
<b>CCV</b>	continuing calibration verification	<b>REC</b>	percent recovery
<b>COC</b>	chain of custody record	<b>RPD</b>	relative percent difference
<b>D</b>	dissolved fraction	<b>SCV</b>	secondary calibration verification
<b>DUP</b>	duplicate	<b>SOP</b>	standard operating procedure
<b>IBL</b>	instrument blank	<b>SRM</b>	reference material
<b>ICV</b>	initial calibration verification	<b>T</b>	total fraction
<b>MDL</b>	method detection limit	<b>TR</b>	total recoverable fraction
<b>MRL</b>	method reporting limit		

### Definition of Data Qualifiers

(Effective 3/23/2020)

<b>E</b>	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
<b>H</b>	Holding time and/or preservation requirements not met. Please see narrative for explanation.
<b>J</b>	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
<b>J-1</b>	Estimated value. A full explanation is presented in the narrative.
<b>M</b>	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
<b>N</b>	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
<b>R</b>	Rejected, unusable value. A full explanation is presented in the narrative.
<b>U</b>	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
<b>X</b>	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
<b>Z</b>	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.



## Accreditation Information

**Table 1. Accredited method/matrix/analytes for TNI**  
 Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)  
 Issued on: July 27, 2020; Valid to: June 30, 2021  
 Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness



## Accreditation Information

**Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)**

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Tl, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2

(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.



## Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
080621 LLIC	2108141-01	WW	Sample	08/06/2021	08/11/2021
080621 LLEC	2108141-02	WW	Sample	08/06/2021	08/11/2021
Parkway C	2108141-03	WW	Sample	08/06/2021	08/11/2021
Villboise C	2108141-04	WW	Sample	08/06/2021	08/11/2021

## Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631 E	08/19/2021	08/20/2021	B212309	S210956
Hg	Water	EPA 1631 E	08/19/2021	08/25/2021	B212309	S210967

## Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
<b>080621 LLIC</b>										
2108141-01	Hg	WW	TR	32.8		0.68	2.11	ng/L	B212309	S210956
<b>080621 LLEC</b>										
2108141-02	Hg	WW	TR	0.42	J	0.14	0.42	ng/L	B212309	S210967
<b>Parkway C</b>										
2108141-03	Hg	WW	TR	108		0.68	2.11	ng/L	B212309	S210956
<b>Villboise C</b>										
2108141-04	Hg	WW	TR	21.9		0.68	2.11	ng/L	B212309	S210956





## Accuracy & Precision Summary

Batch: B212309  
 Lab Matrix: Water  
 Method: EPA 1631 E

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B212309-MS1	Matrix Spike (2108141-04) Hg	21.85	105.3	128.4	ng/L	101% 71-125	
B212309-MSD1	Matrix Spike Duplicate (2108141-04) Hg	21.85	105.3	127.2	ng/L	100% 71-125	0.9% 24

## Method Blanks & Reporting Limits

Batch: B212309  
 Matrix: Water  
 Method: EPA 1631 E  
 Analyte: Hg

Sample	Result	Units
B212309-BLK1	0.12	ng/L
B212309-BLK2	0.13	ng/L
B212309-BLK3	0.08	ng/L
B212309-BLK4	0.10	ng/L
<b>Average:</b>	<b>0.11</b>	
<b>Limit:</b>	<b>0.50</b>	
<b>Standard Deviation:</b>	<b>0.02</b>	
<b>Limit:</b>	<b>0.13</b>	
<b>MDL:</b>	<b>0.13</b>	
<b>MRL:</b>	<b>0.40</b>	



## Sample Containers

<b>Lab ID:</b> 2108141-01 <b>Sample:</b> 080621 LLIC			<b>Report Matrix:</b> WW <b>Sample Type:</b> Sample		<b>Collected:</b> 08/06/2021 <b>Received:</b> 08/11/2021
<b>Des Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH Ship. Cont.</b>
A Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A	Cooler - 2108141
<b>Lab ID:</b> 2108141-02 <b>Sample:</b> 080621 LLEC			<b>Report Matrix:</b> WW <b>Sample Type:</b> Sample		<b>Collected:</b> 08/06/2021 <b>Received:</b> 08/11/2021
<b>Des Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH Ship. Cont.</b>
A Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A	Cooler - 2108141
<b>Lab ID:</b> 2108141-03 <b>Sample:</b> Parkway C			<b>Report Matrix:</b> WW <b>Sample Type:</b> Sample		<b>Collected:</b> 08/06/2021 <b>Received:</b> 08/11/2021
<b>Des Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH Ship. Cont.</b>
A Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A	Cooler - 2108141
<b>Lab ID:</b> 2108141-04 <b>Sample:</b> Villboise C			<b>Report Matrix:</b> WW <b>Sample Type:</b> Sample		<b>Collected:</b> 08/06/2021 <b>Received:</b> 08/11/2021
<b>Des Container</b>	<b>Size</b>	<b>Lot</b>	<b>Preservation</b>	<b>P-Lot</b>	<b>pH Ship. Cont.</b>
A Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A	Cooler - 2108141


## Shipping Containers

### Cooler - 2108141

**Received:** August 11, 2021 14:02  
**Tracking No:** 1Z F08 96A 03 3609 7145 via  
**Coolant Type:** None  
**Temperature:** Ambient

**Description:** Cooler  
**Damaged in transit?** No  
**Returned to client?** No

**Custody seals present?** Yes  
**Custody seals intact?** Yes  
**COC present?** Yes

 <b>Specialty Analytical</b> 9011 SE Jannsen Rd Clackamas, OR 97015 Phone: 503-607-1331 Fax: 503-607-1336	<b>Chain of Custody Record</b>	
	Date: <b>8-6-21</b>	Page: <b>1</b> of <b>1</b>
Client: <b>Specialty Analytical</b>	Project Name: <b>2108055</b>	Temperature on Receipt: °C
	Project No: _____ PO No: _____	Cooling: _____ Shipped Via: <b>UPS</b>
Address: _____	Collected by: _____	Custody Seal: Y / N Intact / Broken Cooler / Bottle
City, State, Zip: _____	State Collected: <b>OR</b> WA OTHER	MDL TIER IV EDD
Telephone: _____	Report To (PM): _____	Sample Disposal: <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Disposal by lab (after 60 days)
AP Email: <b>mandy@specialtyanalytical.com</b>	PM Email: <b>julie@specialtyanalytical.com</b>	

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 <b>080621 LLIC</b>	<b>8-6-21</b>	<b>0900</b>	<b>WW</b>	<b>1</b>	<b>1</b>	
2 <b>080621 LLEC</b>	<b>08-6-21</b>	<b>0930</b>	<b>WW</b>	<b>1</b>	<b>1</b>	
3 <b>Parkway C</b>	<b>8-6-21</b>	<b>900</b>	<b>WW</b>	<b>1</b>	<b>1</b>	
4 <b>Villaboix C</b>	<b>8-6-21</b>	<b>930</b>	<b>WW</b>	<b>1</b>	<b>1</b>	
5						
6						
7						
8						
9						
10						

\*Matrix: A=Air, AQ=Aqueous, L=Liquid, O=Oil, P=Product, S=Soil, SD=Sediment, SL=Solid, W=Water, DW=Drinking Water, GW=Ground Water, SW=Storm Water, WW=Waste Water, M=Miscellaneous

**Turn-around Time:** Standard (5-7 Business):  3 Day: \_\_\_\_\_ 2 Day: \_\_\_\_\_ Next Day: \_\_\_\_\_ Same Day: \_\_\_\_\_  
 Expedited turn-around requests should be coordinated in advance

Relinquished x	Date/Time <b>Kelly McClellan</b> <b>8-6-21</b>	Received x	Date/Time <b>8/11/21 1027</b>
Relinquished x	Date/Time	Received x	Date/Time
Relinquished x	Date/Time	Received x	Date/Time



Specialty Analytical  
9011 SE Janssen Rd  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

### Chain of Custody Record

Date: 8-6-21

Page: 1 of 1

Laboratory Project No (Internal): 2108055

Project Name: 2108055

Temperature on Receipt: 0.9 °C

Client: WSN

Project No:

PO No:

Cooling: Ice Shipped Via: SA

Address:

Collected by:

Custody Seal: Y / (N) Intact / Broken Cooler / Bottle

City, State, Zip:

State Collected: OR  WA  OTHER

Telephone: 503-701-9671

Report To (PM):

MDL  TIER IV  EDD

AP Email:

PM Email:

Sample Disposal:  Return to client  Disposal by lab (after 60 days)

G- grab  
C - Composite  
F - Influent  
E - Effluent

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
080621LLIC	8-6-21	0900	WW	1	EPA 200.8 Metals <del>FRANZIE</del> SM 3500 CrB Itex Chrom SM 4500 CN SM 4500 NH <sub>3</sub> TP EPA 351.1 TKN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S20 Sulfides SM 5210 B BOD CBOD SM 25400 TSS EPA 624 VOC VOAS	
080621LLIC	8-6-21	0930	WW	1		
Parkway C	8-6-21	0900	WW	1		
Villageboisc	8-6-21	0930	WW	1		

\* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business):  3 Day:  2 Day:  Next Day:  Same Day:   
Expedited turn-around requests should be coordinated in advance

Relinquished: [Signature] Date/Time: 8-6-21 1330  
Received: [Signature] Date/Time: 8-6-21 1240  
Received: [Signature] Date/Time: 8-6-21 1330



Specialty Analytical  
9011 SE Jannsen Ra  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: www.specialtyanalytical.com

## Definition Only

WO#: 2108055  
Date: 9/7/2021

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### Definitions:

#### KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT:  At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

---



## Definition Only

WO#: 2108055  
Date: 9/7/2021

---

### Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

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## **Attachment C: OAR 340-041-0033 Tables 30, 31, and 40**





## TABLE 30: Aquatic Life Water Quality Criteria for Toxic Pollutants

### Aquatic Life Criteria Summary

The concentration for each compound listed in Table 30 is a criterion established for waters of the state in order to protect aquatic life. The aquatic life criteria apply to waterbodies where the protection of fish and aquatic life is a designated use. All values are expressed as micrograms per liter ( $\mu\text{g/L}$ ). Compounds are listed in alphabetical order with the corresponding information: the Chemical Abstract Service (CAS) number, whether there is a human health criterion for the pollutant (i.e. “y”= yes, “n” = no), and the associated aquatic life freshwater and saltwater acute and chronic criteria. Italicized pollutants are not identified as priority pollutants by EPA. Dashes in the table column indicate that there is no aquatic life criterion.

Unless otherwise noted in the table below, the acute criterion is the Criterion Maximum Concentration (CMC) applied as a one-hour average concentration, and the chronic criterion is the Criterion Continuous Concentration (CCC) applied as a 96-hour (4 days) average concentration. The CMC and CCC criteria may not be exceeded more than once every three years. Footnote A, associated with eleven pesticide pollutants in Table 30, describes the exception to the frequency and duration of the toxics criteria stated in this paragraph.

Oregon Department of Environmental Quality Table 30 Aquatic Life Water Quality Criteria for Toxic Pollutants 340-041-8033							
	Pollutant	CAS Number	Human Health Criterion	Freshwater ( $\mu\text{g/L}$ )		Saltwater ( $\mu\text{g/L}$ )	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
1	Aldrin	309002	y	3 <sup>A</sup>	--	1.3 <sup>A</sup>	--
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
2	<i>Alkalinity</i>		n	--	20,000 <sup>B</sup>	--	--



Oregon Department of Environmental Quality  
Table 30  
Aquatic Life Water Quality Criteria for Toxic Pollutants  
340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)

<sup>B</sup> Criterion shown is the minimum (i.e. CCC in water may not be below this value in order to protect aquatic life).

3	Ammonia	7664417	n	The ammonia criteria are pH and temperature dependent — See ammonia criteria Tables 30(a)-(c) at end of Table 30. <sup>M</sup>	The ammonia criteria are pH, temperature and salinity dependent. Values for saltwater criteria (total ammonia) can be calculated from the tables specified in Ambient Water Quality Criteria for Ammonia (Saltwater)—1989 (EPA 440/5-88-004)  See DEQ's calculator for calculating saltwater ammonia criteria at: <a href="http://www.oregon.gov/deq/wq/Pages/WQ-Standards-Toxics.aspx">http://www.oregon.gov/deq/wq/Pages/WQ-Standards-Toxics.aspx</a>
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<sup>M</sup> The acute criteria in Table 30(a) apply in waterbodies where salmonids are a designated use in OAR 340-041-0101 through OAR 340-041-0340. The acute criteria in Table 30(b) apply in waterbodies where salmonids are not a designated use. The chronic criteria in Table 30(c) apply where fish and aquatic life is a designated use. It is not necessary to account for the presence or absence of salmonids or the presence of any early life stage of fish for the chronic criteria. Refer to DEQ's beneficial use website at: <http://www.oregon.gov/deq/wq/Pages/WQ-Standards-Uses.aspx> for additional information on salmonid beneficial use designations, including tables and maps.

4	Arsenic	7440382	y	340 <sup>C, D</sup>	150 <sup>C, D</sup>	69 <sup>C, D</sup>	36 <sup>C, D</sup>
---	---------	---------	---	---------------------	---------------------	--------------------	--------------------

<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.

<sup>D</sup> Criterion is applied as total inorganic arsenic (i.e. arsenic (III) + arsenic (V)).

5	BHC Gamma (Lindane)	58899	y	0.95	0.08 <sup>A</sup>	0.16 <sup>A</sup>	--
---	---------------------	-------	---	------	-------------------	-------------------	----

<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.

6	Cadmium	7440439	n	See E	See C, F	40 <sup>C</sup>	8.8 <sup>C</sup>
---	---------	---------	---	-------	----------	-----------------	------------------

<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.

<sup>E</sup> The freshwater criterion for this metal is expressed as "total recoverable" and is a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote E at bottom of Table 30.

<sup>F</sup> The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.

Oregon Department of Environmental Quality  
Table 30  
Aquatic Life Water Quality Criteria for Toxic Pollutants  
340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
7	Chlordane	57749	y	2.4 <sup>A</sup>	0.0043 <sup>A</sup>	0.09 <sup>A</sup>	0.004 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
8	Chloride	16887006	n	860,000	230,000	--	--
9	Chlorine	7782505	n	19	11	13	7.5
10	Chlorpyrifos	2921882	n	0.083	0.041	0.011	0.0056
11	Chromium III	16065831	n	See C, F	See C, F	--	--
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.							
<sup>F</sup> The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.							
12	Chromium VI	18540299	n	16 <sup>C</sup>	11 <sup>C</sup>	1100 <sup>C</sup>	50 <sup>C</sup>
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.							
13	Copper	7440508	y	See C, N	See C, N	4.8 <sup>C</sup>	3.1 <sup>C</sup>
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.							
<sup>N</sup> The freshwater criterion for copper is a function of the concentration of ions, alkalinity, organic carbon, pH and temperature in the water column. To calculate the criterion, use the Biotic Ligand Model referenced in endnote N at the bottom of Table 30. The acute copper criterion (CMC) is applied as a one-hour average concentration. The chronic criterion (CCC) is applied as a 96-hour (4 days) average concentration. See endnote N also for procedures and information.							
<b>[Note: The Environmental Quality Commission adopted these revised copper criteria on 11/02/2016. However, the revised criteria become effective for federal Clean Water Act purposes upon approval by the U.S. Environmental Protection Agency.</b>							
14	Cyanide	57125	y	22 <sup>J</sup>	5.2 <sup>J</sup>	1 <sup>J</sup>	1 <sup>J</sup>
<sup>J</sup> This criterion is expressed as µg free cyanide (CN)/L.							
15	DDT 4,4'	50293	y	1.1 <sup>A, G</sup>	0.001 <sup>A, G</sup>	0.13 <sup>A, G</sup>	0.001 <sup>A, G</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
<sup>G</sup> This criterion applies to DDT and its metabolites (i.e. the total concentration of DDT and its metabolites should not exceed this value).							
16	Demeton	8065483	n	--	0.1	--	0.1

Oregon Department of Environmental Quality  
Table 30  
Aquatic Life Water Quality Criteria for Toxic Pollutants  
340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
17	Dieldrin	60571	y	0.24	0.056	0.71 <sup>A</sup>	0.0019 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
18	Endosulfan	115297	n	0.22 <sup>A, H</sup>	0.056 <sup>A, H</sup>	0.034 <sup>A, H</sup>	0.0087 <sup>A, H</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
<sup>H</sup> This value is based on the criterion published in Ambient Water Quality Criteria for Endosulfan (EPA 440/5-80-046) and should be applied as the sum of alpha- and beta-endosulfan.							
19	Endosulfan Alpha	959988	y	0.22 <sup>A</sup>	0.056 <sup>A</sup>	0.034 <sup>A</sup>	0.0087 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
20	Endosulfan Beta	33213659	y	0.22 <sup>A</sup>	0.056 <sup>A</sup>	0.034 <sup>A</sup>	0.0087 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
21	Endrin	72208	y	0.086	0.036	0.037 <sup>A</sup>	0.0023 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
22	Guthion	86500	n	--	0.01	--	0.01
23	Heptachlor	76448	y	0.52 <sup>A</sup>	0.0038 <sup>A</sup>	0.053 <sup>A</sup>	0.0036 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
24	Heptachlor Epoxide	1024573	y	0.52 <sup>A</sup>	0.0038 <sup>A</sup>	0.053 <sup>A</sup>	0.0036 <sup>A</sup>
<sup>A</sup> See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
25	Iron (total)	7439896	n	--	1000	--	--
26	Lead	7439921	n	See <b>C</b> , <b>F</b>	See <b>C</b> , <b>F</b>	210 <sup>C</sup>	8.1 <sup>C</sup>
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.							
<sup>F</sup> The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.							
27	Malathion	121755	n	--	0.1	--	0.1
28	Mercury (total)	7439976	n	2.4	0.012	2.1	0.025

Oregon Department of Environmental Quality  
Table 30  
Aquatic Life Water Quality Criteria for Toxic Pollutants  
340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
29	Methoxychlor	72435	y	--	0.03	--	0.03
30	Mirex	2385855	n	--	0.001	--	0.001
31	Nickel	7440020	y	See C , F	See C , F	74 <sup>C</sup>	8.2 <sup>C</sup>
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column. <sup>F</sup> The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.							
32	Parathion	56382	n	0.065	0.013	--	--
33	Pentachlorophenol	87865	y	See H	See H	13	7.9
<sup>H</sup> Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: $CMC = \exp(1.005(pH) - 4.869)$ ; $CCC = \exp(1.005(pH) - 5.134)$ .							
34	Phosphorus Elemental	7723140	n	--	--	--	0.1
35	Polychlorinated Biphenyls (PCBs)	NA	y	2 <sup>K</sup>	0.014 <sup>K</sup>	10 <sup>K</sup>	0.03 <sup>K</sup>
<sup>K</sup> This criterion applies to total PCBs (e.g. determined as Aroclors or congeners)							
36	Selenium	7782492	y	See C , L	4.6 <sup>C</sup>	290 <sup>C</sup>	71 <sup>C</sup>
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column. <sup>L</sup> The $CMC = (1 / [(f1/CMC1) + (f2/CMC2)]) \mu g/L$ * CF where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC1 and CMC2 are 185.9 µg/L and 12.82 µg/L, respectively. See expanded endnote F for the Conversion Factor (CF) for selenium.							
37	Silver	7440224	n	See C , F	0.10 <sup>C</sup>	1.9 <sup>C</sup>	--
<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column. <sup>F</sup> The freshwater acute criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.							
38	Sulfide Hydrogen Sulfide	7783064	n	--	2	--	2
39	Toxaphene	8001352	y	0.73	0.0002	0.21	0.0002
40	Tributyltin (TBT)	688733	n	0.46	0.063	0.37	0.01

Oregon Department of Environmental Quality  
 Table 30  
**Aquatic Life Water Quality Criteria for Toxic Pollutants**  
 340-041-8033

	Pollutant	CAS Number	Human Health Criterion	Freshwater ( $\mu\text{g/L}$ )		Saltwater ( $\mu\text{g/L}$ )	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
41	Zinc	7440666	y	See C , F	See C , F	90 <sup>C</sup>	81 <sup>C</sup>

<sup>C</sup> Criterion is expressed in terms of "dissolved" concentrations in the water column.

<sup>F</sup> The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.

## Expanded Endnotes A, E, F, N

### **Endnote A: Alternate Frequency and Duration for Certain Pesticides**

This criterion is based on EPA recommendations issued in 1980 that were derived using guidelines that differed from EPA's 1985 Guidelines which update minimum data requirements and derivation procedures. The CMC may not be exceeded at any time and the CCC may not be exceeded based on a 24-hour average. The CMC may be applied using a one hour averaging period not to be exceeded more than once every three years, if the CMC values given in Table 30 are divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

### **Endnote E: Equation for Hardness-Dependent Freshwater Cadmium Acute Criteria**

The freshwater criterion for this metal is expressed as total recoverable with two significant figures, and is a function of hardness (mg/L) in the water column. Criteria values based on hardness are calculated using the following formula (CMC refers to the acute criterion):

$$\text{CMC} = (\exp(m_A * [\ln(\text{hardness})] + b_A))$$

Chemical	$m_A$	$b_A$	$m_C$	$b_C$
Cadmium	1.128	-3.828	N/A	N/A

### **Endnote F: Equations for Hardness-Dependent Freshwater Metals Criteria and Conversion Factor Table**

The freshwater criterion for this metal is expressed as dissolved with two significant figures, and is a function of hardness (mg/L) in the water column. Criteria values based on hardness are calculated using the following formulas (CMC refers to the acute criterion; CCC refers to the chronic criterion):

$$\text{CMC} = (\exp(m_A * [\ln(\text{hardness})] + b_A)) * \text{CF}$$

$$\text{CCC} = (\exp(m_C * [\ln(\text{hardness})] + b_C)) * \text{CF}$$

“CF” is the conversion factor used for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Chemical	$m_A$	$b_A$	$m_C$	$b_C$
Cadmium	N/A	N/A	0.7409	-4.719
Chromium III	0.8190	3.7256	0.8190	0.6848
Lead	1.273	-1.460	1.273	-4.705
Nickel	0.8460	2.255	0.8460	0.0584
Silver	1.72	-6.59	--	--
Zinc	0.8473	0.884	0.8473	0.884

The conversion factors (CF) below must be used in the equations above for the hardness-dependent metals in order to convert total recoverable metals criteria to dissolved metals criteria. For metals that are not hardness-dependent (i.e. arsenic, chromium VI, selenium, and silver (chronic)), or are saltwater criteria, the criterion value associated with the metal in Table 30 already reflects a dissolved criterion based on its conversion factor below.

**Conversion Factor (CF) Table for Dissolved Metals**

Chemical	Freshwater		Saltwater	
	Acute	Chronic	Acute	Chronic
Arsenic	1.000	1.000	1.000	1.000
Cadmium	N/A	$1.101672 - [(\ln \text{hardness})(0.041838)]$	0.994	0.994
Chromium III	0.316	0.860	--	--
Chromium VI	0.982	0.962	0.993	0.993
Copper	N/A	N/A	0.83	0.83
Lead	$1.46203 - [(\ln \text{hardness})(0.145712)]$	$1.46203 - [(\ln \text{hardness})(0.145712)]$	0.951	0.951
Nickel	0.998	0.997	0.990	0.990
Selenium	0.996	0.922	0.998	0.998
Silver	0.85	0.85	0.85	--
Zinc	0.978	0.986	0.946	0.946

## Endnote N: Deriving freshwater copper criteria

The freshwater copper criteria at any time are the Biotic Ligand Model (BLM) derived Instantaneous Water Quality Criteria (IWQC) output based on a concurrently measured set of model input parameter values. The Biotic Ligand Model uses multiple ambient water quality parameters to derive 1-hour acute exposure (CMC) and 96-hour chronic exposure (CCC) water quality criteria (IWQC) for copper based on the site specific water chemistry that determines the toxicity of copper to aquatic life. If measured data for one or more of the model input parameters used to derive the acute and chronic IWQC is not available, the procedures in section (1) or (2) of this endnote will be used as specified to substitute an estimate or a default value for the missing input parameter. BLM results (IWQC) based on sufficient measured input parameter data are more accurate and supersede results based on estimates or default values. The acceptable BLM software to calculate the IWQC include version 2.2.3, referenced in “Aquatic Life Ambient Freshwater Quality Criteria – Copper”: EPA-822-R-07-001, February 2007, and version 2.2.4. The criteria are expressed as dissolved copper in micrograms per liter (to the nearest one-tenth).

### (1) Input Parameter Substitution and Estimation Procedures to Derive BLM Criteria (IWQC)

If the measured value for any input parameter needed to derive an IWQC using the BLM is not available, DEQ will substitute an estimated input parameter value according to the procedures described in this section [Endnote N (1)]. If the data required to determine the estimated parameter value is not available, DEQ will use default values derived according to the procedures in Endnote N (2).

(a) Total recoverable concentration measurements will be substituted for dissolved concentration measurements that are not available. For alkalinity, calcium, chloride, magnesium, potassium, sodium and sulfate, total recoverable concentration measurements will be used as a direct substitute for dissolved concentration measurements. Total organic carbon (TOC) measurements will be multiplied by 0.83 to convert the TOC value to an equivalent dissolved organic carbon (DOC) value; except where sufficient TOC and DOC data are available for a site, DEQ will calculate and apply a site-specific translator in place of 0.83 to convert TOC values to DOC for use in the BLM.

(b) Alkalinity, calcium, chloride, magnesium, potassium, sodium and sulfate:  
If data for any of these BLM input parameters are missing from a particular dataset, DEQ will estimate its value based on the relationship of the ion or alkalinity to specific conductance measurements for that data set using the regression analysis equations in Table 1. Specific conductance measurements must be concurrent with the other BLM input parameters dataset.

Parameter	Regression Equation
Alkalinity	$Alk. = \exp^{(0.88 \cdot [\ln(SpC)] - 0.41)}$
Calcium	$Ca = \exp^{(0.96 \cdot [\ln(SpC)] - 2.29)}$
Chloride	$Cl = \exp^{(1.15 \cdot [\ln(SpC)] - 3.82)}$
Magnesium	$Mg = \exp^{(0.91 \cdot [\ln(SpC)] - 3.09)}$
Potassium	$K = \exp^{(0.84 \cdot [\ln(SpC)] - 3.74)}$
Sodium	$Na = \exp^{(0.86 \cdot [\ln(SpC)] - 2.22)}$
Sulfate	$SO_4 = \exp^{(1.45 \cdot [\ln(SpC)] - 5.59)}$

Where, “SpC” is a measurement of specific conductance in  $\mu\text{mhos/cm}$ , “ln” is the natural logarithm, and “exp” is a mathematical constant that is the base of the natural logarithm.



(c) pH

If concurrent pH data is missing from the sample dataset, DEQ will use a representative pH value determined by interpolating from data available for the site or proximate monitoring locations where conditions (such as type of water body, stream flow and geology) are similar to the site. DEQ will use the available data and methods to produce the best practicable estimate of pH for the site and time for which the IWQC is being derived.

(d) Temperature

If concurrent temperature data is missing from the sample dataset, DEQ will use a monthly mean temperature based on data available for the site or proximate monitoring locations where conditions (such as type of water body and stream flow) are similar to the site.

(e) Humic Acid

If sufficient high quality data on the percentage of humic acid as a proportion of DOC is available for a site, DEQ will use that value in the BLM in place of the default value of 10% used in the model.

(2) Default Action Values

If the measured value for DOC, alkalinity, calcium, chloride, magnesium, potassium, sodium or sulfate is not available to derive an IWQC using the BLM, and the parameter value cannot be estimated as specified in section (1) above, DEQ will use a conservative input value for the missing parameter as described in this section [Endnote N (2)] to derive a default action value using the Biotic Ligand Model. The default action value will be used for Clean Water Act purposes until measured or estimated input parameter data are available to derive accurate copper criteria (IWQC) based on site specific water chemistry.

(a) The default input parameter values for DOC, alkalinity calcium, chloride, magnesium, potassium, sodium and sulfate will be the percentile value from the distribution of the high quality data available for surface waters in the region as shown in Table N-2.

Table N-2. Percentile of data distribution to be used as default value by region		
Region	DOC percentile	Alkalinity and Ions percentile
Willamette	20 <sup>th</sup>	20 <sup>th</sup>
Coastal	20 <sup>th</sup>	20 <sup>th</sup>
Cascades	20 <sup>th</sup>	20 <sup>th</sup>
Eastern	15 <sup>th</sup>	15 <sup>th</sup>
Columbia River	20 <sup>th</sup>	20 <sup>th</sup>

(b) The regional default values for each parameter and region will be updated periodically as additional high quality data becomes available and is added to DEQ's database.

(c) The regional default values for each parameter are available on DEQ's website.

(d) The regions listed in Table N-2 are comprised of the following EPA Level III ecoregions or waterbody:

- (i) Willamette: the Willamette Valley
- (ii) Coastal: Coast Range and Klamath Mountains
- (iii) Cascades: Cascades
- (iv) Eastern: Eastern Cascades Slopes and Foothills, Columbia Plateau, Blue Mountains, Northern Basin and Range and Snake River Plain
- (v) Columbia River: Columbia River mainstem in Oregon

(3) General Policies

- (a) The copper BLM derives instantaneous criteria results (IWQC) that vary at a site over time reflecting the effect of local water chemistry on copper toxicity to aquatic organisms. DEQ will apply the BLM criteria for Clean Water Act purposes to protect the water body during the most bioavailable or toxic conditions.
- (b) For assessing waters of the state, DEQ will use approaches that give preference to the use of BLM criteria derived with site-specific measured input parameter data.

**Table 30(a): Ammonia Acute Criteria Values (One-hour Average)—Salmonid Species Present**  
 Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)

Criteria cannot be exceeded more than once every three years

$$Acute\ Criterion = MIN \left( \left( \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right), \left( 0.7249 \times \left( \frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) \times (23.12 \times 10^{0.036 \times (20 - T)}) \right) \right)$$

**Temperature (°C)**

pH	0-14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	24	24	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	8.0	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	5.6	5.6	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.0	1.0	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

**Table 30(b): Ammonia Acute Criteria Values (One-hour Average\*)—Salmonid Species Absent**  
 Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)

Criteria cannot be exceeded more than once every three years

$$Acute\ Criterion = 0.7249 \times \frac{0.0114}{1 + 10^{7.204-pH}} + \frac{1.6181}{1 + 10^{pH-7.204}} \times MIN(51.93, 23.12 \times 10^{0.036 \times (20-T)})$$

Temperature (°C)

pH	0-10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	3.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

**Table 30(c): Ammonia Chronic Criteria Values (30-day Rolling Average\*)**

Temperature and pH-Dependent and expressed as Total Ammonia Nitrogen (mg/L TAN)

\* The highest four-day average within the 30-day averaging period must not be more than 2.5 times the chronic value

Criteria cannot be exceeded more than once every three years

$$\text{Chronic Criterion} = 0.8876 \times \left( \frac{0.0278}{1 + 10^{7.688 - \text{pH}}} + \frac{1.1994}{1 + 10^{\text{pH} - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$$

Temperature (°C)


pH	0-7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.97	0.91	0.85
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90	0.85	0.79
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.83	0.78	0.73
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.50	0.44	0.44	0.41
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35
8.2	1.3	1.2	1.2	1.1	1.0	0.96	0.90	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.16	0.15
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08



**TABLE 31: Aquatic Life Water Quality Guidance Values for Toxic Pollutants**  
*Effective April 18, 2014*

**Water Quality Guidance Values Summary <sup>A</sup>**

The concentration for each compound listed in Table 31 is a guidance value that DEQ may use in application of Oregon’s Toxic Substances Narrative (340-041-0033(2)) to waters of the state in order to protect aquatic life. All values are expressed as micrograms per liter (µg/L) except where noted. Compounds are listed in alphabetical order with the corresponding EPA number (from National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047), corresponding Chemical Abstract Service (CAS) number, aquatic life freshwater acute and chronic guidance values, and aquatic life saltwater acute and chronic guidance values.

 Oregon Department of Environmental Quality Table 31 <b>Aquatic Life Water Quality Guidance Values for Toxic Pollutants</b> <b>340-041-8033</b>						
EPA No.	Pollutant	CAS Number	Freshwater		Saltwater	
			Acute	Chronic	Acute	Chronic
56	Acenaphthene	83329	1,700	520	970	710
17	Acrolein	107028	68	21	55	
18	Acrylonitrile	107131	7,550	2,600		
1	Antimony	7440360	9,000	1,600		
19	Benzene	71432	5,300		5,100	700
59	Benzidine	92875	2,500			
3	Beryllium	7440417	130	5.3		
19 B	BHC (Hexachlorocyclohexane- Technical)	319868	100		0.34	
21	Carbon Tetrachloride	56235	35,200		50,000	
	Chlorinated Benzenes		250	50	160	129
	Chlorinated naphthalenes		1,600		7.5	
	Chloroalkyl Ethers		238,000			



Oregon Department of Environmental Quality

Table 31

**Aquatic Life Water Quality Guidance Values for Toxic Pollutants**

**340-041-8033**

EPA No.	Pollutant	CAS Number	Freshwater		Saltwater	
			Acute	Chronic	Acute	Chronic
26	Chloroform	67663	28,900	1,240		
45	Chlorophenol 2-	95578	4,380	2,000		
	Chlorophenol 4-	106489			29,700	
52	Methyl-4-chlorophenol 3-	59507	30			
5a	Chromium (III)	16065831			10,300	
109	DDE 4,4'-	72559	1,050		14	
110	DDD 4,4'-	72548	0.06		3.6	
	Diazinon	333415	0.08	0.05		
	Dichlorobenzenes		1,120	763	1,970	
29	Dichloroethane 1,2-	107062	118,000	20,000	113,000	
	Dichloroethylenes		11,600		224,000	
46	Dichlorophenol 2,4-	120832	2,020	365		
31	Dichloropropane 1,2-	78875	23,000	5,700	10,300	3,040
32	Dichloropropene 1,3-	542756	6,060	244	790	
47	Dimethylphenol 2,4-	105679	2,120			
	Dinitrotoluene		330	230	590	370
16	Dioxin (2,3,7,8-TCDD)	1746016	0.01	38 pg/L		
85	Diphenylhydrazine 1,2-	122667	270			
33	Ethylbenzene	100414	32,000		430	
86	Fluoranthene	206440	3,980		40	16
	Haloethers		360	122		
	Halomethanes		11,000		12,000	6,400
89	Hexachlorobutadiene	87683	90	9.3	32	
90	Hexachlorocyclopentadiene	77474	7	5.2	7	



Oregon Department of Environmental Quality

Table 31

**Aquatic Life Water Quality Guidance Values for Toxic Pollutants**

**340-041-8033**

EPA No.	Pollutant	CAS Number	Freshwater		Saltwater	
			Acute	Chronic	Acute	Chronic
91	Hexachloroethane	67721	980	540	940	
93	Isophorone	78591	117,000		12,900	
94	Naphthalene	91203	2,300	620	2,350	
95	Nitrobenzene	98953	27,000		6,680	
	Nitrophenols		230	150	4,850	
26 B	Nitrosamines	35576911	5,850		3,300,000	
	Pentachlorinated ethanes		7,240	1,100	390	281
54	Phenol	108952	10,200	2,560	5,800	
	Phthalate esters		940	3	2,944	3.4
	Polynuclear Aromatic Hydrocarbons				300	
	Tetrachlorinated Ethanes		9,320			
37	Tetrachloroethane 1,1,2,2-	79345		2,400	9,020	
	Tetrachloroethanes		9,320			
38	Tetrachloroethylene	127184	5,280	840	10,200	450
	Tetrachlorophenol 2,3,5,6					440
12	Thallium	7440280	1,400	40	2,130	
39	Toluene	108883	17,500		6,300	5,000
	Trichlorinated ethanes		18,000			
41	Trichloroethane 1,1,1-	71556			31,200	
42	Trichloroethane 1,1,2-	79005		9,400		
43	Trichloroethylene	79016	45,000	21,900	2,000	
55	Trichlorophenol 2,4,6-	88062		970		

The following chemicals/compounds/classes are of concern due to the potential for toxic effects to aquatic organisms; however, no guidance values are designated. If these compounds are identified in the waste stream, then a review of the scientific literature may be appropriate for deriving guidance values.

- Polybrominated diphenyl ethers (PBDE)
- Polybrominated biphenyls (PBB)
- Pharmaceuticals



- Personal care products
- Alkyl Phenols
- Other chemicals with Toxic effects

**Footnotes:**

A Values in Table 31 are applicable to all basins.

B This number was assigned to the list of non-priority pollutants in National Recommended Water Quality Criteria: 2002 (EPA-822-R-02-047).



## TABLE 40: Human Health Water Quality Criteria for Toxic Pollutants

*Effective April 18, 2014*

### Human Health Criteria Summary

The concentration for each pollutant listed in Table 40 was derived to protect Oregonians from potential adverse health impacts associated with long-term exposure to toxic substances associated with consumption of fish, shellfish, and water. The “organism only” criteria are established to protect fish and shellfish consumption and apply to waters of the state designated for fishing. The “water + organism” criteria are established to protect the consumption of drinking water, fish, and shellfish, and apply where both fishing and domestic water supply (public and private) are designated uses. All criteria are expressed as micrograms per liter ( $\mu\text{g/L}$ ), unless otherwise noted. Pollutants are listed in alphabetical order. Additional information includes the Chemical Abstract Service (CAS) number, whether the criterion is based on carcinogenic effects (can cause cancer in humans), and whether there is an aquatic life criterion for the pollutant (i.e. “y”= yes, “n” = no). All the human health criteria were calculated using a fish consumption rate of 175 grams per day unless otherwise noted. A fish consumption rate of 175 grams per day is approximately equal to 23 8-ounce fish meals per month. For pollutants categorized as carcinogens, values represent a cancer risk of one additional case of cancer in one million people (i.e.  $10^{-6}$ ), unless otherwise noted. All metals criteria are for total metal concentration, unless otherwise noted. Italicized pollutants represent non-priority pollutants. The human health criteria revisions established by OAR 340-041-0033 and shown in Table 40 do not become applicable for purposes of ORS chapter 468B or the federal Clean Water Act until approved by EPA pursuant to 40 CFR 131.21 (4/27/2000).



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
1	Acenaphthene	83329	n	n	95	99
2	Acrolein	107028	n	n	0.88	0.93
3	Acrylonitrile	107131	y	n	0.018	0.025
4	Aldrin	309002	y	y	0.0000050	0.0000050
5	Anthracene	120127	n	n	2900	4000
6	Antimony	7440360	n	n	5.1	64
7	Arsenic (inorganic) <sup>A</sup>	7440382	y	y	2.1	2.1 (freshwater) 1.0 (saltwater)
<sup>A</sup> The arsenic criteria are expressed as total inorganic arsenic. The "organism only" freshwater criterion is based on a risk level of approximately $1 \times 10^{-5}$ , and the "water + organism" criterion is based on a risk level of $1 \times 10^{-4}$ .						
8	Asbestos <sup>B</sup>	1332214	y	n	7,000,000 fibers/L	--
<sup>B</sup> The human health risks from asbestos are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.						
9	Barium <sup>C</sup>	7440393	n	n	1000	--
<sup>C</sup> The human health criterion for barium is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.						
10	Benzene	71432	y	n	0.44	1.4
11	Benzidine	92875	y	n	0.000018	0.000020
12	Benz(a)anthracene	56553	y	n	0.0013	0.0018
13	Benzo(a)pyrene	50328	y	n	0.0013	0.0018
14	Benzo(b)fluoranthene 3,4	205992	y	n	0.0013	0.0018
15	Benzo(k)fluoranthene	207089	y	n	0.0013	0.0018
16	BHC Alpha	319846	y	n	0.00045	0.00049



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
17	BHC Beta	319857	y	n	0.0016	0.0017
18	BHC Gamma (Lindane)	58899	n	y	0.17	0.18
19	Bromoform	75252	y	n	3.3	14
20	Butylbenzyl Phthalate	85687	n	n	190	190
21	Carbon Tetrachloride	56235	y	n	0.10	0.16
22	Chlordane	57749	y	y	0.000081	0.000081
23	Chlorobenzene	108907	n	n	74	160
24	Chlorodibromomethane	124481	y	n	0.31	1.3
25	Chloroethyl Ether bis 2	111444	y	n	0.020	0.053
26	Chloroform	67663	n	n	260	1100
27	Chloroisopropyl Ether bis 2	108601	n	n	1200	6500
28	<i>Chloromethyl ether, bis</i>	542881	y	n	0.000024	0.000029
29	Chloronaphthalene 2	91587	n	n	150	160
30	Chlorophenol 2	95578	n	n	14	15
31	<i>Chlorophenoxy Herbicide (2,4,5,-TP)<sup>D</sup></i>	93721	n	n	10	--
	<p><sup>D</sup> The Chlorophenoxy Herbicide (2,4,5,-TP) criterion is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.</p>					
32	<i>Chlorophenoxy Herbicide (2,4-D)<sup>E</sup></i>	94757	n	n	100	--



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
<p><sup>E</sup> The Chlorophenoxy Herbicide (2,4-D) criterion is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.</p>						
33	Chrysene	218019	y	n	0.0013	0.0018
34	Copper <sup>F</sup>	7440508	n	y	1300	--
<p><sup>F</sup> Human health risks from copper are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.</p>						
35	Cyanide <sup>G</sup>	57125	n	y	130	130
<p><sup>G</sup> The cyanide criterion is expressed as total cyanide (CN)/L.</p>						
36	DDD 4,4'	72548	y	n	0.000031	0.000031
37	DDE 4,4'	72559	y	n	0.000022	0.000022
38	DDT 4,4'	50293	y	y	0.000022	0.000022
39	Dibenz(a,h)anthracene	53703	y	n	0.0013	0.0018
40	Dichlorobenzene(m) 1,3	541731	n	n	80	96
41	Dichlorobenzene(o) 1,2	95501	n	n	110	130
42	Dichlorobenzene(p) 1,4	106467	n	n	16	19
43	Dichlorobenzidine 3,3'	91941	y	n	0.0027	0.0028
44	Dichlorobromomethane	75274	y	n	0.42	1.7
45	Dichloroethane 1,2	107062	y	n	0.35	3.7
46	Dichloroethylene 1,1	75354	n	n	230	710
47	Dichloroethylene trans 1,2	156605	n	n	120	1000



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
48	Dichlorophenol 2,4	120832	n	n	23	29
49	Dichloropropane 1,2	78875	y	n	0.38	1.5
50	Dichloropropene 1,3	542756	y	n	0.30	2.1
51	Dieldrin	60571	y	y	0.0000053	0.0000054
52	Diethyl Phthalate	84662	n	n	3800	4400
53	Dimethyl Phthalate	131113	n	n	84000	110000
54	Dimethylphenol 2,4	105679	n	n	76	85
55	Di-n-butyl Phthalate	84742	n	n	400	450
56	Dinitrophenol 2,4	51285	n	n	62	530
57	<i>Dinitrophenols</i>	25550587	n	n	62	530
58	Dinitrotoluene 2,4	121142	y	n	0.084	0.34
59	Dioxin (2,3,7,8-TCDD)	1746016	y	n	0.00000000051	0.00000000051
60	Diphenylhydrazine 1,2	122667	y	n	0.014	0.020
61	Endosulfan Alpha	959988	n	y	8.5	8.9
62	Endosulfan Beta	33213659	n	y	8.5	8.9
63	Endosulfan Sulfate	1031078	n	n	8.5	8.9
64	Endrin	72208	n	y	0.024	0.024
65	Endrin Aldehyde	7421934	n	n	0.030	0.030
66	Ethylbenzene	100414	n	n	160	210
67	Ethylhexyl Phthalate bis 2	117817	y	n	0.20	0.22
68	Fluoranthene	206440	n	n	14	14



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
69	Fluorene	86737	n	n	390	530
70	Heptachlor	76448	y	y	0.0000079	0.0000079
71	Heptachlor Epoxide	1024573	y	y	0.0000039	0.0000039
72	Hexachlorobenzene	118741	y	n	0.000029	0.000029
73	Hexachlorobutadiene	87683	y	n	0.36	1.8
74	Hexachlorocyclo-hexane-Technical	608731	y	n	0.0014	0.0015
75	Hexachlorocyclopentadiene	77474	n	n	30	110
76	Hexachloroethane	67721	y	n	0.29	0.33
77	Indeno(1,2,3-cd)pyrene	193395	y	n	0.0013	0.0018
78	Isophorone	78591	y	n	27	96
79	Manganese <sup>H</sup>	7439965	n	n	--	100
<p><sup>H</sup> The "fish consumption only" criterion for manganese applies only to salt water and is for total manganese. This EPA recommended criterion predates the 1980 human health methodology and does not utilize the fish ingestion BCF calculation method or a fish consumption rate.</p>						
80	Methoxychlor <sup>I</sup>	72435	n	y	100	--
<p><sup>I</sup> The human health criterion for methoxychlor is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.</p>						
81	Methyl Bromide	74839	n	n	37	150
82	Methyl-4,6-dinitrophenol 2	534521	n	n	9.2	28
83	Methylene Chloride	75092	y	n	4.3	59
84	Methylmercury (mg/kg) <sup>J</sup>	22967926	n	n	--	0.040 mg/kg



Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
<p><sup>J</sup> This value is expressed as the fish tissue concentration of methylmercury. Contaminated fish and shellfish is the primary human route of exposure to methylmercury.</p>						
85	Nickel	7440020	n	y	140	170
86	Nitrates <sup>K</sup>	14797558	n	n	10000	--
<p><sup>K</sup> The human health criterion for nitrates is the same as originally published in the 1976 EPA Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value was also published in the 1986 EPA Gold Book. Human health risks are primarily from drinking water, therefore no "organism only" criterion was developed. The "water + organism" criterion is based on the Maximum Contaminant Level (MCL) established under the Safe Drinking Water Act.</p>						
87	Nitrobenzene	98953	n	n	14	69
88	Nitrosamines	35576911	y	n	0.00079	0.046
89	Nitrosodibutylamine, N	924163	y	n	0.0050	0.022
90	Nitrosodiethylamine, N	55185	y	n	0.00079	0.046
91	Nitrosodimethylamine, N	62759	y	n	0.00068	0.30
92	Nitrosodi-n-propylamine, N	621647	y	n	0.0046	0.051
93	Nitrosodiphenylamine, N	86306	y	n	0.55	0.60
94	Nitrosopyrrolidine, N	930552	y	n	0.016	3.4
95	Pentachlorobenzene	608935	n	n	0.15	0.15
96	Pentachlorophenol	87865	y	y	0.15	0.30
97	Phenol	108952	n	n	9400	86000
98	Polychlorinated Biphenyls (PCBs) <sup>L</sup>	NA	y	y	0.0000064	0.0000064
<p><sup>L</sup> This criterion applies to total PCBs (e.g. determined as Aroclors or congeners).</p>						
99	Pyrene	129000	n	n	290	400
100	Selenium	7782492	n	y	120	420





Oregon Department of Environmental Quality

Table 40

Human Health Water Quality Criteria for Toxic Pollutants

340-041-8033

No.	Pollutant	CAS Number	Carcinogen	Aquatic Life Criterion	Human Health Criteria for the Consumption of:	
					Water + Organism (µg/L)	Organism Only (µg/L)
101	<i>Tetrachlorobenzene, 1,2,4,5-</i>	95943	n	n	0.11	0.11
102	Tetrachloroethane 1,1,2,2	79345	y	n	0.12	0.40
103	Tetrachloroethylene	127184	y	n	0.24	0.33
104	Thallium	7440280	n	n	0.043	0.047
105	Toluene	108883	n	n	720	1500
106	Toxaphene	8001352	y	y	0.000028	0.000028
107	Trichlorobenzene 1,2,4	120821	n	n	6.4	7.0
108	Trichloroethane 1,1,2	79005	y	n	0.44	1.6
109	Trichloroethylene	79016	y	n	1.4	3.0
110	Trichlorophenol 2,4,6	88062	y	n	0.23	0.24
111	<i>Trichlorophenol, 2, 4, 5-</i>	95954	n	n	330	360
112	Vinyl Chloride	75014	y	n	0.023	0.24
113	Zinc	7440666	n	y	2100	2600

## **Attachment D: DEQ Local Limits Workbook Output**

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State of Oregon Department of Environmental Quality

# DEQ Local Limits Workbook Instructions

This workbook consists of ten worksheets (four worksheets are hidden). The hidden worksheets use information entered in the **General** and **Pass Through** sheets to perform the same calculations that DEQ would perform if it were developing permit limits for the POTW. Four worksheets (**General**, **Pass Through**, **Inhibition**, and **Sludge Quality**) require data input by the user. Data should only be entered in the yellow shaded areas within these four worksheets. The only exception to this is explained below, in the **Removal Efficiencies** section.

Note: If the POTW is NOT developing a local limit for any of the pollutants listed in this workbook, leave blank all spaces for those pollutants. Leaving these spaces blank will cause an error in the **Pass Through** sheet under the column heading "Pass Through Allowable Loading (lbs/day)". This error can be ignored as no local limit will be calculated.

## General worksheet

**Average Pollutant Concentrations**. Enter average concentrations of pollutants derived from sampling data or literature values. Influent and effluent data will be used by the spreadsheet to automatically calculate removal efficiencies and display them in the turquoise shaded area. If the POTW does not employ primary clarification, enter the influent pollutant concentrations in the Primary Effluent column in addition to the POTW Influent column. Enter the coefficient of variation (CV) for the set of plant effluent concentrations. The CV is the average divided by the standard deviation for the set of effluent concentrations. If this dataset contains fewer than 10 samples, then enter a default value of 0.6 for the CV instead of the calculated value. The **Average Pollutant Concentrations** entered for **Sludge To Digester** and **Biosolids To Disposal** are not used in Local Limits calculations. Inputting these values provides a convenient way for the user to compare pollutant concentrations in the digester to thresholds for digester inhibition, and to compare pollutant concentrations in biosolids with standards for the use or disposal of biosolids.

**Removal Efficiencies**. These are automatically calculated for pollutants for which influent/effluent data have been entered in the **Average Pollutant Concentrations** section. Alternatively, the user may enter removal efficiencies (in percent), directly into this section. If this is done, this workbook will use the entered removal efficiencies and will not calculate them from influent/effluent data.

**Industrial contributory flow**. Enter the industrial contributory flow for any pollutants for which the industrial contributory allocation method might be used. If this allocation method is not under consideration, then the user need not enter this information.

**Safety Factor + Growth Allowance Factor**. Enter a value, in percent, that represents the sum of a safety factor plus a growth allowance factor for each pollutant. The safety factor addresses uncertainties in the data (the amount, quality, or variability) used to develop allowable headworks loadings. There may be different safety factors for different pollutants. EPA recommends a safety factor of at least 10 percent.

The growth allowance factor allows the POTW to hold in reserve a portion of its MAHL for anticipated growth in the future. EPA recommends that establishing a growth allowance factor should be considered for known and planned expansions, and is most commonly justified for conventional

**The Safety Factor + Growth Allowance Factor** is the safety factor plus the growth allowance factor, if one is established, for each pollutant.

**Flow Information**. Enter the average POTW flow, industrial flow, and non-industrial flow. The industrial flow is the sum of the flows from all Industrial Users that will be regulated by the local limits calculated by this workbook. The POTW flow should be the sum of the industrial flow and non-industrial flow.

**Sludge Information**. Enter the sludge flows to digesters and to disposal, and percent solids for the sludge to disposal.

**Sludge Land Application Information.** Enter the site use duration and site area. Enter either Y or N (in capital letters) to indicate whether or not the sludge from the POTW is sold or given away as compost.

### Pass Through worksheet

The **Pass Through** worksheet will calculate allowable loadings based on permit limits and/or water quality criteria for all pollutants listed except molybdenum. If "#VALUE!" is displayed under the "Pass Through Allowable Loading (lbs/day)" heading for any pollutant other than molybdenum, then the workbook does not have all the data needed to complete the calculation.

**NPDES Permit Limit.** If applicable, enter the POTW permit limit in  $\mu\text{g/L}$ . If there is no NPDES permit limit, leave this blank.

**Receiving Stream Background.** Enter the receiving stream background concentration in  $\mu\text{g/L}$ .

**Dilution information from a mixing zone study.** Enter the dilution factors associated with the 7Q10, 1Q10, harmonic mean, and 30Q5 flows. If any of these dilution factors are unknown, contact DEQ for guidance.

**Water Hardness Information.** Enter the hardness values for the receiving stream and plant effluent.

### Inhibition worksheet

Enter inhibition threshold concentrations for secondary, tertiary, and sludge digestion processes.

### Sludge Quality worksheet

**Sludge Disposal Criteria or Standards.** Enter the criteria or standards that apply to the POTW's sludge disposal practices. These values are typically found in Table 1 or Table 3 of the Part 503 Standards for the use or disposal of sewage sludge. The Part 503 Standards are displayed in the table on this sheet.

**Annual and Cumulative Application Rate Limits.** Enter the applicable limits (in kilograms per hectare), which are found in Table 2 and Table 4 of the Part 503 Standards for the use or disposal of sewage sludge. The Part 503 Standards are displayed in the table on this sheet.

### Limits Worksheet

The **Limits** worksheet does not accept any user input. This sheet will display Maximum Allowable Headworks Loadings (MAHLs), the basis of the MAHLs, the safety factors in lbs/day, the uncontrollable (nonindustrial) loadings, the Maximum Allowable Industrial Loadings (MAILs), and the calculated Local Limits in  $\text{mg/L}$ .

### Enter General POTW Information in the Yellow Shaded Areas

The spreadsheet will automatically calculate removal efficiencies when the user enters influent/effluent data. If the user desires to override these calculations (e.g., to enter literature values for removal efficiencies), then these removal efficiencies should be entered in the **turquoise** columns.

Average Pollutant Concentrations									Removal Efficiencies (Percent of pollutant removed)			Industrial Contributory Flow (mgd)	Safety Factor + Growth Allowance Factor (Percent)
Pollutant	POTW Influent (mg/L)	Primary Effluent (mg/L)	Secondary Effluent (mg/L)	Final Effluent (mg/L)	Effluent Coefficient of Variation	Non- Industrial (mg/L)	Sludge To Digester (mg/L)	Biosolids To Disposal (mg/kg)	Through Primary	Through Secondary	Overall POTW		
Antimony	0.000817			0.00001	0.6	0.000762		2.23			98.78		10
Arsenic	0.00111			0.000548	0.6	0.00102		1.30			50.63		10
Cadmium	0.00014			0.000007	0.6	0.0000914		0.483			95.00		10
Chromium	0.00219			0.000229	0.6	0.00167		17.2			89.54		10
Copper	0.039			0.00177	0.6	0.043		219			95.46		10
Cyanide	0.00683			0.00253	0.6	0.00551		1.06			62.96		10
Iron	0.467			0.0555	0.6	0.86		3530			88.12		10
Lead	0.000907			0.000442	0.6	0.00134		2.45			51.27		10
Mercury	4.68E-05			9.77E-07	0.6	6.46E-05		0.040			97.91		10
Molybdenum	0.00437			0.00233	0.6	0.00214		9.59			46.68		10
Nickel	0.00335			0.00163	0.6	0.00394		14.0			51.34		10
Selenium	0.00002			0.00002	0.6	0.00002		2.09			75.00		10
Silver	0.000274			0.000003	0.6	0.000289		2.41			98.91		10
Thallium	0.000002			0.000002	0.6	0.000002		0.200			0		10
Zinc	0.15			0.111	0.6	0.171		232			26.00		10

Percent removal is a literature value

Flow Information		Sludge Information		dge Land Application Informat	
POTW Flow (mgd)	2.44	Flow to Digester (mgd)		Site Use Duration (years)	
Industrial Flow (mgd)	0.28	Flow to Disposal (mgd)	0.01299	Site Area (acres)	
Non-Industrial Flow (	2.16	Percent Solids to Disposal	29.8	Compost? Y/N	N

Landfill and Land apply

POTW Name:  
POTW Contact:

Wilsonville STP
Steve Gering

## Enter Pass-Through Information in the Yellow Shaded Areas

Pollutant	NPDES Permit Limit (µg/L)	Receiving Stream Background (µg/L)	RPA Workbook Daily Maximum Permit Limit (µg/L) (Aquatic Toxicity)	RPA Workbook Daily Maximum Permit Limit (µg/L) (Human Health)	Pass Through Allowable Loading (lbs/day)
Antimony		0.200		782	1298
Arsenic		0.309	5122	476	19.6
Cadmium		0.038	11.9		4.85
Chromium		0.326	2740		532
Copper		0.663	63.3	207270	28.4
Cyanide			332		18.2
Iron		157	101701		17393
Lead		0.095	51.0		2.13
Mercury		0.003	1.09		1.06
Molybdenum			NA		NA
Nickel		0.348	1834	22278	76.6
Selenium		0.583	187	19050	15.2
Silver		0.059	3.21		5.96
Thallium		0.028		2.51	
Zinc		4.23	488	334322	13.4

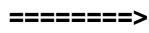
Dilution Information (From Mixing Zone Study)		Water Hardness Information	
RMZ Dilution Factor at 7Q10 Flow	107	Stream Hardness (mg/L)	23.75
ZID Dilution Factor at 1Q10 Flow	22	Effluent Hardness (mg/L)	55.2
RMZ Dilution Factor at Harmonic Mean Flow	193	Hardness at RMZ at 7Q10 Flow	24.0
RMZ Dilution Factor at 30Q5 Flow	116	Hardness at ZID at 1Q10 Flow	25.2

**Note:** Make sure that dilution *factors* are entered above. Dilution *factors* and dilution *ratios* are derived from mixing zone studies or modeling. A dilution *factor* equals the sum of the upstream river flow and the effluent flow divided by the effluent flow. A dilution *ratio* equals the upstream river flow divided by the effluent flow. Thus, a dilution *factor* equals the dilution *ratio* + 1. This workbook uses dilution *factors* in the calculations.

### Enter Sludge Quality Information in the Yellow Shaded Areas

Pollutant	Standard From 40 CFR Part 503 Table 1 or Table 3 (mg/kg)	Annual Application Rate Limit (kg/hectare/year)	Disposal Limit Based on Annual Application Rate (mg/kg)	Cumulative Application Rate Limit (kg/hectare)	Disposal Limit Based on Cumulative Application Rate (mg/kg)	Overall Sludge Disposal Criterion (mg/kg)	Sludge Quality Allowable Loading (lbs/day)
Antimony							
Arsenic	75					75	4.78
Cadmium	85					85	2.89
Chromium							
Copper	4300					4300	145.4
Cyanide							
Iron							
Lead	840					840	52.9
Mercury	57					57	1.88
Molybdenum	75					75	5.19
Nickel	420					420	26.4
Selenium	100					100	4.30
Silver							
Thallium							
Zinc	7500					7500	931

40 CFR Part 503  
Standards for the  
Use or Disposal of  
Sewage Sludge



Pollutant	Table 1 Ceiling Concentrations (mg/kg)	Table 2 Cumulative Loading Rates (kg/hectare)	Table 3 Clean Sludge (mg/kg)	Table 4 Annual Loading Rates (kg/hectare/year)
Arsenic	75	41	41	2.0
Cadmium	85	39	39	1.9
Chromium				
Copper	4300	1500	1500	75
Cyanide				
Lead	840	300	300	15
Mercury	57	17	17	0.85
Molybdenum	75			
Nickel	420	420	420	21
Selenium	100	100	100	5.0
Silver				
Zinc	7500	2800	2800	140

Used this column based on NPDES permit

## Allocation of Maximum Allowable Headworks Loadings

Pollutant	Maximum Allowable Headworks Loading (lbs/day)	Basis of Maximum Allowable Headworks Loading	Safety Factor (lbs/day)	Actual Uncontrollable Loading (lbs/day)	Maximum Allowable Industrial Loading (lbs/day)	Local Limit (mg/L)	
						Using Total Industrial Flow	Using Industrial Contributory Flow
Antimony	1298	Pass Through	130	0.014	1169	500	
Arsenic	4.78	Sludge Quality	0.478	0.018	4.29	1.84	
Cadmium	2.89	Sludge Quality	0.289	0.002	2.60	1.11	
Chromium	532	Pass Through	53.2	0.030	479	205	
Copper	28.4	Pass Through	2.84	0.774	24.8	10.6	
Cyanide	18.2	Pass Through	1.82	0.099	16.3	6.97	
Iron	17393	Pass Through	1739	15.5	15638	6697	
Lead	2.13	Pass Through	0.213	0.024	1.89	0.810	
Mercury	1.06	Pass Through	0.106	0.001	0.951	0.407	
Molybdenum	5.19	Sludge Quality	0.519	0.038	4.63	1.98	
Nickel	26.4	Sludge Quality	2.64	0.071	23.7	10.1	
Selenium	4.30	Sludge Quality	0.430	0.000	3.87	1.66	
Silver	5.96	Pass Through	0.596	0.005	5.36	2.30	
Thallium				0		#VALUE!	
Zinc	13.4	Pass Through	1.34	3.076	8.99	3.85	

Data was non-detec

Data was non-detec



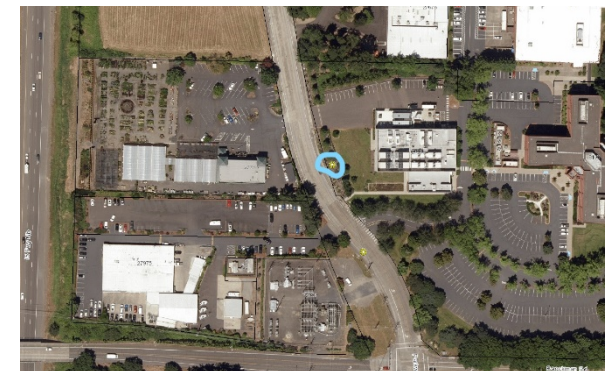
## **Attachment E: Industrial Buildout Evaluation**

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# Local Limits Update





November 29, 2021



Local Limits Update

# Introductions

# Introductions

Staff	Role	
	Josh Johnson (Portland, OR)	Project Manager
	Jaclyn Lauer (Lander, WY)	Project Engineer
	Jennifer Kersh (Portland, OR)	Project Engineer
	Josh Balentine (Memphis, TN)	National pretreatment lead; senior advisor and QA/QC

Local Limits Update

# **Agenda, Project Introduction, and Status Update**

# Agenda

- Staff Intros
- Projection Introduction and Status Update
- Sampling Summary and Results
- Industrial Growth Scenarios
- Next Steps / Questions and Discussion

# Critical Success Factors

- Submit report by date required by NPDES permit – March 15, 2022.
- Balance needs of existing industries, future industries, and the environment.
- Provide local industries some relief from stringent local limits.
- Understand how different industrial development scenarios impact limits.

# Scope and Status

Item	Status
Data review	Complete
Sampling and Analysis Plan	Complete
Sampling assistance	Complete
Local Limits calculations	In progress (80%)
Industrial Growth Scenarios	In progress (50%)
Local Limits report	In progress (50%)
Public comment / DEQ coordination	Not started



Local Limits Update

# Sampling Summary

# Sampling Approach

- BC revised Wilsonville's existing Sampling and Analysis Plan after identifying a list of priority pollutants.
- Sampling Schedule:
  - 2-day initial screening
  - Short evaluation of screening data
  - 5-day consecutive sampling period
- Samples were collected at key locations:
  - Influent
  - Effluent
  - Biosolids
  - 2 Collection System locations

# Sampling Results: Inorganic Pollutants

Inorganic Pollutant	Avg Collection System (mg/L)	Avg Influent (mg/L)	Avg Effluent (mg/L)	Avg Biosolids To Disposal (mg/kg)	Percent Removal
Antimony	0.000762	0.000817	0.00001	2.23	98.8%
Arsenic	0.00102	0.00111	0.000548	1.3	50.6%
Cadmium	0.0000914	0.00014	0.000007	0.483	95.0%
Chromium	0.00167	0.00219	0.000229	17.2	89.5%
Copper	0.043	0.039	0.00177	219	95.5%
Cyanide	0.00551	0.00683	0.00253	1.06	63.0%
Iron	0.86	0.467	0.0555	3530	88.1%
Lead	0.00134	0.000907	0.000442	2.45	51.3%
Mercury	6.46E-05	4.68E-05	9.77E-07	0.0396	97.9%
Molybdenum	0.00214	0.00437	0.00233	9.59	46.7%
Nickel	0.00394	0.00335	0.00163	14	51.3%
Selenium	0.00002	0.00002	0.00002	2.09	
Silver	0.000289	0.000274	0.000003	2.41	98.9%
Thallium	0.000002	0.000002	0.000002	0.2	
Zinc	0.171	0.15	0.111	232	26.0%

Note: Highlighted values are below the reporting limit.

# Sampling Results: Conventional and Organic Pollutants

Conventional Pollutant	Avg Collection System (mg/L)	Avg Influent (mg/L)	Avg Effluent (mg/L)	Avg Biosolids To Disposal (mg/kg)	Percent Removal
Biological oxygen demand (BOD)	327.8	292	3.3		98.9%
Carbonaceous BOD	273	354	3.93		98.9%
Total Suspended Solids (TSS)	244	305	0.6		99.8%
Ammonia (as N)	42.9	43	13.5	87.6	68.6%
Total Kjeldahl Nitrogen (TKN)	62.1	56.5	9.27	686.5	83.6%
Total Phosphorus	6.39	5.06	4.16	1820	17.8%
Sulfide	2.56	18.7	0.931	803	95.0%

**Organic Pollutants** were detected in collection system, influent, effluent, and biosolids samples, but further comparison of detections against worker protection standards, water quality standards, and biosolids standards deemed further calculations unnecessary.

Local Limits Update

# Industrial Growth Scenarios

# Background – Why Develop Scenarios?

- Local limits calculation method:
  - Reserves a certain percentage of capacity for growth.
  - Default recommendation is 10%.
  - May not be enough if significant growth anticipated.
- Wilsonville has two industrial planned development areas, plus potential for growth / infill.
- Reserved capacity results in lower limits for existing users.
- Goal: balance growth capacity with needs of existing users.

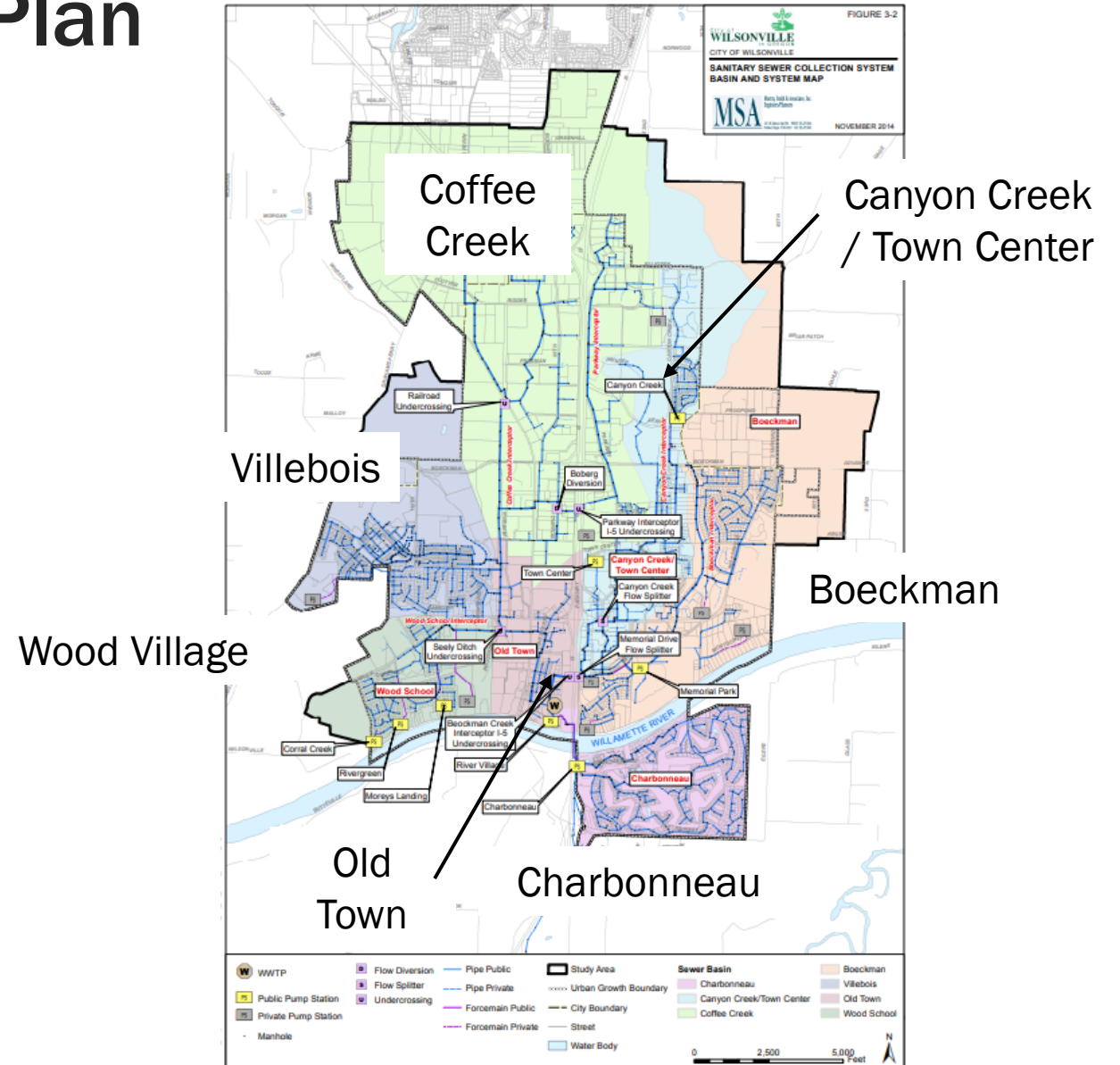
# Background

- Collection System Master Plan (2014)
- Basalt Creek Concept Plan (2014)
- Coffee Creek Urban Renewal Plan (2016)
- 2020 Industrial User data

# Collection System Master Plan

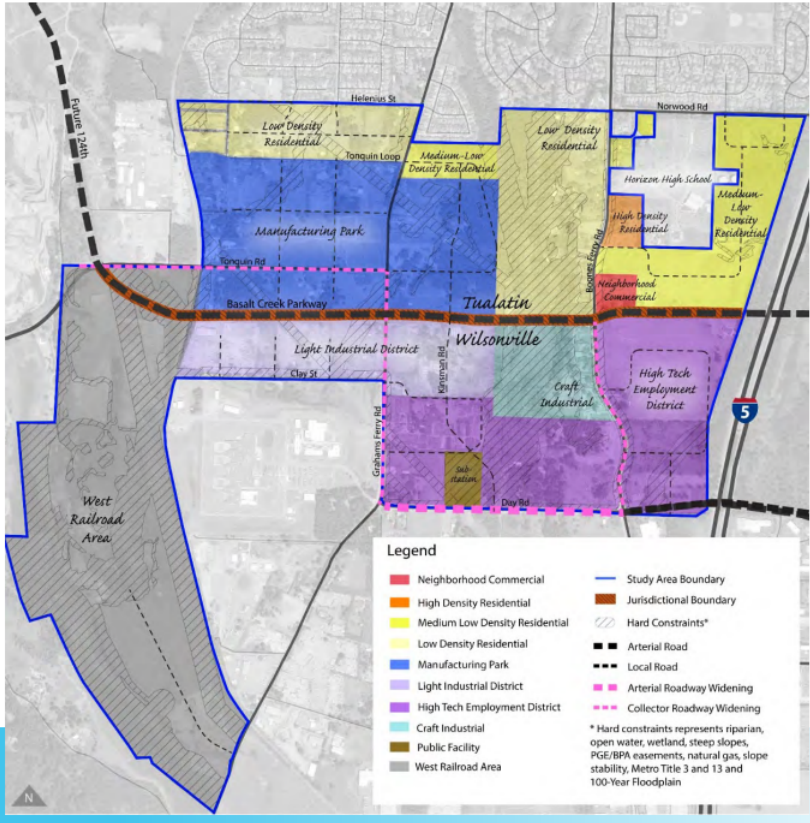
From Table 5-13 – Future Development Net Acreage and Dry Weather Loading by Land Use

Basin	Net Industrial Acreage
Boeckman	0
Canyon Creek / Town Center	15
Charbonneau	0
Coffee Creek	88
Old Town	22
Villebois	0
Wood School	17
Total	142





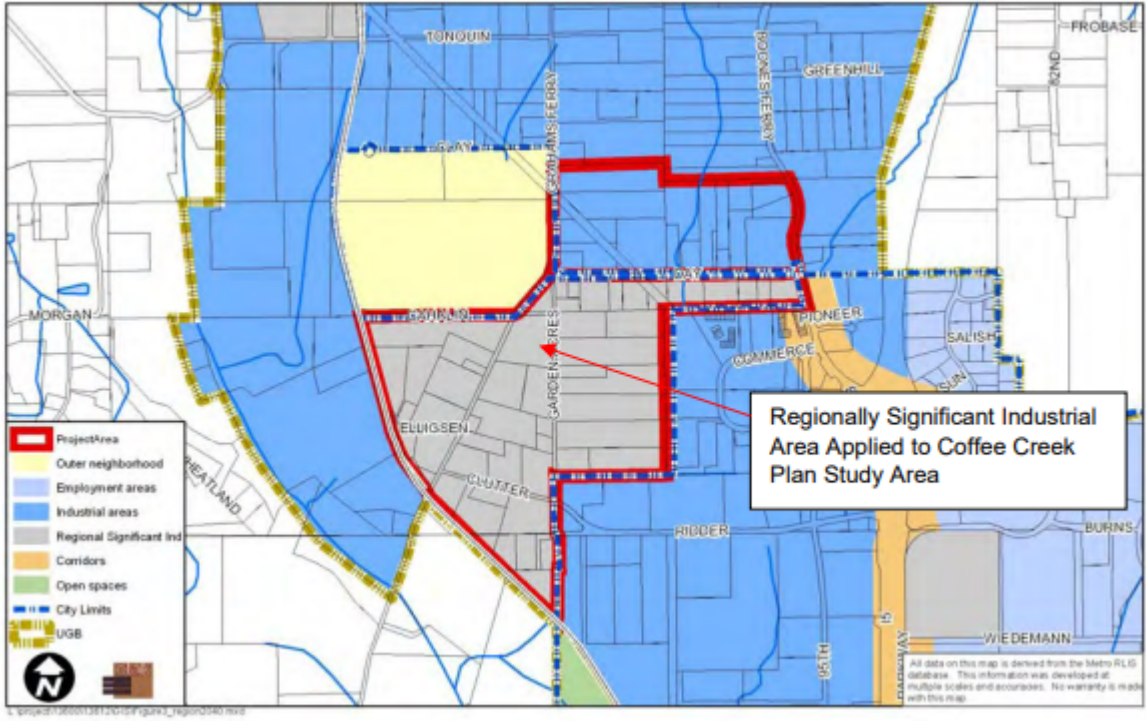
# Basalt Creek and Coffee Creek Plans



Concept Plan Map  
April 2018



Basalt Creek: 137 developable acres



Coffee Creek: 174 developable acres

# Summary – Buildout Flow

Basin		Net Acreage (acres)	Flow (mgd)		
			1000 gpad	500 gpad	350 gpad
Boeckman		0	0	0	0
Canyon Creek / Town Center		15	0.0150	0.0075	0.0053
Charbonneau		0	0	0	0
Coffee Creek		311	0.311	0.156	0.109
	<i>Coffee Creek Development</i>	<i>174</i>	<i>0.174</i>	<i>0.087</i>	<i>0.061</i>
	<i>Basalt Creek Development</i>	<i>137</i>	<i>0.137</i>	<i>0.069</i>	<i>0.048</i>
Old Town		22	0.022	0.011	0.008
Villebois		0	0	0	0
Wood School		17	0.017	0.009	0.006
<b>TOTAL</b>		<b>365</b>	<b>0.365</b>	<b>0.183</b>	<b>0.128</b>

# Proposed Scenarios

Scenario	Description	Industrial User Flow
Scenario 1	10% growth reserve	0.18
Scenario 2	50% buildout	0.28
Scenario 3	50% buildout, plus additional food processor	0.28
Scenario 4	100% buildout, plus additional food processor	0.37

# Proposed Scenarios – Preliminary Results

	Plant Capacity	Existing		Buildout Industrial Growth plus food processor	
Constituent	lb/day	Influent load (lb/day)	% Capacity	Influent load (lb/day)	% Capacity
BOD	12,900	5,691	44%	8,868	69%
CBOD	17,600	6,900	39%	9,677	52%
TSS	11,400	5,945	52%	6,573	58%
Ammonia	1,300	838	65%	897	69%
TKN	1,850	1,101	60%	1,179	64%

# Proposed Scenarios – Preliminary Results

	Existing			Buildout Growth		
Constituent	Allowable Headworks Load (lb/day)	Current Limits (mg/L)	Criteria	Allowable Headworks Load (lb/day)	Proposed Limit (mg/L)	Criteria
Arsenic	0.27	0.09	Biosolids	4.8	1.5	Biosolids
Cadmium	0.13	0.05	WQ	2.9	0.92	Biosolids
Copper	2.2	0.54	WQ	51	16	WQ - Acute
Lead	1.5	0.58	Biosolids	2.3	0.7	WQ - Chronic
Mercury	0.06	0.015	Biosolids	1.3	0.41	WQ - Chronic
Nickel	1.5	0.61	Biosolids	26	8.4	Biosolids
Silver	0.37	0.11	WQ	13	4.0	WQ - Acute
Zinc	5.2	1.3	WQ	22	6.0	Biosolids
Cyanide	2.2	0.50	Inhibition	27	9.0	WQ - Acute

# Conclusions and Recommendations

- Mixing zone increased many limits
- Conventional pollutants: user-by-user, regulated through permit
- Inorganic
  - Most limits go up
  - See whether lead limit is problematic – if so, consider different allocation method
- Total toxic organics:
  - Limits not needed
  - Consider total toxic organic plans as permit condition
- Need to check inhibition-based cyanide limit

Local Limits Update

# Next Steps / Questions and Discussion