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Technical Memorandum

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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:
 - o Two sites containing uncontrolled wastewater (a combination of domestic and commercial wastewater which has no SIU wastewater constituents);



- o plant influent and effluent characteristics for pollutants not routinely sampled;
 - o sludge characteristics for pollutants not routinely sampled; and
 - o 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					
Conventional Pollutants										
BOD ₅ 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
Inorganic Pollutants										
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
Organic Pollutants										
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										
Sample	Liquid Streams							STP Biosolids		
		Location							Initial Sample	
Other parameters										
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 ₃)	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 ₃)	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 CaCO ₃)	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 CaCO ₃)	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 CaCO ₃)	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 CaCO ₃)	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 CaCO ₃)	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 CaCO ₃)	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 CaCO ₃)	< 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 CaCO₃. 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 ₃	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 ^a			
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 ^b	12	1.6	---
Arsenic ^{c,d}	0.34	0.15	2.1
Cadmium ^c	0.828	0.00009	---

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

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

Table 4-3. Sludge Quality Standards per 40 CFR 503.13		
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 (BOD₅), carbonaceous BOD (CBOD₅), 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 ₅	10	15	190	280	380
TSS	10	15	190	280	380
November 1 – April 30					
BOD ₅	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 ₅)	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	
Total suspended solids (TSS)	lb/day
Max Monthly Dry Weather	11,400
Max Monthly Wet Weather	12,500
Max Weekly Dry Weather	14,050
Max Weekly Wet Weather	15,350
Total Kjeldahl Nitrogen (TKN)	lb/day
Max Monthly Dry Weather	1,850
Max Monthly Wet Weather	1,900
Max Weekly Dry Weather	2,150
Max Weekly Wet Weather	2,200
Ammonia	lb/day
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.

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_{SLGSTD}	=	Water quality standard, mg/L
PS	=	Percent solids of sludge to disposal
Q_{SLG}	=	Sludge flow rate, MGD
G_{SLG}	=	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.

Table 4-11. Domestic Loading		
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.

Table 4-12. MAILs.				
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_I = 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.

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

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





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Standard Operating Procedure

Date: April 2021

Project No.: 156295

Project Title: City of Wilsonville – Local Limits Evaluation

Prepared by: Josh Johnson, Project Manager

Subject

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

- 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 $\frac{3}{4}$ 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:

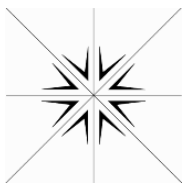
- a. Discard sub-sample bags.
- b. Rinse equipment to remove the majority of solids.
- c. Using a brush and low-phosphate lab detergent, scrub the equipment to remove all residues.
- d. After scrubbing, rinse equipment with clean water.
- e. Allow equipment to air dry. Cover bucket with foil, plastic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

Analytical Methods

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

Attachment B: Analytical Laboratory Data Packages





Specialty Analytical

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

Website: 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.: 2107216

Dear Mia Pan:

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

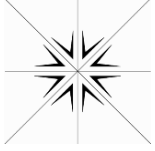
There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French". The signature is stylized with a cursive-like flow.

Marty French
Lab Director



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

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

Project: Wilsonville

Lab ID: 2107216-001

Matrix: WASTE WATER

Client Sample ID 072621LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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

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: 2107216-001

Client Sample ID 072621LLIG

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

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:24:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00590	0.00500		mg/L	1	8/3/2021 2:06:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	7.84	1.00		mg/L	1	7/28/2021 3:05:36 PM
TOTAL SOLIDS				E1684		Analyst: NK
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	55.1	0.200		mg/L	1	8/4/2021 4:18:02 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	295	2.00		mg/L	1	7/28/2021 7:30:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	303.2	2.0		mg/L	1	7/28/2021 7:30:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	221	10.0		mg/L CaCO3	1	8/3/2021 11:54:06 AM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	7/28/2021 12:27:27 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	5.07	0.200		mg/L	10	8/6/2021 3:34:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	53.9	0.800		mg/L	4	8/11/2021 4:08:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

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

Project: Wilsonville

Lab ID: 2107216-003

Matrix: WASTE WATER

Client Sample ID 072621LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
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
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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

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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	5.89	5.00		µg/L	1	8/16/2021 1:25:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00739	0.00500		mg/L	1	8/3/2021 12:31:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	4.80	1.00		mg/L	1	7/28/2021 3:25:36 PM
TOTAL SOLIDS				E1684		Analyst: NK
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	58.0	0.200		mg/L	1	8/4/2021 4:04:21 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	2.70	2.00		mg/L	1	7/28/2021 7:30:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	9.0	2.0		mg/L	1	7/28/2021 7:30:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	165	10.0		mg/L CaCO3	1	8/3/2021 12:04:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	27.4	0.400		mg/L	20	7/28/2021 12:32:27 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	13.8	0.200		mg/L	10	8/6/2021 3:35:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	27.6	0.800		mg/L	4	8/11/2021 4:13:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
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
TOTAL SOLIDS				E1684		Analyst: NK
Total Solids	99.7	0.00100		%	1	7/28/2021 8:45:42 AM
VOLATILE SOLIDS IN SOLIDS				SM2540 G		Analyst: NK
Volatile Solids	85.8	0		wt%	1	8/9/2021 12:50:04 PM
HEXAVALENT CHROMIUM IN SOIL BY IC				7199	SW 3060A	Analyst: rsincl
Chromium, Hexavalent	37.7	10.0		µg/Kg-dry	1	8/23/2021 12:05:01 PM
ICP/MS METALS-TOTAL RECOVERABLE				SW 6020B	SW3050B	Analyst: JRC
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
TOTAL MERCURY				SW 7471B	SW 7471B	Analyst: EG
Mercury	79.1	9.96		µg/Kg-dry	1	7/28/2021 12:56:26 PM
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: TB
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

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

Project: Wilsonville

Lab ID: 2107216-005

Matrix: SOIL

Client Sample ID 072621LLBS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: TB
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
 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

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

Project: Wilsonville

Lab ID: 2107216-005

Matrix: SOIL

Client Sample ID 072621LLBS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
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
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
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
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				E624.1	E625	Analyst: CK
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
ALKALINITY IN SOIL						
				M2320 B		Analyst: NK
Alkalinity, Total	ND	100		mg/Kg-dry	1	8/9/2021 12:47:01 PM
CYANIDE						
				D8273	SW9010A	Analyst: NK
Cyanide, Total	1.47	0.150		mg/Kg-dry	1	8/3/2021 12:26:31 PM
AMMONIA AS N						
				E350.1		Analyst: NK
Nitrogen, Ammonia (As N)	27.2	1.00		mg/Kg-dry	5	7/28/2021 11:52:23 AM
CORROSIVITY BY PH						
				SW9045D		Analyst: NK
pH	4.83	1.00		pH Units	1	7/27/2021 2:57:15 PM
TOTAL PHOSPHATE AS P						
				SM 4500-P E	T22 STLC	Analyst: JRH
Phosphorus, Total	1470	100		mg/Kg-dry	500	8/19/2021 8:31:04 PM
SULFIDE						
				SW9030		Analyst: NK
Sulfide	803	20.1		mg/Kg-dry	1	7/29/2021 2:55:28 PM
TOTAL KJELDAHL NITROGEN						
				E351.2		Analyst: NK
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
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: 2107216-006
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				E625.1	E625	Analyst: CK
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
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: 2107216-006
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
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 Villaboiss G

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

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

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

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	66.7	0.200		mg/L	1	8/4/2021 4:21:27 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	140	2.00		mg/L	1	7/28/2021 7:30:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	141.5	2.0		mg/L	1	7/28/2021 7:30:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	225	10.0		mg/L CaCO3	1	8/3/2021 12:14:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	7/28/2021 12:37:27 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.24	0.200		mg/L	10	8/6/2021 3:38:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	48.8	0.800		mg/L	4	8/11/2021 4:28:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: ICV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531067			
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531072						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531072			
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531074						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531074			
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: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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: LCS-18300	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531076						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18300	SampType: LCS	TestCode: 200.8		Units: µg/L	Prep Date: 8/3/2021			RunNo: 41328			
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531076			
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: 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
Aluminum	ND	10.0						0	0	20	RRF
Antimony	ND	0.500						0	0	20	
Arsenic	0.458	0.100						0.4756	3.74	20	
Cadmium	ND	0.100						0	0	20	
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 limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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
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: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531085			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531085						
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: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531135						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: ICV		SampType: ICV		TestCode: 6020_S		Units: µg/Kg		Prep Date:		RunNo: 41345		
Client ID: ICV		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/5/2021		SeqNo: 531428		
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: CCV	SampType: CCV	TestCode: 6020_S	Units: µg/Kg	Prep Date:	RunNo: 41345						
Client ID: CCV	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531432						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: CCV		SampType: CCV		TestCode: 6020_S		Units: µg/Kg		Prep Date:		RunNo: 41345		
Client ID: CCV		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/5/2021		SeqNo: 531432		
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: MB-18315	SampType: MBLK	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: PBS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531433						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: MB-18315		SampType: MBLK		TestCode: 6020_S		Units: µg/Kg		Prep Date: 8/5/2021			RunNo: 41345		
Client ID: PBS		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/5/2021			SeqNo: 531433		
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: LCS-18315	SampType: LCS	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: LCSS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531434						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: LCS-18315	SampType: LCS	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: LCSS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531434						
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: 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
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

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
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: 2107216-005AMSD	SampType: MSD	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: 531440			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: 2107216-005AMSD	SampType: MSD	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: 531440						
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: ICV		SampType: ICV		TestCode: 6020_S		Units: µg/Kg		Prep Date:			RunNo: 41345	
Client ID: ICV		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/6/2021			SeqNo: 531528	
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: CCV	SampType: CCV	TestCode: 6020_S	Units: µg/Kg	Prep Date:	RunNo: 41345						
Client ID: CCV	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/6/2021	SeqNo: 531532						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

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

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: 8/6/2021	SeqNo: 531534						
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: 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: 8/6/2021	SeqNo: 531535						
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: 2107216-005AMSD	SampType: MSD	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: 8/6/2021	SeqNo: 531536						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: CCV	SampType: CCV	TestCode: 6020_S	Units: µg/Kg	Prep Date:	RunNo: 41345						
Client ID: CCV	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/6/2021	SeqNo: 531539						
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: CCB		SampType: CCB		TestCode: 6020_S		Units: µg/Kg		Prep Date:			RunNo: 41345		
Client ID: CCB		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/6/2021			SeqNo: 531540		
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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#: 2107216

10/18/2021

Specialty Analytical

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

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

Sample ID: LCS MSVWS-3043		SampType: LCS		TestCode: 624_S		Units: µg/Kg		Prep Date:		RunNo: 41367			
Client ID: LCSS		Batch ID: 18274		TestNo: E624.1		E625		Analysis Date: 7/30/2021		SeqNo: 531737			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: LCSS	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531737			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: LCSS	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531737			
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#: 2107216

10/18/2021

Specialty Analytical

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043		SampType: LCS		TestCode: 624_S		Units: µg/Kg		Prep Date:		RunNo: 41367		
Client ID: LCSS		Batch ID: 18274		TestNo: E624.1		E625		Analysis Date: 7/30/2021		SeqNo: 531737		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41272			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530461				
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41272			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530461				
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530462						
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530462						
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 E Value above quantitation range H 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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530462							
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,1,2-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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:				RunNo: 41298			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021				SeqNo: 530721				
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41298			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530721				
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530721							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530722							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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: 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
1,1,1,2-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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

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 E Value above quantitation range 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#: 2107216

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

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 E Value above quantitation range 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#: 2107216

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,2-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: 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
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:				RunNo: 41325			
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021				SeqNo: 531042				
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: 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

Qualifiers:B Analyte detected in the associated Method Blank
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

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#: 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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: MB-18274	SampType: MBLK	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: PBW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533344						
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: MB-18274	SampType: MBLK	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: PBW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533344						
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 E Value above quantitation range H 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: MB-18274		SampType: MBLK		TestCode: 625X_S		Units: µg/Kg		Prep Date: 7/28/2021		RunNo: 41497		
Client ID: PBW		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533344		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: MB-18274		SampType: MBLK		TestCode: 625X_S		Units: µg/Kg		Prep Date: 7/28/2021		RunNo: 41497			
Client ID: PBW		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533344			
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: LCS-18274	SampType: LCS	TestCode: 625X_S		Units: µg/Kg	Prep Date: 7/28/2021			RunNo: 41497			
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533345			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274	SampType: LCS	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533345						
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				
Benzidine	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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274	SampType: LCS	TestCode: 625X_S		Units: µg/Kg	Prep Date: 7/28/2021			RunNo: 41497			
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533345			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274		SampType: LCS		TestCode: 625X_S		Units: µg/Kg		Prep Date: 7/28/2021		RunNo: 41497		
Client ID: LCSW		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533345		
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: 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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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 E Value above quantitation range 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#: 2107216

10/18/2021

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	RSSC
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	
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 E Value above quantitation range 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#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533350						
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S		Units: µg/Kg	Prep Date:			RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533350			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM		SampType: CCV		TestCode: 625X_S		Units: µg/Kg		Prep Date:		RunNo: 41497		
Client ID: CCV		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533350		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533350						
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: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533352						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533352						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S		Units: µg/Kg	Prep Date:			RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533352			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533352						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSSWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41398			
Client ID: CCV	Batch ID: 18271	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532452			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSSWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41398			
Client ID: CCV	Batch ID: 18271	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532452			
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				
Benzydine	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
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: CCV MSSWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41398			
Client ID: CCV	Batch ID: 18271	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532452			
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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: MB-18271	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 7/27/2021	RunNo: 41398						
Client ID: PBW	Batch ID: 18271	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532483						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18271		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/27/2021		RunNo: 41398		
Client ID: PBW		Batch ID: 18271		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532483		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18271	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date: 7/27/2021				RunNo: 41398		
Client ID: PBW	Batch ID: 18271	TestNo: E625.1		E625	Analysis Date: 7/31/2021				SeqNo: 532483		
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 E Value above quantitation range
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18271		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/27/2021		RunNo: 41398		
Client ID: PBW		Batch ID: 18271		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532483		
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: 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
1,2,4-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

Specialty Analytical

WO#: 2107216

10/18/2021

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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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: 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

Specialty Analytical

WO#: 2107216

10/18/2021

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
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

Specialty Analytical

WO#: 2107216

10/18/2021

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	
Benzdine	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

Specialty Analytical

WO#: 2107216

10/18/2021

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

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: CCV1-R41311	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: CCV	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530890							
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: MB-R41311	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: PBW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530891							
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: LCS-R41311	SampType: LCS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: LCSW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530892							
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: 2107151-002AMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: BatchQC	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530895							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

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

Sample ID: 2107151-002AMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B		Analysis Date: 8/3/2021		SeqNo: 530896					
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: CCV2-R41311	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: CCV	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530901							
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: 2107227-004CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530904			
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-004CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530905			
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: CCV3-R41311		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: CCV		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530908			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_S

Sample ID: LCS-R41388		SampType: LCS		TestCode: ALK_S		Units: mg/Kg		Prep Date:		RunNo: 41388			
Client ID: LCSS		Batch ID: R41388		TestNo: M2320 B				Analysis Date: 8/9/2021		SeqNo: 531947			
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: MB-R41388	SampType: MBLK	TestCode: ALK_S	Units: mg/Kg	Prep Date:	RunNo: 41388						
Client ID: PBS	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531948							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	ND	10.0									

Sample ID: 2107216-005ADUP	SampType: DUP	TestCode: ALK_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41388						
Client ID: 072621LLBS	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531950							
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: CCV-R41388	SampType: CCV	TestCode: ALK_S	Units: mg/Kg	Prep Date:	RunNo: 41388						
Client ID: CCV	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531952							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_S

Sample ID: CCV-R41388		SampType: CCV		TestCode: ALK_S		Units: mg/Kg		Prep Date:		RunNo: 41388	
Client ID: CCV		Batch ID: R41388		TestNo: M2320 B		Analysis Date: 8/9/2021		SeqNo: 531952			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

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

Sample ID: LCS-R41291	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41291
Client ID: LCSW	Batch ID: R41291	TestNo: SM5210B	Analysis Date: 7/28/2021	SeqNo: 530632	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41290		SampType: MBLK		TestCode: BOD_CWA		Units: mg/L		Prep Date:		RunNo: 41290	
Client ID: PBW		Batch ID: R41290		TestNo: SM5210B		Analysis Date: 7/28/2021		SeqNo: 530623			
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: LCS-R41290	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41290						
Client ID: LCSW	Batch ID: R41290	TestNo: SM5210B	Analysis Date: 7/28/2021	SeqNo: 530624							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

Sample ID: ICV-R41307		SampType: ICV		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: ICV		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530866		
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: MB-R41307		SampType: MBLK		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307	
Client ID: PBS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530868	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total	ND	0.00500									

Sample ID: LCS-R41307		SampType: LCS		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: LCSS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530869		
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: CCV1-R41307		SampType: CCV		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: CCV		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530870		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

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

Sample ID: 2107216-005AMS		SampType: MS		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41307		
Client ID: 072621LLBS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530872		
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: 2107216-005AMSD		SampType: MSD		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41307		
Client ID: 072621LLBS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530873		
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: CCV-R41307		SampType: CCV		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: CCV		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530878		
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

Sample ID: 2107216-005AMS		SampType: MS		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41307		
Client ID: 072621LLBS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530879		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41306	SampType: ICV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: ICV	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530837	
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: MB-R41306	SampType: MBLK	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: PBW	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530839	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Cyanide	ND	0.00500			

Sample ID: LCS-R41306	SampType: LCS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: LCSW	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530840	
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: 2107216-001BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: 072621LLIG	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530841	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

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

Sample ID: 2107216-001BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306		
Client ID: 072621LLIG		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530842		
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: CCV2-R41306		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306			
Client ID: CCV		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530857			
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: 2107264-001EMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530858				
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2107264-001EMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530859	
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: CCV3-R41306		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306			
Client ID: CCV		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530861			
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: CCV4-R41306		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306			
Client ID: CCV		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530864			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: Cr6_S_IC

Sample ID: LCS-18405	SampType: LCS	TestCode: CR6_S_IC	Units: µg/Kg	Prep Date: 8/20/2021	RunNo: 41531						
Client ID: LCSS	Batch ID: 18405	TestNo: 7199	SW 3060A	Analysis Date: 8/23/2021	SeqNo: 533850						
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: LCSD-18405	SampType: LCSD	TestCode: CR6_S_IC	Units: µg/Kg	Prep Date: 8/20/2021	RunNo: 41531						
Client ID: LCSS02	Batch ID: 18405	TestNo: 7199	SW 3060A	Analysis Date: 8/23/2021	SeqNo: 533851						
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: 2107216-005ADUP	SampType: DUP	TestCode: Cr6_S_IC	Units: µg/Kg-dry	Prep Date: 8/20/2021	RunNo: 41531						
Client ID: 072621LLBS	Batch ID: 18405	TestNo: 7199	SW 3060A	Analysis Date: 8/23/2021	SeqNo: 533853						
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: 2107216-005AMS	SampType: MS	TestCode: Cr6_S_IC	Units: µg/Kg-dry	Prep Date: 8/20/2021	RunNo: 41531						
Client ID: 072621LLBS	Batch ID: 18405	TestNo: 7199	SW 3060A	Analysis Date: 8/23/2021	SeqNo: 533854						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: Cr6_S_IC

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

Sample ID: 2107216-005AMSD		SampType: MSD		TestCode: Cr6_S_IC		Units: µg/Kg-dry		Prep Date: 8/20/2021		RunNo: 41531			
Client ID: 072621LLBS		Batch ID: 18405		TestNo: 7199		SW 3060A		Analysis Date: 8/23/2021		SeqNo: 533855			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: LCS-R41458	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: LCSW	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532908	
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: 2107226-001EMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532911	
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: 2107226-001EMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532912	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: 2107207-001FMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532914	
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: 2107207-001FMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532915	
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: CCV1-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532917	
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2107219-001FMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B				Analysis Date: 8/16/2021			SeqNo: 532922		
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: 2107219-001FMSD		SampType: MSD		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B		Analysis Date: 8/16/2021			SeqNo: 532923				
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: CCV2-R41458		SampType: CCV		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41458		
Client ID: CCV		Batch ID: R41458		TestNo: M 3500 Cr B		Analysis Date: 8/16/2021		SeqNo: 532928				
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: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: ICV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531596		
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: CCV	SampType: CCV	TestCode: HARDCALC	Units: mg/L	Prep Date:	RunNo: 41357						
Client ID: CCV	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531597						
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: MB-18305	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: PBW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18305	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: LCSW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531599						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

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

Sample ID: 2107216-004ADUP		SampType: DUP		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41357			
Client ID: 072721LLEC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531601			
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: 2107216-004AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: 072721LLEC	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531602						
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: 2107216-004AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41357		
Client ID: 072721LLEC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531603		
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: CCV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531612		
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HG_CTS

Sample ID: LCS-R41228		SampType: LCS		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41228		
Client ID: LCSS		Batch ID: 18267		TestNo: SW 7471B		SW 7471B		Analysis Date: 7/28/2021			SeqNo: 529809		
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: LCSD-R41228	SampType: LCSD	TestCode: HG_CTS	Units: µg/Kg	Prep Date:	RunNo: 41228						
Client ID: LCSS02	Batch ID: 18267	TestNo: SW 7471B	SW 7471B	Analysis Date: 7/28/2021	SeqNo: 529810						
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: MB-R41228		SampType: MBLK		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41228		
Client ID: PBS		Batch ID: 18267		TestNo: SW 7471B		SW 7471B		Analysis Date: 7/28/2021			SeqNo: 529811		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND		10.0									

Sample ID: 2107214-001ADUP	SampType: DUP	TestCode: HG_CTS	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41228						
Client ID: BatchQC	Batch ID: 18267	TestNo: SW 7471B	SW 7471B	Analysis Date: 7/28/2021	SeqNo: 529814						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HG_CTS

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

Sample ID: 2107214-001AMS	SampType: MS	TestCode: HG_CTS	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41228						
Client ID: BatchQC	Batch ID: 18267	TestNo: SW 7471B	SW 7471B	Analysis Date: 7/28/2021	SeqNo: 529815						
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: 2107214-001AMSD	SampType: MSD	TestCode: HG_CTS	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41228						
Client ID: BatchQC	Batch ID: 18267	TestNo: SW 7471B	SW 7471B	Analysis Date: 7/28/2021	SeqNo: 529816						
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: CCV-R41228		SampType: CCV		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41228		
Client ID: CCV		Batch ID: 18267		TestNo: SW 7471B		SW 7471B		Analysis Date: 7/28/2021			SeqNo: 529818		
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

Sample ID: ICV-R41236		SampType: ICV		TestCode: NH3_S		Units: mg/Kg		Prep Date:		RunNo: 41236			
Client ID: ICV		Batch ID: R41236		TestNo: E350.1				Analysis Date: 7/28/2021		SeqNo: 529953			
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: ICB-R41236	SampType: ICB	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41236						
Client ID: ICB	Batch ID: R41236	TestNo: E350.1		Analysis Date: 7/28/2021	SeqNo: 529954						
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: MB-R41236	SampType: MBLK	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41236						
Client ID: PBS	Batch ID: R41236	TestNo: E350.1		Analysis Date: 7/28/2021	SeqNo: 529955						
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: LCS-R41236	SampType: LCS	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41236						
Client ID: LCSS	Batch ID: R41236	TestNo: E350.1		Analysis Date: 7/28/2021	SeqNo: 529956						
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

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

Sample ID: CCV1-R41236		SampType: CCV		TestCode: NH3_S		Units: mg/Kg		Prep Date:		RunNo: 41236			
Client ID: CCV		Batch ID: R41236		TestNo: E350.1				Analysis Date: 7/28/2021		SeqNo: 529957			
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: CCB1-R41236		SampType: CCB		TestCode: NH3_S		Units: mg/Kg		Prep Date:		RunNo: 41236			
Client ID: CCB		Batch ID: R41236		TestNo: E350.1				Analysis Date: 7/28/2021		SeqNo: 529958			
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: 2107216-005AMS		SampType: MS		TestCode: NH3_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41236		
Client ID: 072621LLBS		Batch ID: R41236		TestNo: E350.1				Analysis Date: 7/28/2021		SeqNo: 529960		
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

Sample ID: 2107216-005AMSD		SampType: MSD		TestCode: NH3_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41236		
Client ID: 072621LLBS		Batch ID: R41236		TestNo: E350.1				Analysis Date: 7/28/2021		SeqNo: 529961		
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: CCV2-R41236	SampType: CCV	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41236						
Client ID: CCV	Batch ID: R41236	TestNo: E350.1		Analysis Date: 7/28/2021	SeqNo: 529962						
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: CCB2-R41236	SampType: CCB	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41236						
Client ID: CCB	Batch ID: R41236	TestNo: E350.1	Analysis Date: 7/28/2021	SeqNo: 529963							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41235	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235
Client ID: ICV	Batch ID: R41235	TestNo: SM4500-NH3	Analysis Date: 7/28/2021	SeqNo: 529931	
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: ICB-R41235	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235
Client ID: ICB	Batch ID: R41235	TestNo: SM4500-NH3	Analysis Date: 7/28/2021	SeqNo: 529932	
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: MB-R41235	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235
Client ID: PBW	Batch ID: R41235	TestNo: SM4500-NH3	Analysis Date: 7/28/2021	SeqNo: 529933	
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: LCS-R41235	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235
Client ID: LCSW	Batch ID: R41235	TestNo: SM4500-NH3	Analysis Date: 7/28/2021	SeqNo: 529934	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

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

Sample ID: CCV1-R41235	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235						
Client ID: CCV	Batch ID: R41235	TestNo: SM4500-NH3	Analysis Date: 7/28/2021	SeqNo: 529938							
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: 2107218-001CMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41235						
Client ID: BatchQC	Batch ID: R41235	TestNo: SM4500-NH3		Analysis Date: 7/28/2021	SeqNo: 529940						
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: 2107218-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41235			
Client ID: BatchQC		Batch ID: R41235		TestNo: SM4500-NH3				Analysis Date: 7/28/2021		SeqNo: 529941			
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41235		SampType: CCV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41235			
Client ID: CCV		Batch ID: R41235		TestNo: SM4500-NH3		Analysis Date: 7/28/2021		SeqNo: 529942					
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: CCV3-R41235		SampType: CCV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41235			
Client ID: CCV		Batch ID: R41235		TestNo: SM4500-NH3		Analysis Date: 7/28/2021		SeqNo: 529947					
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: PH_S

Sample ID: 2107216-005ADUP		SampType: DUP		TestCode: PH_S		Units: pH Units		Prep Date:		RunNo: 41219			
Client ID: 072621LLBS		Batch ID: R41219		TestNo: SW9045D				Analysis Date: 7/27/2021		SeqNo: 529752			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566	
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: 2107216-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: 072721LLEC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531571	
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: 2107216-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: 072721LLEC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCV1-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531575	
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: CCB1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531576	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: 2108006-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531583	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021		SeqNo: 531584				
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: CCV2-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531587							
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: CCB2-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531588							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCB3-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531595	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL_S

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

Sample ID: LCS-R41502	SampType: LCS	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: LCSS	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533426	
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: 2107216-005AMS	SampType: MS	TestCode: P-TOTAL_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41502
Client ID: 072621LLBS	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533429	
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: 2107216-005AMSD	SampType: MSD	TestCode: P-TOTAL_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41502
Client ID: 072621LLBS	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533430	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL_S

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

Sample ID: CCB-R41502	SampType: CCB	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: CCB	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533432	
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: CCB-R41502	SampType: CCB	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: CCB	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533433	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_S

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

Sample ID: LCS-R41260	SampType: LCS	TestCode: SULFIDE_S	Units: mg/Kg	Prep Date:	RunNo: 41260						
Client ID: LCSS	Batch ID: R41260	TestNo: SW9030		Analysis Date: 7/29/2021	SeqNo: 530305						
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: 2107216-005ADUP		SampType: DUP		TestCode: SULFIDE_S		Units: mg/Kg-dry		Prep Date:			RunNo: 41260	
Client ID: 072621LLBS		Batch ID: R41260		TestNo: SW9030		Analysis Date: 7/29/2021			SeqNo: 530307			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41238	SampType: MBLK	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41238						
Client ID: PBW	Batch ID: R41238	TestNo: SM4500-S2 F		Analysis Date: 7/28/2021	SeqNo: 529977						
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: LCS-R41238	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41238						
Client ID: LCSW	Batch ID: R41238	TestNo: SM4500-S2 F	Analysis Date: 7/28/2021	SeqNo: 529978							
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: 2107216-001DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41238						
Client ID: 072621LLIG	Batch ID: R41238	TestNo: SM4500-S2 F	Analysis Date: 7/28/2021	SeqNo: 529980							
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414	SampType: ICV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: ICV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532252	
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532254	
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: 2108006-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532256	
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: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

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

Sample ID: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532261	
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: LCS-R41414	SampType: LCS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: LCSW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532262	
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: 2107216-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: 072721LLEC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532266	
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: 072721LLEC		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021		SeqNo: 532267					
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: CCV4-R41414		SampType: CCV		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: CCV		Batch ID: R41414		TestNo: SM 4500-Nor				Analysis Date: 8/11/2021		SeqNo: 532283			
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SOLID

Sample ID: ICV-R41510	SampType: ICV	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510
Client ID: ICV	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533508	
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: MB-R41510	SampType: MBLK	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510
Client ID: PBS	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533510	
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: LCS-R41510	SampType: LCS	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510
Client ID: LCSS	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533511	
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: CCV1-R41510	SampType: CCV	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510
Client ID: CCV	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533512	
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SOLID

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

Sample ID: 2107227-005AMS	SampType: MS	TestCode: TKN_SOLID	Units: mg/Kg-dry	Prep Date:	RunNo: 41510						
Client ID: BatchQC	Batch ID: R41510	TestNo: E351.2		Analysis Date: 8/19/2021	SeqNo: 533515						
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: 2107227-005AMSD		SampType: MSD		TestCode: TKN_SOLID		Units: mg/Kg-dry		Prep Date:		RunNo: 41510			
Client ID: BatchQC		Batch ID: R41510		TestNo: E351.2				Analysis Date: 8/19/2021		SeqNo: 533516			
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: CCV2-R41510	SampType: CCV	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510						
Client ID: CCV	Batch ID: R41510	TestNo: E351.2		Analysis Date: 8/19/2021	SeqNo: 533517						
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

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

Sample ID: LCS-R41301	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41301						
Client ID: LCSW	Batch ID: R41301	TestNo: E1684	Analysis Date: 7/30/2021	SeqNo: 530761							
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: 2107216-001FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41301						
Client ID: 072621LLIG	Batch ID: R41301	TestNo: E1684	Analysis Date: 7/30/2021	SeqNo: 530763							
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41234	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: PBW	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529919	
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: LCS-R41234	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: LCSW	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529920	
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: 2107224-001ADUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: BatchQC	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529926	
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
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

Specialty Analytical

WO#: 2107216

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: VS_S

Sample ID: 2107216-005ADUP		SampType: DUP		TestCode: VS_S		Units: wt%		Prep Date:		RunNo: 41429			
Client ID: 072621LLBS		Batch ID: R41429		TestNo: SM2540 G		Analysis Date: 8/9/2021		SeqNo: 532455					
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



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



Fremont
Analytical

3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

Specialty Analytical

Julie Clay

9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



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,

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2107469-001A, 072721 LLIC										
2108108-01	Hg	Wastewater	TR	50.9		0.68	2.11	ng/L	B212210	S210907
2107469-002A, 072721 LLEC										
2108108-02	Hg	Wastewater	TR	1.39		0.14	0.42	ng/L	B212210	S210922
2107469-003A, 072721 VILLABOIS										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108108-01		Report Matrix: Wastewater		Collected: 07/27/2021	
Sample: 2107469-001A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108108
Lab ID: 2108108-02		Report Matrix: Wastewater		Collected: 07/27/2021	
Sample: 2107469-002A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108108
Lab ID: 2108108-03		Report Matrix: Wastewater		Collected: 07/27/2021	
Sample: 2107469-003A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					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: Brooks Applied Labs COMPANY: Brooks Applied Labs					SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: 18804 North Creek Parkway, Ste 100					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 Brcf.</i>		
CITY, STATE, ZIP: Bothell, WA 98011							
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>mmamls</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:	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples _____ °C Attempt to Cool ? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	
Page 8 of 8							

Client Name: **SPECIAL**

Work Order Number: **2107469**

Logged by: **Gabrielle Coeuille**

Date Received: **7/29/2021 9:49:00 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:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

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

2107469

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 60 days)

Comments

1	X

Expedited turn-around requests should be coordinated in advance

Date/Time 4/1-1

Date/Time

Date/Time

Chain of Custody Record

Laboratory Project No (internal): 2107216

Temperature on Receipt: 3.9 °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)

Date: 7-27-21	Page: of:
Project Name: Wilsonville	
Project No: PO No:	
Collected by:	
State Collected: OR ☐ WA ☐ OTHER ☐	
Report To (PM):	

	Specialty Analytical	Clackamas, OR 97015 Phone: 503-607-1331 Fax: 503-607-1336
Client: <i>Wilsonville</i>	Address:	City, State, Zip: <i>Wilsonville OR 97070</i> Telephone: <i>503-701-9671</i>

[illegible]

*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:
Relinquished	Keeli McClelland	7-27-21	1228	<i>[Signature]</i>	7/27/21 1228
Relinquished	<i>[Signature]</i>	7/27/21	1310	<i>[Signature]</i>	7/27/21 1310
Relinquished					

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	
Influent									
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 ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625*	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	
EPA 310.2	Composite	x	x	x	x	x	x	x	
SM 4500-P 8.	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 ³	x ³	x ³	x ³	x ³	*48-hour TAT
Final Effluent									
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 ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	
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 ³	x ³	x ³	x ³	x ³	*48-hour TAT
Biosolids									
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						
Willow Creek and Landover									
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 ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625*	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	*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 ³	x ³	x ³	x ³	x ³	*48-hour TAT
Orepec and Industrial Way									
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 ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625*	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	*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 ³	x ³	x ³	x ³	x ³	*48-hour TAT

Constituents by Analytical Method	
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 (<i>see note 1</i>)
EPA 625	All (<i>see note 2</i>)
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 (<i>see note 3</i>)

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.

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
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

NOTICE: This e-mail may contain legally privileged and confidential information intended solely for the addressee. If the reader is not the intended recipient, you are hereby notified that any dissemination, distribution, copying or other use of this communication is strictly prohibited.

From: Pan, Mia <mpan@ci.wilsonville.or.us>
Sent: Tuesday, July 27, 2021 3:10 PM
To: julie@specialtyanalytical.com
Cc: marty@specialtyanalytical.com; Mandy Wehe <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
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 1:28 PM
To: Pan, Mia <mpan@ci.wilsonville.or.us>
Cc: marty@specialtyanalytical.com; Mandy Wehe <mandy@specialtyanalytical.com>
Subject: Wilsonville Testing Questions

[This email originated outside of the City of Wilsonville]

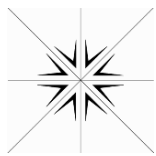
Good Morning Mia

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

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Specialty Analytical
9011 SE Jannsen Rd
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



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Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: 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

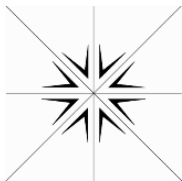
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: 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,

A handwritten signature in black ink, appearing to read "Marty French".

Marty French
Lab Director



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

Collection Date: 7/27/2021 1:00:00 PM

Project: Wilsonville

Lab ID: 2107227-001

Matrix: WASTE WATER

Client Sample ID 072721LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: TB
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
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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	9.46	5.00		µg/L	1	8/16/2021 1:27:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00641	0.00500		mg/L	1	8/3/2021 12:51:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	3.04	1.00		mg/L	1	7/29/2021 2:55:33 PM
TOTAL SOLIDS				E1684		Analyst: NK
Total Solids	630	5.00		mg/L	1	7/30/2021 3:30:46 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: 2107227-002

Client Sample ID 072821LLIC

Collection Date: 7/28/2021 10:00:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	53.5	0.200		mg/L	1	8/4/2021 4:41:58 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	269	2.00		mg/L	1	7/29/2021 4:42:56 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	251.9	2.0		mg/L	1	7/29/2021 5:05:54 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	220	10.0		mg/L CaCO3	1	8/3/2021 12:34:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	8/6/2021 12:20:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.80	0.200		mg/L	10	8/6/2021 3:39:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	53.4	0.800		mg/L	4	8/11/2021 4:33:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Collection Date: 7/27/2021 1:30:00 PM

Project: Wilsonville

Lab ID: 2107227-003

Matrix: WASTE WATER

Client Sample ID 072721LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
 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

Collection Date: 7/27/2021 1:30:00 PM

Project: Wilsonville

Lab ID: 2107227-003

Matrix: WASTE WATER

Client Sample ID 072721LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: TB
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

Collection Date: 7/27/2021 1:30:00 PM

Project: Wilsonville

Lab ID: 2107227-003

Matrix: WASTE WATER

Client Sample ID 072721LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	6.78	5.00		µg/L	1	8/16/2021 1:28:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00605	0.00500		mg/L	1	8/3/2021 12:56:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	7/29/2021 3:15:33 PM
TOTAL SOLIDS				E1684		Analyst: NK
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	57.6	0.200		mg/L	1	8/4/2021 4:45:23 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	2.00	2.00		mg/L	1	7/29/2021 4:43:56 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	6.5	2.0		mg/L	1	7/29/2021 7:10:54 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	178	10.0		mg/L CaCO3	1	8/3/2021 12:44:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	29.6	0.400		mg/L	20	8/6/2021 12:25:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	13.2	0.200		mg/L	10	8/6/2021 3:42:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	28.9	0.400		mg/L	2	8/11/2021 4:38:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
TOTAL SOLIDS						
				E1684		Analyst: NK
Total Solids	99.7	0.00100		%	1	7/29/2021 8:15:42 AM
VOLATILE SOLIDS IN SOLIDS						
				SM2540 G		Analyst: NK
Volatile Solids	86.3	0		wt%	1	8/9/2021 12:50:04 PM
HEXAVALENT CHROMIUM IN SOIL BY IC						
				7199	SW 3060A	Analyst: rsincl
Chromium, Hexavalent	10.8	10.0		µg/Kg-dry	1	8/23/2021 12:05:01 PM
ICP/MS METALS-TOTAL RECOVERABLE						
				SW 6020B	SW3050B	Analyst: JRC
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
TOTAL MERCURY						
				SW 7471B	SW 7471B	Analyst: EG
Mercury	ND	9.42		µg/Kg-dry	1	8/2/2021 1:20:32 PM
BASE/NEUTRALS/ACIDS						
				E625.1	E625	Analyst: TB
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: TB
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
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

Collection Date: 7/27/2021 1:00:00 PM

Project: Wilsonville

Lab ID: 2107227-005

Matrix: SOIL

Client Sample ID 072721LLBS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS						
				E625.1	E625	Analyst: TB
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
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				E624.1	E625	Analyst: CK
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
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
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
 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
VOLATILE ORGANIC COMPOUNDS BY GC/MS				E624.1	E625	Analyst: CK
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
ALKALINITY IN SOIL				M2320 B		Analyst: NK
Alkalinity, Total	210	100		mg/Kg-dry	1	8/9/2021 1:07:01 PM
CYANIDE				D8273	SW9010A	Analyst: NK
Cyanide, Total	0.651	0.149		mg/Kg-dry	1	8/3/2021 12:41:31 PM
AMMONIA AS N				E350.1		Analyst: NK
Nitrogen, Ammonia (As N)	148	4.01		mg/Kg-dry	20	8/19/2021 1:01:47 PM
CORROSIVITY BY PH				SW9045D		Analyst: JRH
pH	4.58	1.00		pH Units	1	7/29/2021 11:43:04 PM
TOTAL PHOSPHATE AS P				SM 4500-P E	T22 STLC	Analyst: JRH
Phosphorus, Total	2170	99.6		mg/Kg-dry	500	8/19/2021 8:34:04 PM
SULFIDE				SW9030		Analyst: NK
Sulfide	802	20.1		mg/Kg-dry	1	7/29/2021 3:15:28 PM
TOTAL KJELDAHL NITROGEN				E351.2		Analyst: NK
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
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

Collection Date: 7/27/2021 1:20:00 AM

Project: Wilsonville

Lab ID: 2107227-006

Matrix: WASTE WATER

Client Sample ID Parkway Grab

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: TB
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
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

Collection Date: 7/27/2021 1:20:00 AM

Project: Wilsonville

Lab ID: 2107227-006

Matrix: WASTE WATER

Client Sample ID Parkway Grab

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	26.4	5.00		µg/L	1	8/16/2021 1:29:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00699	0.00500		mg/L	1	8/3/2021 1:01:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	2.40	1.00		mg/L	1	7/29/2021 3:25:33 PM
TOTAL SOLIDS				E1684		Analyst: NK
Total Solids	718	5.00		mg/L	1	7/30/2021 3:32:46 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

Collection Date: 7/27/2021 2:10:00 AM

Project: Wilsonville

Lab ID: 2107227-007

Matrix: WASTE WATER

Client Sample ID Villaboies Grab

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 7/27/2021 2:10:00 AM

Project: Wilsonville

Lab ID: 2107227-007

Matrix: WASTE WATER

Client Sample ID Villaboies Grab

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: TB
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 Villaboies Grab

Collection Date: 7/27/2021 2:10:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: TB	
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

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 Villaboys Grab

Collection Date: 7/27/2021 2:10:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	8.56	5.00		µg/L	1	8/16/2021 1:30:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/3/2021 1:06:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	6.24	1.00		mg/L	1	7/29/2021 3:35:33 PM
TOTAL SOLIDS				E1684		Analyst: NK
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	47.0	0.200		mg/L	1	8/4/2021 4:48:48 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	130	2.00		mg/L	1	7/29/2021 4:44:56 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	285.7	2.0		mg/L	1	7/29/2021 7:10:54 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	267	10.0		mg/L CaCO3	1	8/5/2021 12:30:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	54.8	0.800		mg/L	40	8/6/2021 2:00:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	7.25	0.200		mg/L	10	8/6/2021 3:43:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	64.7	0.800		mg/L	4	8/11/2021 4:43:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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 Villaboys Comp

Collection Date: 7/28/2021 10:25:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	61.3	0.200		mg/L	1	8/4/2021 4:52:13 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	147	2.00		mg/L	1	7/29/2021 4:45:56 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	263.9	2.0		mg/L	1	7/29/2021 7:10:54 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	200	10.0		mg/L CaCO3	1	8/3/2021 1:14:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	33.9	0.400		mg/L	20	8/6/2021 12:30:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.17	0.200		mg/L	10	8/6/2021 3:44:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	45.2	0.800		mg/L	4	8/11/2021 4:53:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: ICV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531067			
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531072						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531072			
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: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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: LCS-18300	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531076						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18300	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531076						
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: 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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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: 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
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: 2107216-004AMSD	SampType: MSD	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: 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	

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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: 2107216-004AMSD		SampType: MSD		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: 531080		
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531085						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531085						
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531096						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531096						
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: MB-18300		SampType: MBLK		TestCode: 200.8		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41328			
Client ID: PBW		Batch ID: 18300		TestNo: E200.8		E200.8		Analysis Date: 8/5/2021		SeqNo: 531135			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: ICV	SampType: ICV	TestCode: 6020_S		Units: µg/Kg	Prep Date:			RunNo: 41345			
Client ID: ICV	Batch ID: 18315	TestNo: SW 6020B		SW3050B	Analysis Date: 8/5/2021			SeqNo: 531428			
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: CCV	SampType: CCV	TestCode: 6020_S	Units: µg/Kg	Prep Date:	RunNo: 41345						
Client ID: CCV	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531432						
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: CCV		SampType: CCV		TestCode: 6020_S		Units: µg/Kg		Prep Date:		RunNo: 41345		
Client ID: CCV		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/5/2021		SeqNo: 531432		
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: MB-18315	SampType: MBLK	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: PBS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531433						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: MB-18315		SampType: MBLK		TestCode: 6020_S		Units: µg/Kg		Prep Date: 8/5/2021			RunNo: 41345		
Client ID: PBS		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/5/2021			SeqNo: 531433		
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: LCS-18315	SampType: LCS	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: LCSS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531434						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: LCS-18315	SampType: LCS	TestCode: 6020_S	Units: µg/Kg	Prep Date: 8/5/2021	RunNo: 41345						
Client ID: LCSS	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/5/2021	SeqNo: 531434						
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: 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
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

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
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: 2107216-005AMSD		SampType: MSD		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: 531440	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

Sample ID: 2107216-005AMSD		SampType: MSD		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: 531440		
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: ICV		SampType: ICV		TestCode: 6020_S		Units: µg/Kg		Prep Date:		RunNo: 41345		
Client ID: ICV		Batch ID: 18315		TestNo: SW 6020B		SW3050B		Analysis Date: 8/6/2021		SeqNo: 531528		
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: CCV	SampType: CCV	TestCode: 6020_S	Units: µg/Kg	Prep Date:	RunNo: 41345						
Client ID: CCV	Batch ID: 18315	TestNo: SW 6020B	SW3050B	Analysis Date: 8/6/2021	SeqNo: 531532						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 6020_S

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

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: 8/6/2021			SeqNo: 531534		
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: 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: 8/6/2021	SeqNo: 531535						
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: 2107216-005AMSD		SampType: MSD		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: 8/6/2021		SeqNo: 531536			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: CCV	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531732			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: MB	SampType: MBLK	TestCode: 624_S	Units: µg/Kg	Prep Date:	RunNo: 41367						
Client ID: PBS	Batch ID: 18274	TestNo: E624.1	E625	Analysis Date: 7/30/2021	SeqNo: 531733						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

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

Sample ID: LCS MSVWS-3043		SampType: LCS		TestCode: 624_S		Units: µg/Kg		Prep Date:		RunNo: 41367			
Client ID: LCSS		Batch ID: 18274		TestNo: E624.1		E625		Analysis Date: 7/30/2021		SeqNo: 531737			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: LCSS	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531737			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043	SampType: LCS	TestCode: 624_S		Units: µg/Kg	Prep Date:			RunNo: 41367			
Client ID: LCSS	Batch ID: 18274	TestNo: E624.1		E625	Analysis Date: 7/30/2021			SeqNo: 531737			
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 limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_S

Sample ID: LCS MSVWS-3043		SampType: LCS		TestCode: 624_S		Units: µg/Kg		Prep Date:		RunNo: 41367		
Client ID: LCSS		Batch ID: 18274		TestNo: E624.1		E625		Analysis Date: 7/30/2021		SeqNo: 531737		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41272			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530461				
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530461							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530462							
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530462						
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 E Value above quantitation range H 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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530462							
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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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 E Value above quantitation range 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#: 2107227

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,1,2-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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530721							
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41298			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530721				
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530721							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530722							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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: 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
1,1,1,2-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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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 E Value above quantitation range 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#: 2107227

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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: Villaboys 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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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: Villaboies 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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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: Villaboies 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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,2-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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 8/4/2021	SeqNo: 531042							
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
R RPD outside accepted recovery limitsE 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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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: 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

Qualifiers:B Analyte detected in the associated Method Blank
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: MB-18274	SampType: MBLK	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: PBW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533344						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: MB-18274	SampType: MBLK	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: PBW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533344						
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 E Value above quantitation range H 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: MB-18274		SampType: MBLK		TestCode: 625X_S		Units: µg/Kg		Prep Date: 7/28/2021		RunNo: 41497		
Client ID: PBW		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533344		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: MB-18274	SampType: MBLK	TestCode: 625X_S	Units: µg/Kg	Prep Date: 7/28/2021	RunNo: 41497						
Client ID: PBW	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533344						
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: LCS-18274	SampType: LCS	TestCode: 625X_S		Units: µg/Kg	Prep Date: 7/28/2021			RunNo: 41497			
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533345			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274	SampType: LCS	TestCode: 625X_S		Units: µg/Kg	Prep Date: 7/28/2021			RunNo: 41497			
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533345			
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				
Benzidine	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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274	SampType: LCS	TestCode: 625X_S		Units: µg/Kg	Prep Date: 7/28/2021			RunNo: 41497			
Client ID: LCSW	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533345			
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: LCS-18274		SampType: LCS		TestCode: 625X_S		Units: µg/Kg		Prep Date: 7/28/2021		RunNo: 41497		
Client ID: LCSW		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533345		
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: 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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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	RSSC
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	
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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:				RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021				SeqNo: 533350			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S		Units: µg/Kg	Prep Date:			RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533350			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM		SampType: CCV		TestCode: 625X_S		Units: µg/Kg		Prep Date:		RunNo: 41497		
Client ID: CCV		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533350		
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533350						
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: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S	Units: µg/Kg	Prep Date:	RunNo: 41497						
Client ID: CCV	Batch ID: 18274	TestNo: E625.1	E625	Analysis Date: 8/17/2021	SeqNo: 533352						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S		Units: µg/Kg	Prep Date:			RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533352			
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				
Benztidine	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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_S		Units: µg/Kg	Prep Date:			RunNo: 41497			
Client ID: CCV	Batch ID: 18274	TestNo: E625.1		E625	Analysis Date: 8/17/2021			SeqNo: 533352			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_S

Sample ID: CCV1 20 PPM		SampType: CCV		TestCode: 625X_S		Units: µg/Kg		Prep Date:		RunNo: 41497		
Client ID: CCV		Batch ID: 18274		TestNo: E625.1		E625		Analysis Date: 8/17/2021		SeqNo: 533352		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CAL20	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41432			
Client ID: CCV	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/30/2021			SeqNo: 532490			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CAL20		SampType: CCV		TestCode: 625X_W		Units: µg/L		Prep Date:		RunNo: 41432		
Client ID: CCV		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/30/2021		SeqNo: 532490		
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				
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				
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
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: CAL20	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCV	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/30/2021	SeqNo: 532490						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432		
Client ID: PBW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532491		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: PBW	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532491						
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 E Value above quantitation range 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#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432		
Client ID: PBW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532491		
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 E Value above quantitation range 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#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432			
Client ID: PBW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532491			
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: LCS-18275	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532493						
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275	SampType: LCS	TestCode: 625X_W		Units: µg/L	Prep Date: 7/28/2021			RunNo: 41432			
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532493			
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				
Benzidine	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 E Value above quantitation range 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#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275	SampType: LCS	TestCode: 625X_W		Units: µg/L	Prep Date: 7/28/2021			RunNo: 41432			
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532493			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275	SampType: LCS	TestCode: 625X_W		Units: µg/L	Prep Date: 7/28/2021				RunNo: 41432		
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021				SeqNo: 532493		
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: 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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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: 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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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: 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
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 limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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: 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
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

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: 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

Specialty Analytical

WO#: 2107227

10/18/2021

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

Specialty Analytical

WO#: 2107227

10/18/2021

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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

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
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: 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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

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
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

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
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				
Pvridine	19.3	0.500	20.00	0	96.5	80	120				

Sample ID: CCB	SampType: CCB	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCB	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532510						
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 limitsE 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: CCB	SampType: CCB	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCB	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532510						
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: CCB	SampType: CCB	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41432		
Client ID: CCB	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021				SeqNo: 532510		
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 E Value above quantitation range H 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: CCB	SampType: CCB	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCB	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532510						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: CCV1-R41311	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: CCV	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530890							
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: MB-R41311	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: PBW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530891							
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: LCS-R41311	SampType: LCS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: LCSW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530892							
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: 2107151-002AMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: BatchQC	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530895							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

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

Sample ID: 2107151-002AMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311		
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B		Analysis Date: 8/3/2021		SeqNo: 530896				
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: CCV2-R41311	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: CCV	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530901							
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: 2107227-004CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: 072821LLEC	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530904							
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-004CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41311		
Client ID: 072821LLEC		Batch ID: R41311		TestNo: M2320 B		Analysis Date: 8/3/2021			SeqNo: 530905				
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: CCV3-R41311	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: CCV	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530908							
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: CCV-R41348	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: CCV	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531446							
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: 2107227-008CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: Parkway Comp	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531448							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-008CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: Parkway Comp	Batch ID: R41348	TestNo: M2320 B		Analysis Date: 8/5/2021	SeqNo: 531448						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2107227-008CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: Parkway Comp		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531449			
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: CCB-R41348		SampType: CCB		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: CCB		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531454			
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: 2108028-002CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531460			
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2108028-002CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41348		
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B			Analysis Date: 8/5/2021			SeqNo: 531461			
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348	
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B		Analysis Date: 8/5/2021		SeqNo: 531466			
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: MBLK-R41348	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: PBW	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531468							
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_S

Sample ID: LCS-R41388		SampType: LCS		TestCode: ALK_S		Units: mg/Kg		Prep Date:		RunNo: 41388			
Client ID: LCSS		Batch ID: R41388		TestNo: M2320 B		Analysis Date: 8/9/2021		SeqNo: 531947					
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: MB-R41388	SampType: MBLK	TestCode: ALK_S	Units: mg/Kg	Prep Date:	RunNo: 41388						
Client ID: PBS	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531948							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total	ND	10.0									

Sample ID: 2107216-005ADUP	SampType: DUP	TestCode: ALK_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41388						
Client ID: BatchQC	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531950							
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: CCV-R41388	SampType: CCV	TestCode: ALK_S	Units: mg/Kg	Prep Date:	RunNo: 41388						
Client ID: CCV	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531952							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_S

Sample ID: CCV-R41388	SampType: CCV	TestCode: ALK_S	Units: mg/Kg	Prep Date:	RunNo: 41388						
Client ID: CCV	Batch ID: R41388	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531952							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41302	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41302
Client ID: PBW	Batch ID: R41302	TestNo: SM5210B	Analysis Date: 7/29/2021	SeqNo: 530771	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41302	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41302
Client ID: LCSW	Batch ID: R41302	TestNo: SM5210B	Analysis Date: 7/29/2021	SeqNo: 530772	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41317	SampType: MBLK	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41317
Client ID: PBW	Batch ID: R41317	TestNo: SM5210B	Analysis Date: 7/29/2021	SeqNo: 530970	
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: LCS-R41317	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41317
Client ID: LCSW	Batch ID: R41317	TestNo: SM5210B	Analysis Date: 7/29/2021	SeqNo: 530971	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

Sample ID: ICV-R41307		SampType: ICV		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: ICV		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530866		
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: MB-R41307		SampType: MBLK		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: PBS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530868		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide, Total		ND	0.00500									

Sample ID: LCS-R41307		SampType: LCS		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307		
Client ID: LCSS		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530869		
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: CCV1-R41307		SampType: CCV	TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307			
Client ID: CCV		Batch ID: 18298	TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530870			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

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

Sample ID: 2107216-005AMS		SampType: MS		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41307		
Client ID: BatchQC		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530872		
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: 2107216-005AMSD		SampType: MSD		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41307		
Client ID: BatchQC		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530873		
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: CCV-R41307		SampType: CCV		TestCode: CN_S		Units: mg/Kg		Prep Date:		RunNo: 41307			
Client ID: CCV		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021		SeqNo: 530878			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_S

Sample ID: 2107216-005AMS		SampType: MS		TestCode: CN_S		Units: mg/Kg-dry		Prep Date:			RunNo: 41307		
Client ID: BatchQC		Batch ID: 18298		TestNo: D8273		SW9010A		Analysis Date: 8/3/2021			SeqNo: 530879		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41306		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: ICV		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530837				
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: MB-R41306		SampType: MBLK		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: PBW		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530839	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41306		SampType: LCS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306	
Client ID: LCSW		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530840			
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: 2107216-001BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530841				
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

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

Sample ID: 2107216-001BMSD	SampType: MSD	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: BatchQC	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530842	
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: CCV1-R41306	SampType: CCV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: CCV	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530846	
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: CCV2-R41306	SampType: CCV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: CCV	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530857	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2107264-001EMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021		SeqNo: 530858			
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: 2107264-001EMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021		SeqNo: 530859			
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: CCV4-R41306		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306		
Client ID: CCV		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021		SeqNo: 530864				
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: Cr6_S_IC

Sample ID: LCS-18405		SampType: LCS		TestCode: CR6_S_IC		Units: µg/Kg		Prep Date: 8/20/2021		RunNo: 41531			
Client ID: LCSS		Batch ID: 18405		TestNo: 7199		SW 3060A		Analysis Date: 8/23/2021		SeqNo: 533850			
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: LCSD-18405		SampType: LCSD		TestCode: CR6_S_IC		Units: µg/Kg		Prep Date: 8/20/2021		RunNo: 41531			
Client ID: LCSS02		Batch ID: 18405		TestNo: 7199		SW 3060A		Analysis Date: 8/23/2021		SeqNo: 533851			
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: 2107216-005ADUP		SampType: DUP		TestCode: Cr6_S_IC		Units: µg/Kg-dry		Prep Date: 8/20/2021		RunNo: 41531	
Client ID: BatchQC		Batch ID: 18405		TestNo: 7199		SW 3060A		Analysis Date: 8/23/2021		SeqNo: 533853	
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: 2107216-005AMS	SampType: MS	TestCode: Cr6_S_IC	Units: µg/Kg-dry	Prep Date: 8/20/2021	RunNo: 41531						
Client ID: BatchQC	Batch ID: 18405	TestNo: 7199	SW 3060A	Analysis Date: 8/23/2021	SeqNo: 533854						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: Cr6_S_IC

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

Sample ID: 2107216-005AMSD		SampType: MSD		TestCode: Cr6_S_IC		Units: µg/Kg-dry		Prep Date: 8/20/2021		RunNo: 41531			
Client ID: BatchQC		Batch ID: 18405		TestNo: 7199		SW 3060A		Analysis Date: 8/23/2021		SeqNo: 533855			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: LCS-R41458	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: LCSW	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532908	
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: 2107226-001EMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532911	
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: 2107226-001EMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532912	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: 2107207-001FMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532914	
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: 2107207-001FMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532915	
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: CCV1-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532917	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2107219-001FMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41458			
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B		Analysis Date: 8/16/2021		SeqNo: 532922					
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: 2107219-001FMSD		SampType: MSD		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B				Analysis Date: 8/16/2021			SeqNo: 532923		
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: CCV2-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532928							
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: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:			RunNo: 41357		
Client ID: ICV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021			SeqNo: 531596		
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: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: CCV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531597		
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: MB-18305	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: PBW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18305	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: LCSW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531599						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

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

Sample ID: 2107216-004ADUP		SampType: DUP		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021			RunNo: 41357		
Client ID: BatchQC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021			SeqNo: 531601		
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: 2107216-004AMS		SampType: MS		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41357			
Client ID: BatchQC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531602			
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: 2107216-004AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41357		
Client ID: BatchQC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531603		
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: CCV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531606		
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: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: CCV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531612		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HG_CTS

Sample ID: LCS-R41282		SampType: LCS		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41282		
Client ID: LCSS		Batch ID: 18291		TestNo: SW 7471B		SW 7471B		Analysis Date: 8/2/2021			SeqNo: 530531		
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: LCSD-R41282	SampType: LCSD	TestCode: HG_CTS	Units: µg/Kg	Prep Date:	RunNo: 41282						
Client ID: LCSS02	Batch ID: 18291	TestNo: SW 7471B	SW 7471B	Analysis Date: 8/2/2021	SeqNo: 530532						
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: MB-18291		SampType: MBLK		TestCode: HG_CTS		Units: µg/Kg		Prep Date: 8/2/2021			RunNo: 41282		
Client ID: PBS		Batch ID: 18291		TestNo: SW 7471B		SW 7471B		Analysis Date: 8/2/2021			SeqNo: 530533		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND		10.0									

Sample ID: 2107265-002ADUP	SampType: DUP	TestCode: HG_CTS	Units: µg/Kg-dry	Prep Date: 8/2/2021	RunNo: 41282						
Client ID: BatchQC	Batch ID: 18291	TestNo: SW 7471B	SW 7471B	Analysis Date: 8/2/2021	SeqNo: 530536						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HG_CTS

Sample ID: 2107265-002ADUP	SampType: DUP	TestCode: HG_CTS	Units: µg/Kg-dry	Prep Date: 8/2/2021	RunNo: 41282						
Client ID: BatchQC	Batch ID: 18291	TestNo: SW 7471B	SW 7471B	Analysis Date: 8/2/2021	SeqNo: 530536						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2107265-002AMS		SampType: MS		TestCode: HG_CTS		Units: µg/Kg-dry		Prep Date: 8/2/2021			RunNo: 41282		
Client ID: BatchQC		Batch ID: 18291		TestNo: SW 7471B		SW 7471B		Analysis Date: 8/2/2021			SeqNo: 530537		
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: 2107265-002AMSD	SampType: MSD	TestCode: HG_CTS	Units: µg/Kg-dry	Prep Date: 8/2/2021	RunNo: 41282						
Client ID: BatchQC	Batch ID: 18291	TestNo: SW 7471B	SW 7471B	Analysis Date: 8/2/2021	SeqNo: 530538						
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: CCV1-R41282		SampType: CCV		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41282		
Client ID: CCV		Batch ID: 18291		TestNo: SW 7471B		SW 7471B		Analysis Date: 8/2/2021			SeqNo: 530540		
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HG_CTS

Sample ID: CCV2-R41282		SampType: CCV		TestCode: HG_CTS		Units: µg/Kg		Prep Date:			RunNo: 41282		
Client ID: CCV		Batch ID: 18291		TestNo: SW 7471B		SW 7471B		Analysis Date: 8/2/2021			SeqNo: 530545		
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

Sample ID: ICV-R41503		SampType: ICV		TestCode: NH3_S		Units: mg/Kg		Prep Date:		RunNo: 41503		
Client ID: ICV		Batch ID: R41503		TestNo: E350.1				Analysis Date: 8/19/2021		SeqNo: 533434		
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: ICB-R41503		SampType: ICB		TestCode: NH3_S		Units: mg/Kg		Prep Date:		RunNo: 41503			
Client ID: ICB		Batch ID: R41503		TestNo: E350.1				Analysis Date: 8/19/2021		SeqNo: 533435			
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: MB-R41503	SampType: MBLK	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503						
Client ID: PBS	Batch ID: R41503	TestNo: E350.1		Analysis Date: 8/19/2021	SeqNo: 533436						
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: LCS-R41503	SampType: LCS	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503						
Client ID: LCSS	Batch ID: R41503	TestNo: E350.1		Analysis Date: 8/19/2021	SeqNo: 533437						
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

Sample ID: LCS-R41503	SampType: LCS	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503
Client ID: LCSS	Batch ID: R41503	TestNo: E350.1	Analysis Date: 8/19/2021	SeqNo: 533437	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41503	SampType: CCV	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503
Client ID: CCV	Batch ID: R41503	TestNo: E350.1	Analysis Date: 8/19/2021	SeqNo: 533438	
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: CCB1-R41503	SampType: CCB	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503
Client ID: CCB	Batch ID: R41503	TestNo: E350.1	Analysis Date: 8/19/2021	SeqNo: 533439	
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: 2107227-005AMS	SampType: MS	TestCode: NH3_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41503
Client ID: 072721LLBS	Batch ID: R41503	TestNo: E350.1	Analysis Date: 8/19/2021	SeqNo: 533441	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3_S

Sample ID: 2107227-005AMSD		SampType: MSD		TestCode: NH3_S		Units: mg/Kg-dry		Prep Date:		RunNo: 41503			
Client ID: 072721LLBS		Batch ID: R41503		TestNo: E350.1				Analysis Date: 8/19/2021		SeqNo: 533442			
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: CCV2-R41503	SampType: CCV	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503						
Client ID: CCV	Batch ID: R41503	TestNo: E350.1	Analysis Date: 8/19/2021	SeqNo: 533443							
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: CCB2-R41503	SampType: CCB	TestCode: NH3_S	Units: mg/Kg	Prep Date:	RunNo: 41503						
Client ID: CCB	Batch ID: R41503	TestNo: E350.1		Analysis Date: 8/19/2021	SeqNo: 533444						
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41358	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531614	
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: ICB-R41358	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICB	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531615	
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531617	
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531623	
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: 2108016-001CMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531628	
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: 2108016-001CMSD	SampType: MSD	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531629	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531631							
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531633				
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: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531646							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: PH_S

Sample ID: 2107227-005ADUP		SampType: DUP		TestCode: PH_S		Units: pH Units		Prep Date:		RunNo: 41244			
Client ID: 072721LLBS		Batch ID: R41244		TestNo: SW9045D		Analysis Date: 7/29/2021		SeqNo: 530013					
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566	
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: 2107216-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531571	
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: 2107216-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCV1-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531575							
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: CCB1-R41356		SampType: CCB		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356	
Client ID: CCB		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021		SeqNo: 531576			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: 2108006-004BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356			
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531583			
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531584		
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: CCV2-R41356		SampType: CCV		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41356	
Client ID: CCV		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021			SeqNo: 531587			
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: CCB2-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531588							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCB3-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531595	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL_S

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

Sample ID: LCS-R41502	SampType: LCS	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: LCSS	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533426	
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: 2107216-005AMS	SampType: MS	TestCode: P-TOTAL_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41502
Client ID: BatchQC	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533429	
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: 2107216-005AMSD	SampType: MSD	TestCode: P-TOTAL_S	Units: mg/Kg-dry	Prep Date:	RunNo: 41502
Client ID: BatchQC	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533430	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL_S

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

Sample ID: CCB-R41502	SampType: CCB	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: CCB	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533432	
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: CCB-R41502	SampType: CCB	TestCode: P-TOTAL_S	Units: mg/Kg	Prep Date:	RunNo: 41502
Client ID: CCB	Batch ID: 18399	TestNo: SM 4500-P E T22 STLC	Analysis Date: 8/19/2021	SeqNo: 533433	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_S

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

Sample ID: LCS-R41260	SampType: LCS	TestCode: SULFIDE_S	Units: mg/Kg	Prep Date:	RunNo: 41260						
Client ID: LCSS	Batch ID: R41260	TestNo: SW9030		Analysis Date: 7/29/2021	SeqNo: 530305						
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: 2107216-005ADUP	SampType: DUP	TestCode: SULFIDE_S	Units: mg/Kg-dry	Prep Date:				RunNo: 41260			
Client ID: BatchQC	Batch ID: R41260	TestNo: SW9030		Analysis Date: 7/29/2021				SeqNo: 530307			
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41261		SampType: MBLK		TestCode: SULFIDE_W		Units: mg/L		Prep Date:		RunNo: 41261	
Client ID: PBW		Batch ID: R41261		TestNo: SM4500-S2 F		Analysis Date: 7/29/2021		SeqNo: 530309			
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: LCS-R41261	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41261						
Client ID: LCSW	Batch ID: R41261	TestNo: SM4500-S2 F	Analysis Date: 7/29/2021	SeqNo: 530310							
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: 2107227-001DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41261						
Client ID: 072721LLIG	Batch ID: R41261	TestNo: SM4500-S2 F	Analysis Date: 7/29/2021	SeqNo: 530312							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414	SampType: ICV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: ICV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532252	
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532254	
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: 2108006-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532256	
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: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257	
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

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

Sample ID: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532261	
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: LCS-R41414	SampType: LCS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: LCSW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532262	
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: 2107216-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532266	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532267			
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: CCV3-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532272							
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: CCV4-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532283							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SOLID

Sample ID: ICV-R41510		SampType: ICV		TestCode: TKN_SOLID		Units: mg/Kg		Prep Date:			RunNo: 41510	
Client ID: ICV		Batch ID: R41510		TestNo: E351.2		Analysis Date: 8/19/2021			SeqNo: 533508			
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: MB-R41510	SampType: MBLK	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510						
Client ID: PBS	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533510							
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: LCS-R41510		SampType: LCS		TestCode: TKN_SOLID		Units: mg/Kg		Prep Date:			RunNo: 41510		
Client ID: LCSS		Batch ID: R41510		TestNo: E351.2		Analysis Date: 8/19/2021			SeqNo: 533511				
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: CCV1-R41510	SampType: CCV	TestCode: TKN_SOLID	Units: mg/Kg	Prep Date:	RunNo: 41510						
Client ID: CCV	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533512							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SOLID

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

Sample ID: 2107227-005AMS	SampType: MS	TestCode: TKN_SOLID	Units: mg/Kg-dry	Prep Date:	RunNo: 41510						
Client ID: 072721LLBS	Batch ID: R41510	TestNo: E351.2	Analysis Date: 8/19/2021	SeqNo: 533515							
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: 2107227-005AMSD	SampType: MSD	TestCode: TKN_SOLID	Units: mg/Kg-dry	Prep Date:	RunNo: 41510						
Client ID: 072721LLBS	Batch ID: R41510	TestNo: E351.2		Analysis Date: 8/19/2021	SeqNo: 533516						
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: CCV2-R41510		SampType: CCV		TestCode: TKN_SOLID		Units: mg/Kg		Prep Date:		RunNo: 41510			
Client ID: CCV		Batch ID: R41510		TestNo: E351.2				Analysis Date: 8/19/2021		SeqNo: 533517			
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
R RPD outside accepted recovery limitsE Value above quantitation range
S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

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

Sample ID: LCS-R41301	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41301						
Client ID: LCSW	Batch ID: R41301	TestNo: E1684	Analysis Date: 7/30/2021	SeqNo: 530761							
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: 2107216-001FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41301						
Client ID: BatchQC	Batch ID: R41301	TestNo: E1684	Analysis Date: 7/30/2021	SeqNo: 530763							
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41234	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: PBW	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529919	
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: LCS-R41234	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: LCSW	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529920	
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: 2107224-001ADUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41234
Client ID: BatchQC	Batch ID: R41234	TestNo: M2540 D	Analysis Date: 7/28/2021	SeqNo: 529926	
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
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

Specialty Analytical

WO#: 2107227

10/18/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: VS_S

Sample ID: 2107216-005ADUP		SampType: DUP		TestCode: VS_S		Units: wt%		Prep Date:		RunNo: 41429	
Client ID: BatchQC		Batch ID: R41429		TestNo: SM2540 G		Analysis Date: 8/9/2021		SeqNo: 532455			
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 ☒	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	2.3 °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



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



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Julie Clay
9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



Date: 08/24/2021

CLIENT: Specialty Analytical
Project: 2107227
Work Order: 2107471

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
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	Villaboys 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

Original

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2107471-001A, 072821 LLIC										
2108107-01	Hg	Wastewater	TR	80.8		0.68	2.11	ng/L	B212210	S210907
2107471-002A, 072821 LLEC										
2108107-02	Hg	Wastewater	TR	2.04		0.14	0.42	ng/L	B212210	S210922
2107471-003A, Park Way Camp										
2108107-03	Hg	Wastewater	TR	14.7		0.68	2.11	ng/L	B212210	S210907
2107471-004A, Villaboies Camp										
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	
Average: 0.08		Standard Deviation: 0.03	MDL: 0.13
Limit: 0.50		Limit: 0.13	MRL: 0.40



Sample Containers

Lab ID: 2108107-01 Sample: 2107471-001A			Report Matrix: Wastewater Sample Type: Sample			Collected: 07/28/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108107
Lab ID: 2108107-02 Sample: 2107471-002A			Report Matrix: Wastewater Sample Type: Sample			Collected: 07/28/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108107
Lab ID: 2108107-03 Sample: 2107471-003A			Report Matrix: Wastewater Sample Type: Sample			Collected: 07/28/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108107
Lab ID: 2108107-04 Sample: 2107471-004A			Report Matrix: Wastewater Sample Type: Sample			Collected: 07/28/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
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

BAL Report 2108107

Fremont Analytical, Inc.

3600 Fremont Ave. N.

Seattle, WA 98103

TEL: 206-352-3790

FAX: 206-352-7178

Website: www.fremontanalytical.com

SUB CONTRACTOR: Brooks Applied Labs COMPANY: Brooks Applied Labs					SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: 18804 North Creek Parkway, Ste 100					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: Bothell, WA 98011							
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	Villaboys Camp	AMBER GLASS 5	Wastewater	7/28/2021 10:25:00 AM	1	

Relinquished By: <i>mmames</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:	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples _____ °C Attempt to Cool ? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	
Page 9 of 9							

Page 9 of 9

Client Name: **SPECIAL**

Work Order Number: **2107471**

Logged by: **Gabrielle Coeuille**

Date Received: **7/29/2021 9:44:00 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 * 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:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

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

Laboratory/Project No (Internal): **2107471**

Project No: 2107227

Temperature on Receipt: _____ °C

Collected by: _____

Cooling: _____ Shipped Via: UPS

State Collected: OR WA OTHER

Custody Seal: Y / N Intact / Broken Cooler / Bottle

Report To (PM): Julie Clay + Martin French

MDL TIER IV EDD

AP Email: mandy@specialtyanalytical.com PM Email: Julie@specialtyanalytical.com + Mary@specialtyanalytical.com

I - Influent
E - Effluent

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments

1 07282144 I C ~~EC~~ 7-28-21 1000 WU 1 X **Low Level Mercury 1631**

2 07282144 EC 7-28-21 1030 WU 1 X

3 Park Way Camp 7-28-21 900 WU 1 X

4 Villabais Camp 7-28-21 1025 WU 1 X

5

6

7

8

9

10

* Matrix: A = Air, AO = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, G = Gas, 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 x Date/Time 7-28-21 Received x Date/Time 7/29 9:44

Relinquished x Date/Time Received x Date/Time

Relinquished x Date/Time Received x Date/Time

		Chain of Custody Record	
9011 SE Jannsen Rd Clackamas, OR 97015 Phone: 503-607-1331 Fax: 503-607-1336		Date: 7-28-21 Page: of:	
Project Name: Wilsonville		Laboratory Project No (Internal): 2107227	
Project No: 2107227		Temperature on Receipt: 2.3 °C	
Collected by: [Signature]		Cooling: ice Shipped Via: 8A	
State Collected: OR ☐ WA ☐ OTHER ☐		Custody Seal: Y ☐ N ☒ Intact / Broken Cooler / Bottle	
Report To (PM):		MDL ☐ TIER IV ☐ EDD ☐	
PM Email:		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	7-27-21	1300	WW	1	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
C - Composite	7-28-21	1600	WW	1	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
I - Influent	7-27-21	1330	WW	1	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
Sample Name E-116 Inlet	7-27-21	1300	WS	3	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
Parkway grab	7-27-21	120	WW	1	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
Villabois grab	7-27-21	8:10	WW	1	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
Parkway comp	7-28-21	9:00	WW	4	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625
Villabois comp	7-28-21	10:35	WW	4	EPA 200.8 Metals EPA 310.2 TS EPA 1684 TS EPA 351.1 TKN SM 4500 NH3-2F SM 4500 S2O Hex Chrom SM 3500 CRB EPA 200.8 Metals	* 48 hr TAT 624 + 625

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 [Signature]	Date/Time 7-28-21	Received x [Signature]	Date/Time 7/28/21 11:46
Relinquished x [Signature]	Date/Time 7/28/21 1223	Received 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.

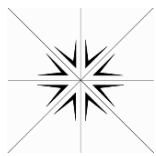
Analytical Method	Collection Method	Week 1		Week 2					
		5/17	5/18	5/24	5/25	5/26	5/27	5/28	
Influent									
EPA 200.8	Composite	x	x	x	x	x	x	x	
EPA 1631E	Composite	x	x	x	x	x	x	x	
SM 3500-CrB	Grab	x	x	x	x	x	x	x	
SM 4500-CN E.	Grab	x	x	x	x	x	x	x	
SM 4500-NH3 G.	Composite	x	x	x	x	x	x	x	
SM 5210B	Composite	x	x	x	x	x	x	x	
SM 2540D	Composite	x	x	x	x	x	x	x	
EPA 624*	Grab	x*	x*	x ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625*	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	*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 ³	x ³	x ³	x ³	x ³	*48-hour TAT
Final Effluent									
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 ¹	x ¹	x ¹	x ¹	x ¹	*48-hour TAT
EPA 625	Grab	x*	x*	x ²	x ²	x ²	x ²	x ²	*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 ³	x ³	x ³	x ³	x ³	*48-hour TAT
Biosolids									
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						
Willow Creek and Landover									
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 ¹	X ¹	X ¹	X ¹	X ¹	*48-hour TAT
EPA 625*	Grab	X*	X*	X ²	X ²	X ²	X ²	X ²	*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 ³	X ³	X ³	X ³	X ³	*48-hour TAT
Orepec and Industrial Way									
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 ¹	X ¹	X ¹	X ¹	X ¹	*48-hour TAT
EPA 625*	Grab	X*	X*	X ²	X ²	X ²	X ²	X ²	*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 ³	X ³	X ³	X ³	X ³	*48-hour TAT

Constituents by Analytical Method	
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 (<i>see note 1</i>)
EPA 625	All (<i>see note 2</i>)
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 (<i>see note 3</i>)

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

Definition Only

WO#: 2107227

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

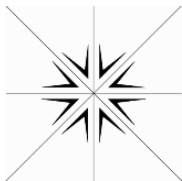
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read 'M. French', written in a cursive style.

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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: EG
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: EG
Hardness (Calc.)	53.3	0.200		mg/L	1	8/4/2021 5:09:19 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: NK
CBOD5	211	2.00		mg/L	1	7/30/2021 3:00:17 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	329.7	2.0		mg/L	1	7/30/2021 1:30:43 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	256	10.0		mg/L CaCO3	1	8/3/2021 1:24:06 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	48.6	0.800		mg/L	40	8/6/2021 2:05:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	8.04	0.200		mg/L	10	8/6/2021 3:45:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	66.8	1.00		mg/L	5	8/11/2021 4:58:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: TB
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
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

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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:31:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/3/2021 1:11:06 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	2.40	1.00		mg/L	1	7/29/2021 3:45:33 PM
TOTAL SOLIDS				E1684		Analyst: NK
Total Solids	668	5.00		mg/L	1	7/30/2021 3:34:46 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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: ICV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531067			
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: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531072						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531072			
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: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531075						
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: LCS-18300	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531076						
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18300	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: LCSW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531076						
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: 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
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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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#: 2107246

8/24/2021

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: 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
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: 2107216-004AMSD	SampType: MSD	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: 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	

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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: 2107216-004AMSD		SampType: MSD		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: 531080		
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: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531085			
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531085						
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: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41328			
Client ID: CCV	Batch ID: 18300	TestNo: E200.8		E200.8	Analysis Date: 8/4/2021			SeqNo: 531096			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41328						
Client ID: CCV	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/4/2021	SeqNo: 531096						
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: MB-18300	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41328						
Client ID: PBW	Batch ID: 18300	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531135						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41272			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530461				
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530461							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530462							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530462						
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41272						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530462							
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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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
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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,1,2-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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:				RunNo: 41298			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021				SeqNo: 530721				
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W		Units: µg/L	Prep Date:			RunNo: 41298			
Client ID: CCV	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021			SeqNo: 530721				
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: CCV MSVWS-3043	SampType: CCV	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: CCV	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530721							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 7/30/2021	SeqNo: 530722						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41298						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1	Analysis Date: 7/30/2021	SeqNo: 530722							
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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
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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,2-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 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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41325						
Client ID: PBW	Batch ID: 18287	TestNo: E624.1		Analysis Date: 8/4/2021	SeqNo: 531042						
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: 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

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CAL20	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:				RunNo: 41432			
Client ID: CCV	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/30/2021				SeqNo: 532490			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CAL20		SampType: CCV		TestCode: 625X_W		Units: µg/L		Prep Date:		RunNo: 41432		
Client ID: CCV		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/30/2021		SeqNo: 532490		
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				
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				
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: CAL20	SampType: CCV	TestCode: 625X_W	Units: µg/L	Prep Date:				RunNo: 41432			
Client ID: CCV	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/30/2021				SeqNo: 532490			
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: MB-18275		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432		
Client ID: PBW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532491		
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: MB-18275	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: PBW	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532491						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432		
Client ID: PBW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532491		
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 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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18275	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: PBW	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532491						
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: LCS-18275	SampType: LCS	TestCode: 625X_W	Units: µg/L	Prep Date: 7/28/2021	RunNo: 41432						
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532493						
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275	SampType: LCS	TestCode: 625X_W		Units: µg/L	Prep Date: 7/28/2021			RunNo: 41432			
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532493			
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				
Benzidine	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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275	SampType: LCS	TestCode: 625X_W		Units: µg/L	Prep Date: 7/28/2021			RunNo: 41432			
Client ID: LCSW	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021			SeqNo: 532493			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: LCS-18275		SampType: LCS		TestCode: 625X_W		Units: µg/L		Prep Date: 7/28/2021		RunNo: 41432		
Client ID: LCSW		Batch ID: 18275		TestNo: E625.1		E625		Analysis Date: 7/31/2021		SeqNo: 532493		
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: 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
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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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: 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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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: 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
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
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#: 2107246

8/24/2021

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
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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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
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: 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
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
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#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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

Specialty Analytical

WO#: 2107246

8/24/2021

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: 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
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

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
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

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
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: CCB	SampType: CCB	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCB	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532510						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCB	SampType: CCB	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41432						
Client ID: CCB	Batch ID: 18275	TestNo: E625.1	E625	Analysis Date: 7/31/2021	SeqNo: 532510						
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: CCB	SampType: CCB	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41432		
Client ID: CCB	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021				SeqNo: 532510		
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCB	SampType: CCB	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41432		
Client ID: CCB	Batch ID: 18275	TestNo: E625.1		E625	Analysis Date: 7/31/2021				SeqNo: 532510		
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: CCV1-R41311		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41311		
Client ID: CCV		Batch ID: R41311		TestNo: M2320 B		Analysis Date: 8/3/2021			SeqNo: 530890				
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: MB-R41311	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: PBW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530891							
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: LCS-R41311	SampType: LCS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: LCSW	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530892							
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: 2107151-002AMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41311						
Client ID: BatchQC	Batch ID: R41311	TestNo: M2320 B	Analysis Date: 8/3/2021	SeqNo: 530895							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

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

Sample ID: 2107151-002AMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530896			
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: CCV2-R41311		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: CCV		Batch ID: R41311		TestNo: M2320 B		Analysis Date: 8/3/2021		SeqNo: 530901					
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: 2107227-004CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530904			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-004CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: BatchQC		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530905			
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: CCV3-R41311		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41311			
Client ID: CCV		Batch ID: R41311		TestNo: M2320 B				Analysis Date: 8/3/2021		SeqNo: 530908			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41331	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41331
Client ID: PBW	Batch ID: R41331	TestNo: SM5210B	Analysis Date: 7/30/2021	SeqNo: 531114	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41331	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41331
Client ID: LCSW	Batch ID: R41331	TestNo: SM5210B	Analysis Date: 7/30/2021	SeqNo: 531115	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41333		SampType: MBLK		TestCode: BOD_CWA		Units: mg/L		Prep Date:		RunNo: 41333			
Client ID: PBW		Batch ID: R41333		TestNo: SM5210B		Analysis Date: 7/30/2021		SeqNo: 531117					
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: LCS-R41333	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41333						
Client ID: LCSW	Batch ID: R41333	TestNo: SM5210B	Analysis Date: 7/30/2021	SeqNo: 531118							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41306		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306		
Client ID: ICV		Batch ID: R41306		TestNo: D7284				Analysis Date: 8/3/2021		SeqNo: 530837		
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: MB-R41306		SampType: MBLK		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: PBW		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021		SeqNo: 530839			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41306		SampType: LCS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41306	
Client ID: LCSW		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021		SeqNo: 530840			
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: 2107216-001BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306						
Client ID: BatchQC	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530841							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

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

Sample ID: 2107216-001BMSD	SampType: MSD	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: BatchQC	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530842	
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: CCV1-R41306	SampType: CCV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: CCV	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530846	
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: CCV2-R41306	SampType: CCV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41306
Client ID: CCV	Batch ID: R41306	TestNo: D7284	Analysis Date: 8/3/2021	SeqNo: 530857	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2107264-001EMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530858				
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: 2107264-001EMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: BatchQC		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530859				
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: CCV4-R41306		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41306		
Client ID: CCV		Batch ID: R41306		TestNo: D7284		Analysis Date: 8/3/2021			SeqNo: 530864				
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: LCS-R41458	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: LCSW	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532908	
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: 2107226-001EMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532911	
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: 2107226-001EMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532912	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: 2107207-001FMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532914	
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: 2107207-001FMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532915	
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: CCV1-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532917	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2107219-001FMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B				Analysis Date: 8/16/2021			SeqNo: 532922		
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: 2107219-001FMSD		SampType: MSD		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B				Analysis Date: 8/16/2021			SeqNo: 532923		
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: CCV2-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532928							
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: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:			RunNo: 41357	
Client ID: ICV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021			SeqNo: 531596	
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: CCV	SampType: CCV	TestCode: HARDCALC	Units: mg/L	Prep Date:	RunNo: 41357						
Client ID: CCV	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531597						
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: MB-18305	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: PBW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18305	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: LCSW	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531599						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

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

Sample ID: 2107216-004ADUP		SampType: DUP		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021			RunNo: 41357		
Client ID: BatchQC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021			SeqNo: 531601		
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: 2107216-004AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41357						
Client ID: BatchQC	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531602						
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: 2107216-004AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021			RunNo: 41357		
Client ID: BatchQC		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021			SeqNo: 531603		
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41357		
Client ID: CCV		Batch ID: 18305		TestNo: M2340 B		SW3010A		Analysis Date: 8/4/2021		SeqNo: 531606		
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: CCV	SampType: CCV	TestCode: HARDCALC	Units: mg/L	Prep Date:	RunNo: 41357						
Client ID: CCV	Batch ID: 18305	TestNo: M2340 B	SW3010A	Analysis Date: 8/4/2021	SeqNo: 531612						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41358	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531614	
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: ICB-R41358	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICB	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531615	
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531617	
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV1-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531623							
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: 2108016-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3				Analysis Date: 8/6/2021		SeqNo: 531628		
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: 2108016-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358			
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3				Analysis Date: 8/6/2021		SeqNo: 531629			
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531631							
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531633				
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: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531646							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566	
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: 2107216-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531571	
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: 2107216-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCB1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
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: CCB1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: 2108006-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531583	
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
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#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41356	
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021			SeqNo: 531584			
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: CCV2-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531587							
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: CCB2-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531588							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCB3-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531595	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41261	SampType: MBLK	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41261						
Client ID: PBW	Batch ID: R41261	TestNo: SM4500-S2 F		Analysis Date: 7/29/2021	SeqNo: 530309						
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: LCS-R41261	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41261						
Client ID: LCSW	Batch ID: R41261	TestNo: SM4500-S2 F		Analysis Date: 7/29/2021	SeqNo: 530310						
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: 2107227-001DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41261						
Client ID: BatchQC	Batch ID: R41261	TestNo: SM4500-S2 F		Analysis Date: 7/29/2021	SeqNo: 530312						
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414	
Client ID: ICV		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021		SeqNo: 532252			
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532254							
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: 2108006-004BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021		SeqNo: 532256					
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: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

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

Sample ID: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532261	
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: LCS-R41414	SampType: LCS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: LCSW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532262	
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: 2107216-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532266	
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414	
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532267		
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: CCV3-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532272							
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: CCV4-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532283							
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

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

Sample ID: LCS-R41301	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41301						
Client ID: LCSW	Batch ID: R41301	TestNo: E1684	Analysis Date: 7/30/2021	SeqNo: 530761							
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: 2107216-001FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:				RunNo: 41301			
Client ID: BatchQC	Batch ID: R41301	TestNo: E1684		Analysis Date: 7/30/2021				SeqNo: 530763			
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

Specialty Analytical

WO#: 2107246

8/24/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41278	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41278
Client ID: PBW	Batch ID: R41278	TestNo: M2540 D	Analysis Date: 7/30/2021	SeqNo: 530477	
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: LCS-R41278	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41278
Client ID: LCSW	Batch ID: R41278	TestNo: M2540 D	Analysis Date: 7/30/2021	SeqNo: 530478	
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: 2107246-001DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41278
Client ID: Parkway Comp	Batch ID: R41278	TestNo: M2540 D	Analysis Date: 7/30/2021	SeqNo: 530480	
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
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 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 ☒	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 2.3 °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



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



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Julie Clay
9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2107495-001A, Parkway Camp										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40

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

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
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: Brooks Applied Labs COMPANY: Brooks Applied Labs				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: 18804 North Creek Parkway, Ste 100							
CITY, STATE, ZIP: Bothell, WA 98011							
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>8/9/21</i>	Time: <i>1100</i>	Received By: <i>[Signature]</i>	Date: <i>8/9/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool ? _____ Comments: _____	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:		
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐ Note: RUSH requests will incur surcharges!							

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Sample Log-In Check List

Client Name: **SPECIAL**

Work Order Number: **2107495**

Logged by: **Gabrielle Coeuille**

Date Received: **7/30/2021 9:20:00 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:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

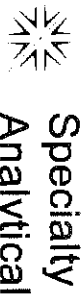
19. Additional remarks:

Item Information

Item #	Temp °C
Sample 1	22.9

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Page 14 of 13



9011 SE Janssen Rd
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Chain of Custody Record

Date: 7.29.21 Page: of
Project Name: Wilsonville
Project No: 2107246 PO No: 123°C

Client: Wilsonville
Address:
City, State, Zip:
Telephone:
AP Email:

Collected by:
State Collected: ☐ OR ☐ WA ☐ OTHER
Report To (PM):
PM Email:

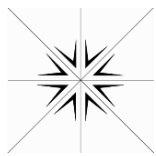
Laboratory Project No (Internal): 2107246
Temperature on Receipt: 123°C
Cooling: ice Shipped Via: SA
Custody Seal: Y / (N) Intact / Broken Cooler / Bottle
MDL ☐ TIER IV ☐ EDD ☐
Sample Disposal: ☐ Return to client ☒ Disposed by lab (after 60 days)

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G- grab C - composite						
1 Parkway camp	7.29.21	9 AM	WW	4	EPA 200.8 Metals ~~SM 3500 CrB~~ SM 3500 CrB Hex Chrom SM 4500 CN SM 4500 NH ₃ TP 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 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

Relinquished Date/Time: 7.29.21 10:05am Received Date/Time: 7.29.21 1245
x Mue Pan x
Relinquished Date/Time: 7.29.21 1221 Received Date/Time: 7.29.21 1340



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

Definition Only

WO#: 2107246
Date: 8/24/2021

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

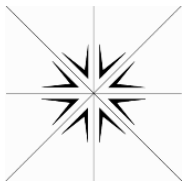
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read 'M. French', written in a cursive style.

Marty French
Lab Director

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

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
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
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 9:00:00 AM

Project: Wilsonville

Lab ID: 2108006-001

Matrix: WASTE WATER

Client Sample ID 080121LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:32:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00714	0.00500		mg/L	1	8/12/2021 3:07:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:06:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	639	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

Collection Date: 8/2/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108006-002

Matrix: WASTEWATER

Client Sample ID 080221LLIC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	57.1	0.200		mg/L	1	8/5/2021 10:24:37 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	256	2.00		mg/L	1	8/3/2021 4:23:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	236.0	2.0		mg/L	1	8/3/2021 12:10:00 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	200	10.0		mg/L CaCO3	1	8/5/2021 1:00:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	39.3	0.400		mg/L	20	8/6/2021 12:35:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	5.03	0.200		mg/L	10	8/6/2021 3:46:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	58.0	1.00		mg/L	5	8/11/2021 5:03:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
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
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
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

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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/16/2021 1:33:19 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 3:12:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:16:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/2/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108006-004

Matrix: WASTEWATER

Client Sample ID 080221LLEC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	53.9	0.200		mg/L	1	8/5/2021 10:28:02 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	ND	2.00		mg/L	1	8/3/2021 4:23:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	ND	2.0		mg/L	1	8/3/2021 12:10:00 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/5/2021 1:10:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	0.366	0.0200		mg/L	1	8/18/2021 1:09:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	0.480	0.200		mg/L	10	8/6/2021 3:47:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	1.68	0.200		mg/L	1	8/11/2021 3:23:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/1/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108006-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/1/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108006-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:29:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00697	0.00500		mg/L	1	8/12/2021 3:27:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 12:21:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	518	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: 2108006-006

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
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 Villaboiss G

Collection Date: 8/1/2021 10:00:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:30:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00539	0.00500		mg/L	1	8/12/2021 3:32:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:26:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	525	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

Collection Date: 8/2/2021 9:15:00 AM

Project: Wilsonville

Lab ID: 2108006-007

Matrix: WASTEWATER

Client Sample ID Parkway C

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	57.1	0.200		mg/L	1	8/5/2021 10:46:08 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	226	2.00		mg/L	1	8/3/2021 4:23:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	308.6	2.0		mg/L	1	8/3/2021 12:10:00 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	278	10.0		mg/L CaCO3	1	8/5/2021 1:20:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	58.7	0.800		mg/L	40	8/6/2021 2:10:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	8.35	0.200		mg/L	10	8/6/2021 3:50:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	76.3	2.00		mg/L	10	8/11/2021 5:08:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
ICP/MS METALS- TOTAL RECOVERABLE				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	65.9	0.200		mg/L	1	8/5/2021 10:49:33 AM
CARBONACEOUS BOD				SM5210B		Analyst: JW
CBOD5	239	2.00		mg/L	1	8/3/2021 4:23:00 PM
BIOLOGICAL OXYGEN DEMAND- 5				SM5210B		Analyst: JW
BOD, 5 Day	376.6	2.0		mg/L	1	8/3/2021 12:10:00 PM
ALKALINITY				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	186	10.0		mg/L CaCO3	1	8/5/2021 1:30:25 PM
AMMONIA AS NITROGEN				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	31.3	0.400		mg/L	20	8/6/2021 12:45:21 PM
PHOSPHOROUS, ALL FORMS				E365.3		Analyst: NK
Phosphorus, Total	4.17	0.200		mg/L	10	8/6/2021 3:51:43 PM
KJELDAHL NITROGEN, TOTAL				SM 4500-NORG C		Analyst: NK
TKN as N	46.7	0.800		mg/L	4	8/11/2021 5:13:57 PM
TOTAL SUSPENDED SOLIDS				M2540 D		Analyst: JRH
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41337			
Client ID: ICV	Batch ID: 18304	TestNo: E200.8		E200.8	Analysis Date: 8/5/2021			SeqNo: 531142			
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: CCB	SampType: CCB	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41337						
Client ID: CCB	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531143						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCB	SampType: CCB	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 41337		
Client ID: CCB	Batch ID: 18304	TestNo: E200.8		E200.8	Analysis Date: 8/5/2021				SeqNo: 531143		
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: 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: 531148						
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531148			
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: MB-18304	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: PBW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531150						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18304	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: PBW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531150						
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: LCS-18304	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: LCSW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531151						
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18304	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: LCSW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531151						
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: 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
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

Specialty Analytical

WO#: 2108006

8/27/2021

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	RRF
Iron		276	50.0						277.0	0.402	20	
Lead		ND	0.100						0	0	20	
Molybdenum		24.8	0.500						25.10	1.03	20	
Nickel		126	0.500						125.9	0.245	20	E
Potassium		188000	100						184200	2.20	20	
Selenium		ND	1.00						0	0	20	
Silver		ND	0.100						0	0	20	
Thallium		ND	0.100						0	0	20	RRF
Zinc		5.26	2.00						5.144	2.15	20	RRF

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

Specialty Analytical

WO#: 2108006

8/27/2021

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
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#: 2108006

8/27/2021

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	ESMC
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	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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
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: 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: 531177			
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531177						
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: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41337						
Client ID: ICV	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531232						
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: 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: 531245						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021	SeqNo: 532060							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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#: 2108006

8/27/2021

Specialty Analytical

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

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
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: 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: 532084							
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084				
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084							
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532085						
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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 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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

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: Villaboia 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

Specialty Analytical

WO#: 2108006

8/27/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108006

8/27/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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
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#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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 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: 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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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-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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,4-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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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-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									

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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108006

8/27/2021

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 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: 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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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-Dichloroethene	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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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	
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				
1,1,2,2-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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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
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				
1,1,2,2-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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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	
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251					

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
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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

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

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
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: 2108045-005EMS		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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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: MB-18299	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date: 8/3/2021			RunNo: 41635			
Client ID: PBW	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534683			
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18299	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date: 8/3/2021				RunNo: 41635		
Client ID: PBW	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021				SeqNo: 534683		
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: MB-18299		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41635		
Client ID: PBW		Batch ID: 18299		TestNo: E625.1		E625		Analysis Date: 8/18/2021		SeqNo: 534683		
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB-18299		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41635			
Client ID: PBW		Batch ID: 18299		TestNo: E625.1		E625		Analysis Date: 8/18/2021		SeqNo: 534683			
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: 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
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

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				
Benzidine	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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

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
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

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
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: 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
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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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
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	
Pvridine	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: 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
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

Specialty Analytical

WO#: 2108006

8/27/2021

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

Specialty Analytical

WO#: 2108006

8/27/2021

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: 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
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-008CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41348		
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B			Analysis Date: 8/5/2021			SeqNo: 531448			
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: 2107227-008CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: BatchQC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531449							
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: CCB-R41348	SampType: CCB	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: CCB	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531454							
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: 2108028-002CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: BatchQC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531460							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2108028-002CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348	
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531460	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108028-002CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348	
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531461	
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531465			
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531466			
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: MBLK-R41348	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: PBW	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531468							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41372		SampType: MBLK		TestCode: BOD_C		Units: mg/L		Prep Date:		RunNo: 41372	
Client ID: PBW		Batch ID: R41372		TestNo: SM5210B		Analysis Date: 8/3/2021		SeqNo: 531756			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
CBOD5	ND	2.00									

Sample ID: LCS-R41372	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41372						
Client ID: LCSW	Batch ID: R41372	TestNo: SM5210B	Analysis Date: 8/3/2021	SeqNo: 531757							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41370	SampType: MBLK	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41370
Client ID: PBW	Batch ID: R41370	TestNo: SM5210B	Analysis Date: 8/3/2021	SeqNo: 531742	
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: LCS-R41370	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41370
Client ID: LCSW	Batch ID: R41370	TestNo: SM5210B	Analysis Date: 8/3/2021	SeqNo: 531743	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41433		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433		
Client ID: ICV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532511				
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: MB-R41433		SampType: MBLK		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: PBW		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532512			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41433		SampType: LCS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: LCSW		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532513			
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: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: 080121LLEG	Batch ID: R41433	TestNo: D7284	Analysis Date: 8/12/2021	SeqNo: 532516							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: 080121LLEG	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532516						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108006-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: 080121LLEG		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532517			
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: CCV1-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532521			
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: 2108010-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532527			
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108010-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532528			
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: CCV3-R41433	SampType: CCV	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: CCV	Batch ID: R41433	TestNo: D7284	Analysis Date: 8/12/2021	SeqNo: 532540							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: LCS-R41458		SampType: LCS		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41458	
Client ID: LCSW		Batch ID: R41458		TestNo: M 3500 Cr B		Analysis Date: 8/16/2021		SeqNo: 532908			
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: 2107226-001EMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458			
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B				Analysis Date: 8/16/2021			SeqNo: 532911			
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: 2107226-001EMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532912							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: 2107207-001FMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532914	
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: 2107207-001FMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: BatchQC	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532915	
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: CCV1-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532917	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2107219-001FMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B			Analysis Date: 8/16/2021			SeqNo: 532922			
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: 2107219-001FMSD		SampType: MSD		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41458		
Client ID: BatchQC		Batch ID: R41458		TestNo: M 3500 Cr B		Analysis Date: 8/16/2021			SeqNo: 532923				
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: CCV2-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532928							
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: CCV3-R41458	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41458						
Client ID: CCV	Batch ID: R41458	TestNo: M 3500 Cr B	Analysis Date: 8/16/2021	SeqNo: 532937							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

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

Sample ID: MB-R41471	SampType: MBLK	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: PBW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533006						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: LCS-R41471	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: LCSW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533007						
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: 2108007-002AMS		SampType: MS		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41471			
Client ID: BatchQC		Batch ID: R41471		TestNo: M 3500 Cr B				Analysis Date: 8/17/2021		SeqNo: 533013			
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2108007-002AMSD		SampType: MSD		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41471		
Client ID: BatchQC		Batch ID: R41471		TestNo: M 3500 Cr B			Analysis Date: 8/17/2021			SeqNo: 533014			
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: CCV1-R41471		SampType: CCV		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41471		
Client ID: CCV		Batch ID: R41471		TestNo: M 3500 Cr B				Analysis Date: 8/17/2021		SeqNo: 533015		
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: 2108010-003AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533020							
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: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV3-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533034	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:			RunNo: 41338	
Client ID: ICV		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021			SeqNo: 531178	
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: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41338		
Client ID: CCV		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531179		
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: MB-18306	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: PBW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18306	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: LCSW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531181						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: LCS-18306	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: LCSW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531181						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: A2108018-002ADUP		SampType: DUP		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021			RunNo: 41338		
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021			SeqNo: 531183		
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: A2108018-002AMS		SampType: MS		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41338		
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531184		
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: A2108018-002AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41338		
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531185		
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41358		SampType: ICV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358			
Client ID: ICV		Batch ID: R41358		TestNo: SM4500-NH3				Analysis Date: 8/6/2021		SeqNo: 531614			
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: ICB-R41358		SampType: ICB		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358	
Client ID: ICB		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021		SeqNo: 531615			
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531617						
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531623	
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: 2108016-001CMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531628	
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: 2108016-001CMSD	SampType: MSD	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531629	
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531631							
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531633				
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: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531637						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531646							
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: ICV-R41488	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: ICV	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533223							
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: ICB-R41488	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: ICB	Batch ID: R41488	TestNo: SM4500-NH3		Analysis Date: 8/18/2021	SeqNo: 533224						
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: MB-R41488	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: PBW	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533226	
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: LCS-R41488	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: LCSW	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533227	
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: 2108030-001AMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: BatchQC	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533230	
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: 2108030-001AMSD	SampType: MSD	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: BatchQC	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533231	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: 2108030-001AMSD	SampType: MSD	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: BatchQC	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533231	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV2-R41488	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: CCV	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533241	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566							
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: 2107216-004BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531571		
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: 2107216-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021		SeqNo: 531572				
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCBV1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531575	
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: CCB1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531576	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: 2108006-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: 080221LLEC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531583	
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: 080221LLEC		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531584		
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: CCV2-R41356		SampType: CCV		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356			
Client ID: CCV		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531587			
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: CCB2-R41356		SampType: CCB		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41356	
Client ID: CCB		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021			SeqNo: 531588			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Phosphorus, Total	ND	0.0200										

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCB3-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531595	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41359	SampType: MBLK	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: PBW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531647							
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: LCS-R41359	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: LCSW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531648							
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: 2108006-001DDUP	SampType: DUP	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: 080121LLIG	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531650							
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: 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
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: 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: 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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: ICV		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532252			
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532254							
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: 2108006-004BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: 080221LLEC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532256			
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: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: 080221LLEC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: 080221LLEC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532261	
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: LCS-R41414	SampType: LCS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: LCSW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532262	
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: 2107216-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532266	
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532267			
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: CCV3-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532272							
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: CCV4-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532283							
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

Specialty Analytical

WO#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

Sample ID: MB-R41375		SampType: MBLK		TestCode: TS_1684_W		Units: mg/L		Prep Date:		RunNo: 41375	
Client ID: PBW		Batch ID: R41375		TestNo: E1684		Analysis Date: 8/6/2021		SeqNo: 531786			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: LCS-R41375	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41375						
Client ID: LCSW	Batch ID: R41375	TestNo: E1684	Analysis Date: 8/6/2021	SeqNo: 531787							
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: 2108006-001FDUP		SampType: DUP		TestCode: TS_1684_W		Units: mg/L		Prep Date:		RunNo: 41375	
Client ID: 080121LLIG		Batch ID: R41375		TestNo: E1684		Analysis Date: 8/6/2021		SeqNo: 531789			
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
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#: 2108006

8/27/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41341	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41341
Client ID: PBW	Batch ID: R41341	TestNo: M2540 D	Analysis Date: 8/4/2021	SeqNo: 531221	
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: LCS-R41341	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41341
Client ID: LCSW	Batch ID: R41341	TestNo: M2540 D	Analysis Date: 8/4/2021	SeqNo: 531222	
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: 2108006-002DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41341
Client ID: 080221LLIC	Batch ID: R41341	TestNo: M2540 D	Analysis Date: 8/4/2021	SeqNo: 531224	
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
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 ☒	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 1.8°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



Specialty Analytical
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Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: 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: _____



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Julie Clay
9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



Date: 08/24/2021

CLIENT: Specialty Analytical
Project: 2108006
Work Order: 2108026

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
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	villaboix 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

Original

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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	villaboies 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
2108026-001A, 080221LLIC										
2108110-01	Hg	Wastewater	TR	29.9		0.68	2.11	ng/L	B212210	S210907
2108026-002A, 080221LLEC										
2108110-02	Hg	Wastewater	TR	0.69		0.14	0.42	ng/L	B212210	S210922
2108026-003A, parkway C										
2108110-03	Hg	Wastewater	TR	40.5		0.68	2.11	ng/L	B212210	S210907
2108026-004A, villaboix C										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108110-01		Report Matrix: Wastewater		Collected: 08/02/2021	
Sample: 2108026-001A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108110
Lab ID: 2108110-02		Report Matrix: Wastewater		Collected: 08/02/2021	
Sample: 2108026-002A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108110
Lab ID: 2108110-03		Report Matrix: Wastewater		Collected: 08/02/2021	
Sample: 2108026-003A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108110
Lab ID: 2108110-04		Report Matrix: Wastewater		Collected: 08/02/2021	
Sample: 2108026-004A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					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: Brooks Applied Labs COMPANY: Brooks Applied Labs					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: 18804 North Creek Parkway, Ste 100							
CITY, STATE, ZIP: Bothell, WA 98011							
PHONE: FAX: EMAIL:							
ACCOUNT #:							
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTILE 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	villaboies C	AMBER GLASS 5	Wastewater	8/2/2021 10:00:00 AM	1	

Relinquished By: <i>bbarnes</i>	Date: <i>8/9/21</i>	Time: <i>1100</i>	Received By: <i>Villaboies</i>	Date: <i>8/9/21</i>	Time: <i>1357</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool ? _____ Comments: _____	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:		
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐ Note: RUSH requests will incur surcharges!							

Page 4 of 14

Sample Log-In Check List

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:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

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 Janssen 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

Laboratory Project No (internal): 2108006

Project No: 2108006

Temperature on Receipt: °C

Cooling: Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

Collected by:

State Collected: OR WA OTHER

MDL TIER IV EDD

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 60 days)

City, State, Zip:

Report To (PM):

AP Email: mandy@specialtyanalytical.com

PM Email: Julie@specialtyanalytical.com

Telephone:

Requested Tests

Low level Mercury

Comments

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 080221 LLETC	8-2-21	0900	WW	1		
2 080221 LLETC	8-2-21	0930	WW	1		
3 Parkway C	8-2-21	9:15	WW	1		
4 Villabois 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): X 3 Day: 2 Day: Next Day: Same Day: Expedited turn-around requests should be coordinated in advance

Relinquished x Date/Time 8-2-21 1109 Received x Date/Time 8/3/21 1014

Relinquished x Date/Time Received x Date/Time

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

Client: <u>W. Scaunille</u>		Date: <u>8-2-21</u>	Page: <u>1</u> of <u>1</u>
Address: _____		Project Name: <u>2108006</u>	Laboratory Project No (internal): <u>2108006</u>
City, State, Zip: <u>W. Scaunille OR 97042</u>		Project No: _____	Temperature on Receipt: <u>1.8 °C</u>
Telephone: <u>503-701-9671</u>		PO No: _____	Cooling: <u>ice</u> Shipped Via: <u>SA</u>
AP Email: _____		State Collected: ☒ OR ☐ WA ☐ OTHER	Custody Seal: ☒ Intact / ☐ Broken Cooler / Bottle
PM Email: _____		Report To (PM): _____	MDL ☐ TIER IV ☐ EDD ☐
		Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 90 days)	

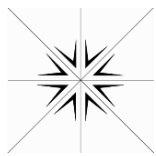
Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
G- grab C - Composite I - Influent E - Effluent						
080121LLIG	8-1-21	0900	WW		SM 3500 CrB Hex Chrom SM 4500 CN SM 4500 NH ₃ AP EPA 351.1 TRN EPA 1684 TS EPA 310.2 AIK EPA 625 SM 4500 S2O Sulfides SM 5210 B BOD CBOD SM 25400 TSS EPA 624 VOC VOAS	* 48 hr TAT 624 625
08021LLIC	8-2-21	0900	WW	1		
080121LLEG	8-1-21	0930	WW			
080221LLEC	8-2-22	0930	WW	1		* 48 hr TAT 624 625
Parkway G	8-1-21	9:00	WW			
Villabous G	8-1-21	10:00	WW			
Parkway C	8-2-21	9:15	WW	1		
Villabous C	8-2-21	10:00	WW	1		

* Matrix: A = Air, AQ = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, G = 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
x Kelli McClelland	8-2-21 11:10	x [Signature]	8-2-21 12:35
Relinquished	Date/Time	Received	Date/Time
1	8-9-21	11:04	8/11/21 1320



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

Definition Only

WO#: 2108006
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.

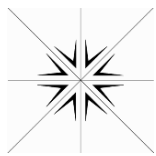
G: Result may be biased high due to biogenic interferences. Clean up is recommended.

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



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

Definition Only

WO#: 2108006
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

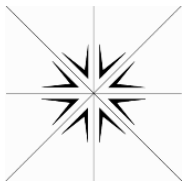
RF: Duplicate failed due to result being at or near the method-reporting limit.

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

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

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read "M. French", written in a cursive style.

Marty French
Lab Director

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:31:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00664	0.00500		mg/L	1	8/12/2021 3:37:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	114	1.00		mg/L	1	8/6/2021 12:31:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/2/2021 9:30:00 AM

Project:

Lab ID: 2108007-002

Matrix: WASTEWATER

Client Sample ID 080221LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/2/2021 9:30:00 AM

Project:

Lab ID: 2108007-002

Matrix: WASTEWATER

Client Sample ID 080221LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

Collection Date: 8/2/2021 9:30:00 AM

Project:

Lab ID: 2108007-002

Matrix: WASTEWATER

Client Sample ID 080221LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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

Collection Date: 8/2/2021 9:30:00 AM

Project:

Lab ID: 2108007-002

Matrix: WASTEWATER

Client Sample ID 080221LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:32:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 3:47:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 12:36:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/2/2021 9:15:00 AM

Project:

Lab ID: 2108007-003

Matrix: WASTEWATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/2/2021 9:15:00 AM

Project:

Lab ID: 2108007-003

Matrix: WASTEWATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

Collection Date: 8/2/2021 9:15:00 AM

Project:

Lab ID: 2108007-003

Matrix: WASTEWATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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

Collection Date: 8/2/2021 9:15:00 AM

Project:

Lab ID: 2108007-003

Matrix: WASTEWATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:36:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00570	0.00500		mg/L	1	8/12/2021 3:52:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 12:41:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/2/2021 10:00:00 AM

Project:

Lab ID: 2108007-004

Matrix: WASTEWATER

Client Sample ID Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/2/2021 10:00:00 AM

Project:

Lab ID: 2108007-004

Matrix: WASTEWATER

Client Sample ID Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

Collection Date: 8/2/2021 10:00:00 AM

Project:

Lab ID: 2108007-004

Matrix: WASTEWATER

Client Sample ID Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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 Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	9.46	5.00		µg/L	1	8/17/2021 12:37:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00644	0.00500		mg/L	1	8/12/2021 3:57:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 12:46:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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: 8/9/2021	SeqNo: 532060						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/9/2021	SeqNo: 532061						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

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
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: 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: 532084						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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: 532084						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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: 532084							
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532085						
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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108007

8/27/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108007

8/27/2021

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: Villaboiss 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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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	
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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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
1,4-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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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-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									

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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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
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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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-Dichloroethene	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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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
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				
1,1,2,2-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

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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				
1,1,2,2-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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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
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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

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
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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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	

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

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 625X_W

Sample ID: CCV1 20 PPM	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41635			
Client ID: CCV	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534682			
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: MB-18299	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date: 8/3/2021			RunNo: 41635			
Client ID: PBW	Batch ID: 18299	TestNo: E625.1		E625	Analysis Date: 8/18/2021			SeqNo: 534683			
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: MB-18299	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: PBW	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534683						
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: MB-18299	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41635						
Client ID: PBW	Batch ID: 18299	TestNo: E625.1	E625	Analysis Date: 8/18/2021	SeqNo: 534683						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: 625X_W

Sample ID: MB-18299		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date: 8/3/2021		RunNo: 41635			
Client ID: PBW		Batch ID: 18299		TestNo: E625.1		E625		Analysis Date: 8/18/2021		SeqNo: 534683			
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: 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
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

Specialty Analytical

WO#: 2108007

8/27/2021

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				
Benzidine	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

Specialty Analytical

WO#: 2108007

8/27/2021

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
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

Specialty Analytical

WO#: 2108007

8/27/2021

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
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: 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
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

Specialty Analytical

WO#: 2108007

8/27/2021

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	
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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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				
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: H Holding times for preparation or analysis exceeded

S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CN_W

Sample ID: ICV-R41433		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433		
Client ID: ICV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532511		
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: MB-R41433	SampType: MBLK	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: PBW	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532512						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41433	SampType: LCS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: LCSW	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532513						
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: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: BatchQC	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532516						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CN_W

Sample ID: 2108006-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532516			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Sample ID: 2108006-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532517			
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: CCV1-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532521			
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: 2108010-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532527			
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CN_W

Sample ID: 2108010-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532528			
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: CCV3-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532540			
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CR6-CWA

Sample ID: MB-R41471	SampType: MBLK	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: PBW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533006						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: LCS-R41471	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: LCSW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533007						
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: 2108007-002AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: 080221LLEG	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533013						
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: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: 080221LLEG	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533014						
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CR6-CWA

Sample ID: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: 080221LLEG	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533015	
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: 2108010-003AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533020	
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: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021	
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: CR6-CWA

Sample ID: CCV3-R41471		SampType: CCV		TestCode: CR6-CWA		Units: µg/L		Prep Date:			RunNo: 41471	
Client ID: CCV		Batch ID: R41471		TestNo: M 3500 Cr B				Analysis Date: 8/17/2021			SeqNo: 533034	
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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: SULFIDE_W

Sample ID: MB-R41359		SampType: MBLK		TestCode: SULFIDE_W		Units: mg/L		Prep Date:		RunNo: 41359	
Client ID: PBW		Batch ID: R41359		TestNo: SM4500-S2 F		Analysis Date: 8/6/2021		SeqNo: 531647			
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: LCS-R41359	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: LCSW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531648							
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: 2108006-001DDUP		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: 531650			
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: 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
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

Specialty Analytical

WO#: 2108007
8/27/2021

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

Specialty Analytical

WO#: 2108007

8/27/2021

Client: City of Wilsonville

Project:

TestCode: TS_1684_W

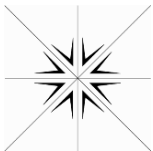
Sample ID: MB-R41375		SampType: MBLK		TestCode: TS_1684_W		Units: mg/L		Prep Date:		RunNo: 41375	
Client ID: PBW		Batch ID: R41375		TestNo: E1684		Analysis Date: 8/6/2021		SeqNo: 531786			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Solids	ND	5.00									

Sample ID: LCS-R41375	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41375						
Client ID: LCSW	Batch ID: R41375	TestNo: E1684	Analysis Date: 8/6/2021	SeqNo: 531787							
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: 2108006-001FDUP		SampType: DUP		TestCode: TS_1684_W		Units: mg/L		Prep Date:		RunNo: 41375	
Client ID: BatchQC		Batch ID: R41375		TestNo: E1684		Analysis Date: 8/6/2021		SeqNo: 531789			
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 ☒	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 1.3 °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

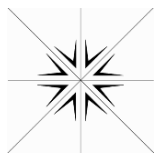
Any No and/or NA (not applicable) response must be detailed in the comments section be



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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: _____



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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.

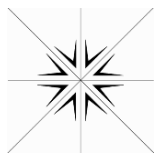
G: Result may be biased high due to biogenic interferences. Clean up is recommended.

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



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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

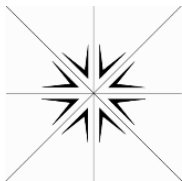
RF: Duplicate failed due to result being at or near the method-reporting limit.

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

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

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read "M. French", written in a cursive style.

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
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
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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:38:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00674	0.00500		mg/L	1	8/12/2021 4:02:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	2.88	1.00		mg/L	1	8/6/2021 12:51:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	631	5.00		mg/L	1	8/9/2021 4:37:32 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: 2108010-002

Client Sample ID 080321LLIC

Collection Date: 8/3/2021 9:00:00 AM

Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	59.7	0.200		mg/L	1	8/5/2021 10:52:58 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	243	2.00		mg/L	1	8/4/2021 11:28:00 AM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	179.6	2.0		mg/L	1	8/4/2021 11:46:00 AM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	198	10.0		mg/L CaCO3	1	8/5/2021 1:50:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	72.4	0.800		mg/L	40	8/6/2021 2:30:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.76	0.200		mg/L	10	8/6/2021 3:54:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	56.8	1.00		mg/L	5	8/11/2021 5:18:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:39:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:07:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 12:56:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	261	5.00		mg/L	1	8/9/2021 4:39:32 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

Collection Date: 8/3/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108010-004

Matrix: WASTEWATER

Client Sample ID 080321LLEC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	53.7	0.200		mg/L	1	8/5/2021 10:56:23 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	ND	2.00		mg/L	1	8/4/2021 11:28:00 AM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	2.5	2.0		mg/L	1	8/4/2021 11:46:00 AM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/5/2021 2:00:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	36.0	0.400		mg/L	20	8/6/2021 12:50:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	0.316	0.0200		mg/L	1	8/10/2021 10:42:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	1.52	0.200		mg/L	1	8/11/2021 3:38:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	51.7	0.200		mg/L	1	8/5/2021 10:59:48 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	213	2.00		mg/L	1	8/4/2021 11:28:00 AM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	390.2	2.0		mg/L	1	8/4/2021 11:46:00 AM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	207	10.0		mg/L CaCO3	1	8/5/2021 2:10:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	44.4	0.800		mg/L	40	8/6/2021 2:15:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	7.90	0.200		mg/L	10	8/6/2021 3:55:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	69.4	1.00		mg/L	5	8/11/2021 5:23:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
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

Collection Date: 8/3/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108010-006

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:42:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.0109	0.00500		mg/L	1	8/12/2021 4:22:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:01:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	992	5.00		mg/L	1	8/9/2021 4:40:32 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: 2108010-007

Client Sample ID Villaboiss C

Collection Date: 8/3/2021 10:00:00 AM

Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	70.5	0.200		mg/L	1	8/5/2021 11:03:13 AM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	124	2.00		mg/L	1	8/4/2021 11:28:00 AM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	314.6	2.0		mg/L	1	8/4/2021 11:46:00 AM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	205	10.0		mg/L CaCO3	1	8/5/2021 2:20:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	38.3	0.400		mg/L	20	8/6/2021 12:55:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.55	0.200		mg/L	10	8/6/2021 3:56:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	48.3	0.800		mg/L	4	8/11/2021 5:28:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
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

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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:43:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00650	0.00500		mg/L	1	8/12/2021 4:27:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.44	1.00		mg/L	1	8/6/2021 1:06:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	369	5.00		mg/L	1	8/9/2021 4:41:32 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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41337			
Client ID: ICV	Batch ID: 18304	TestNo: E200.8		E200.8	Analysis Date: 8/5/2021			SeqNo: 531142			
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: CCB	SampType: CCB	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41337						
Client ID: CCB	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531143						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: CCB	SampType: CCB	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 41337		
Client ID: CCB	Batch ID: 18304	TestNo: E200.8		E200.8	Analysis Date: 8/5/2021				SeqNo: 531143		
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: 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: 531148						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531148			
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: MB-18304	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: PBW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531150						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18304	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: PBW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531150						
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: LCS-18304	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: LCSW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531151						
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18304	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/3/2021	RunNo: 41337						
Client ID: LCSW	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531151						
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: 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
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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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	ESMC
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	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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
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: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41337						
Client ID: ICV	Batch ID: 18304	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531232						
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: 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: 531240						
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021	SeqNo: 532060							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

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: 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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

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
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: 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: 532084							
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084				
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084							
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532085						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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: 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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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: 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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
1,4-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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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-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									

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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108010

9/1/2021

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: Villaboies 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
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#: 2108010

9/1/2021

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: Villaboies 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
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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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-Dichloroethene	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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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				
1,1,2,2-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: 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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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				
1,1,2,2-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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

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
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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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

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
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
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#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: PBW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534977						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: PBW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534977						
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#: 2108010

9/1/2021

Specialty Analytical

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41660		
Client ID: PBW	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021				SeqNo: 534977		
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date:		RunNo: 41660			
Client ID: PBW		Batch ID: 18308		TestNo: E625.1		E625		Analysis Date: 8/25/2021		SeqNo: 534977			
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: 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
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
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: 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				
Benzidine	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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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: 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
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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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
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#: 2108010

9/1/2021

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: 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

Specialty Analytical

WO#: 2108010

9/1/2021

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	R
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	
Benzdine	10.2	0.500	40.00	0	25.4	0.1	140	8.060	23.0	20	
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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-008CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348	
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B		Analysis Date: 8/5/2021		SeqNo: 531448			
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: 2107227-008CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B		Analysis Date: 8/5/2021		SeqNo: 531449					
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: CCB-R41348	SampType: CCB	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: CCB	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531454							
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: 2108028-002CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: BatchQC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531460							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2108028-002CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: BatchQC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531460							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108028-002CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348	
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531461	
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: CCV-R41348	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: CCV	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531465							
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41348		
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B		Analysis Date: 8/5/2021			SeqNo: 531466				
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: MBLK-R41348	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: PBW	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531468							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41374	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41374
Client ID: PBW	Batch ID: R41374	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531776	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41374	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41374
Client ID: LCSW	Batch ID: R41374	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531777	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41373	SampType: MBLK	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41373
Client ID: PBW	Batch ID: R41373	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531770	
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: LCS-R41373	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41373
Client ID: LCSW	Batch ID: R41373	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531771	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41433		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433	
Client ID: ICV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532511			
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: MB-R41433	SampType: MBLK	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: PBW	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532512						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41433		SampType: LCS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433		
Client ID: LCSW		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532513				
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: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: BatchQC	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532516						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108006-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532516			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Sample ID: 2108006-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532517			
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: CCV1-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532521			
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: 2108010-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: 080321LLEG		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532527			
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108010-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: 080321LLEG		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532528			
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: CCV3-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532540			
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: MB-R41471	SampType: MBLK	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: PBW	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533006	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium, Hexavalent	ND	5.00			

Sample ID: LCS-R41471	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: LCSW	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533007	
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: 2108007-002AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533013	
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: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533015	
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: 2108010-003AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: 080321LLEG	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533020	
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: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: 080321LLEG	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021	
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: CCV3-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533034							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41338		
Client ID: ICV		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531178		
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: CCV	SampType: CCV	TestCode: HARDCALC	Units: mg/L	Prep Date:	RunNo: 41338						
Client ID: CCV	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531179						
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: MB-18306	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: PBW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18306	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: LCSW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531181						
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: LCS-18306	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/3/2021	RunNo: 41338						
Client ID: LCSW	Batch ID: 18306	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531181						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: A2108018-002ADUP		SampType: DUP		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021			RunNo: 41338		
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021			SeqNo: 531183		
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: A2108018-002AMS		SampType: MS		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41338	
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531184	
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: A2108018-002AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/3/2021		RunNo: 41338		
Client ID: BatchQC		Batch ID: 18306		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531185		
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41358	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531614	
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: ICB-R41358	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICB	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531615	
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531617	
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV1-R41358		SampType: CCV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358	
Client ID: CCV		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531623			
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: 2108016-001CMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531628						
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: 2108016-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531629				
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531631							
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531633				
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: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV4-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531644	
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: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531646	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566							
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: 2107216-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531571							
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: 2107216-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572							
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

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

Sample ID: 2108006-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531583	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356	
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021		SeqNo: 531584			
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: CCV2-R41356		SampType: CCV		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41356		
Client ID: CCV		Batch ID: R41356		TestNo: E365.3		Analysis Date: 8/6/2021			SeqNo: 531587				
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: CCB2-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531588							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

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

Phosphorus, Total ND 0.0200

Sample ID: MB-R41391	SampType: MBLK	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: PBW	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531965	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Phosphorus, Total ND 0.0200

Sample ID: LCS-R41391	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: LCSW	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531966	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108045-007BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531974		
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: 2108045-007BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531975							
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: 2108055-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531981							
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: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531982							
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531982	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV-2	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531985	
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: CCB-R41391	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: CCB	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531986	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: CCV-1	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 532023	
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41359		SampType: MBLK		TestCode: SULFIDE_W		Units: mg/L		Prep Date:		RunNo: 41359	
Client ID: PBW		Batch ID: R41359		TestNo: SM4500-S2 F		Analysis Date: 8/6/2021		SeqNo: 531647			
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: LCS-R41359	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359						
Client ID: LCSW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531648							
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: 2108006-001DDUP		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: 531650			
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: 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
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#: 2108010
9/1/2021

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: 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: E Value above quantitation range 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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: ICV		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021			SeqNo: 532252				
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532254							
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: 2108006-004BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532256			
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: 2108006-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532257							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

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

Sample ID: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532261	
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: LCS-R41414	SampType: LCS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: LCSW	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532262	
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: 2107216-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414
Client ID: BatchQC	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532266	
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414	
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021		SeqNo: 532267			
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: CCV3-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532272							
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: CCV4-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532283							
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

Specialty Analytical

WO#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

Sample ID: MB-R41409		SampType: MBLK		TestCode: TS_1684_W		Units: mg/L		Prep Date:			RunNo: 41409				
Client ID: PBW		Batch ID: R41409		TestNo: E1684		Analysis Date: 8/9/2021			SeqNo: 532190						
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Total Solids		ND		5.00											

Sample ID: LCS-R41409	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41409						
Client ID: LCSW	Batch ID: R41409	TestNo: E1684	Analysis Date: 8/9/2021	SeqNo: 532191							
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: 2108010-001FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41409						
Client ID: 080321LLIG	Batch ID: R41409	TestNo: E1684	Analysis Date: 8/9/2021	SeqNo: 532193							
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
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#: 2108010

9/1/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41341		SampType: MBLK		TestCode: TSS_WW		Units: mg/L		Prep Date:			RunNo: 41341		
Client ID: PBW		Batch ID: R41341		TestNo: M2540 D		Analysis Date: 8/4/2021			SeqNo: 531221				
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: LCS-R41341	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41341						
Client ID: LCSW	Batch ID: R41341	TestNo: M2540 D		Analysis Date: 8/4/2021	SeqNo: 531222						
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: 2108006-002DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:				RunNo: 41341			
Client ID: BatchQC	Batch ID: R41341	TestNo: M2540 D		Analysis Date: 8/4/2021				SeqNo: 531224			
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
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 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 ☒	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 1.8°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



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



Fremont
Analytical

3600 Fremont Ave. N.

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

Specialty Analytical

Julie Clay

9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



Date: 08/31/2021

CLIENT: Specialty Analytical
Project: 2108010
Work Order: 2108098

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
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

Original

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.

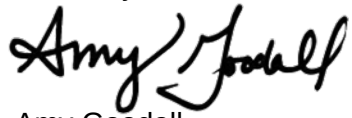
The results were method blank corrected, as described in the calculations section of the relevant BAL SOP(s), and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

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 fluid and cursive, with the first name "Amy" and last name "Goodall" clearly distinguishable.

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2108098-001A, 080321LLIC										
2108104-01	Hg	Wastewater	TR	30.5		0.68	2.11	ng/L	B212210	S210907
2108098-002A, 080321LLEC										
2108104-02	Hg	Wastewater	TR	0.50		0.14	0.42	ng/L	B212210	S210942
2108098-003A, Parkway C										
2108104-03	Hg	Wastewater	TR	27.5		0.68	2.11	ng/L	B212210	S210922
2108098-004A, Villaboies C										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108104-01 Sample: 2108098-001A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/03/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108104
Lab ID: 2108104-02 Sample: 2108098-002A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/03/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108104
Lab ID: 2108104-03 Sample: 2108098-003A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/03/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108104
Lab ID: 2108104-04 Sample: 2108098-004A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/03/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
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: Brooks Applied Labs COMPANY: Brooks Applied Labs					SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: 18804 North Creek Parkway, Ste 100					Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com. 5 Day TAT preferred. Samples preserved w/Brc1		
CITY, STATE, ZIP: Bothell, WA 98011							
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	Villaboic C	AMBER GLASS 5	Wastewater	8/3/2021 10:00:00 AM	1	

Relinquished By: bbarnes	Date: 8/9/21	Time: 1100	Received By: [Signature]	Date: 8/9/21	Time: 1357	REPORT TRANSMITTAL DESIRED:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples _____ °C Attempt to Cool ? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	

Page 4 of 15

Sample Log-In Check List

Client Name: **SPECIAL**
 Logged by: **Brianna Barnes**

Work Order Number: **2108098**
 Date Received: **8/6/2021 9:53:00 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:	<u>Julie Clav</u>	Date:	<u>8/6/2021</u>
By Whom:	<u>Brianna Barnes</u>	Via:	☒ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	<u>OK to subcontract due to instrument issues?</u>		
Client Instructions:	<u>Subcontract to Brooks Applied Labs.</u>		

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: ~~208010~~

208010

Project No:

PO No:

Collected by:

State Collected: OR WA OTHER

City, State, Zip:

Report To (PM):

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 60 days)

Laboratory Project No (Internal): 2208098

Temperature on Receipt: °C

Cooling: Shipped Via: UPS

Custody Seal: Y / N Intact / Broken Cooler / Bottle

MDL TIER IV EDD

Telephone: 503-701-9671

AP Email: Wanda@SpecialtyAnalytical.com Email: Julie@SpecialtyAnalytical.com

Sample Name	Sample Date	Sample Time	Sample Matrix*
1 O80321LLIC	8-3-21	09:00	WW
2 O80321LLIC	8-3-21	09:30	WW
3 PARKWAY C	8-3-21	09:00	WW
4 VILLABOIS C	8-3-21	10:00	WW
5			
6			
7			
8			
9			
10			

of Containers

Requested Tests
Low/Lead/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

Date/Time: 8-3-21 1000

Received

Signature: [Signature]

Date/Time

Received

Signature: [Signature]

Date/Time

Relinquished

Date/Time

Relinquished

Date/Time

Received

Signature: [Signature]

Date/Time



Specialty Analytical

9011 SE Janssen Rd
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Chain of Custody Record

Client: WJSM
Address:
City, State, Zip:
Telephone: 503-701-9671
AP Email:

Date: 8-3-21 Page: 1 of 1
Project Name: 2108010
Project No: PO No:
Collected by:
State Collected: ☒ OR ☐ WA ☐ OTHER
Report To (PM):

Laboratory Project No (internal): 2108010
Temperature on Receipt: 18 °C
Cooling: ice Shipped Via: SL
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 NH3+P 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	Comments
1 G - grab C - Composite I - influent E - Effluent	080321 LLEI G	8-3-21	0900	WU			1	1			2	1			5	
2 080321 LLEI C	8-3-21	0900	WU	1				1								
3 080321 LLEI G	8-3-21	0930	WU			1	1				2	1			5	
4 080321 LLEI C	8-3-21	0930	WU					1								
5 Parkway C	8-3-21	9:00	WU	1				1								
6 Parkway G	8-3-21	9:00	WU			1	1				2	1			5	
7 Villabais C	8-3-21	10Am	WU	1				1								
8 Villabais G	8-3-21	10:00	WU			1	1				2	1			5	
9																
10																

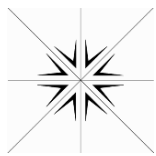
* Matrix: A = Air, AO = Aqueous, L = Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

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: WJSM Date/Time: 8-3-21 10:14 Received: WJSM Date/Time: 8-3-21 1405

Relinquished: WJSM Date/Time: 8-3-21 1445 Received: WJSM Date/Time: 8-3-21 1445



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

Definition Only

WO#: 2108010
Date: 9/1/2021

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 Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: 2108010
Date: 9/1/2021

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

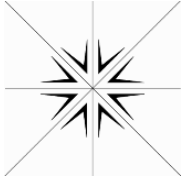
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read 'M. French', written in a cursive style.

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
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-001

Matrix: WASTE WATER

Client Sample ID 080421LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-001

Matrix: WASTE WATER

Client Sample ID 080421LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:44:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00715	0.00500		mg/L	1	8/12/2021 4:32:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:11:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-002

Matrix: WASTEWATER

Client Sample ID 080421LLIC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	54.8	0.200		mg/L	1	8/5/2021 3:55:47 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	677	2.00		mg/L	1	8/4/2021 5:21:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	247.0	2.0		mg/L	1	8/5/2021 12:18:23 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	196	10.0		mg/L CaCO3	1	8/5/2021 2:30:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	36.6	0.400		mg/L	20	8/6/2021 1:35:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	4.84	0.200		mg/L	10	8/6/2021 3:57:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	49.9	0.800		mg/L	4	8/11/2021 5:33:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Collection Date: 8/4/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108028-003

Matrix: WASTE WATER

Client Sample ID 080421LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/4/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108028-003

Matrix: WASTE WATER

Client Sample ID 080421LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/4/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108028-003

Matrix: WASTE WATER

Client Sample ID 080421LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:45:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:42:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:16:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/4/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108028-004

Matrix: WASTEWATER

Client Sample ID 080421LLEC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	53.6	0.200		mg/L	1	8/5/2021 4:23:40 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	16.5	2.00		mg/L	1	8/4/2021 5:21:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	2.1	2.0		mg/L	1	8/5/2021 12:18:23 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	62.0	10.0		mg/L CaCO3	1	8/5/2021 3:00:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	0.942	0.0200		mg/L	1	8/6/2021 1:55:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	0.422	0.0200		mg/L	1	8/10/2021 10:43:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	2.19	0.200		mg/L	1	8/11/2021 3:48:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-005

Matrix: WASTE WATER

Client Sample ID Parkway G

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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:47:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.0121	0.00500		mg/L	1	8/12/2021 4:47:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.60	1.00		mg/L	1	8/6/2021 1:26:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/4/2021 10:00:00 AM

Project: Wilsonville

Lab ID: 2108028-006

Matrix: WASTE WATER

Client Sample ID Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/4/2021 10:00:00 AM

Project: Wilsonville

Lab ID: 2108028-006

Matrix: WASTE WATER

Client Sample ID Villaboiss G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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 Villaboiss G

Collection Date: 8/4/2021 10:00:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	6.78	5.00		µg/L	1	8/17/2021 12:48:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 4:52:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	1.28	1.00		mg/L	1	8/6/2021 1:31:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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

Collection Date: 8/4/2021 9:00:00 AM

Project: Wilsonville

Lab ID: 2108028-007

Matrix: WASTEWATER

Client Sample ID Parkway C

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	67.4	0.200		mg/L	1	8/5/2021 4:27:05 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	759	2.00		mg/L	1	8/4/2021 5:21:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	388.1	2.0		mg/L	1	8/5/2021 12:18:23 PM
ALKALINITY						
				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	286	10.0		mg/L CaCO3	1	8/5/2021 3:10:25 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	45.4	0.800		mg/L	40	8/6/2021 2:20:21 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: NK
Phosphorus, Total	6.82	0.200		mg/L	10	8/6/2021 3:58:43 PM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	67.9	1.00		mg/L	5	8/11/2021 5:38:57 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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 Villaboiss C

Collection Date: 8/4/2021 10:00:00 AM

Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	69.5	0.200		mg/L	1	8/5/2021 4:30:30 PM
CARBONACEOUS BOD				SM5210B		Analyst: JW
CBOD5	<2	2.00		mg/L	1	8/4/2021 5:21:00 PM
BIOLOGICAL OXYGEN DEMAND- 5				SM5210B		Analyst: NK
BOD, 5 Day	299.2	2.0		mg/L	1	8/5/2021 12:18:23 PM
ALKALINITY				M2320 B		Analyst: JRH
Alkalinity, Total (As CaCO3)	201	10.0		mg/L CaCO3	1	8/5/2021 3:20:25 PM
AMMONIA AS NITROGEN				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	37.0	0.400		mg/L	20	8/6/2021 1:40:21 PM
PHOSPHOROUS, ALL FORMS				E365.3		Analyst: JRH
Phosphorus, Total	4.94	0.200		mg/L	10	8/10/2021 10:44:00 AM
KJELDAHL NITROGEN, TOTAL				SM 4500-NORG C		Analyst: NK
TKN as N	58.4	10.0		mg/L	50	8/19/2021 4:36:49 PM
TOTAL SUSPENDED SOLIDS				M2540 D		Analyst: JRH
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41342			
Client ID: ICV	Batch ID: 18311	TestNo: E200.8		E200.8	Analysis Date: 8/5/2021			SeqNo: 531254			
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: 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: 531259						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531259			
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: MB-18311	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: PBW	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531260						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18311	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: PBW	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531260						
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: LCS-18311	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: LCSW	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531261						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18311	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: LCSW	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/5/2021	SeqNo: 531261						
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: 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
Aluminum	266	10.0						268.9	0.975	20	RRF
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	
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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
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: 2108028-002AMSD	SampType: MSD	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: 531266						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: 2108028-002AMSD		SampType: MSD		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: 531266		
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: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 41342						
Client ID: ICV	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/6/2021	SeqNo: 531541						
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: MB-18311	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/5/2021	RunNo: 41342						
Client ID: PBW	Batch ID: 18311	TestNo: E200.8	E200.8	Analysis Date: 8/6/2021	SeqNo: 531545						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 8/6/2021	SeqNo: 531546						
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: 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: 8/6/2021	SeqNo: 531547						
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: 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: 8/6/2021	SeqNo: 531548						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/9/2021	SeqNo: 532061						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

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: 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: 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
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: 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: 532084							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084				
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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: 532084				
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532085						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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:

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: 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

Specialty Analytical

WO#: 2108028

8/30/2021

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
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: 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: 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

Specialty Analytical

WO#: 2108028

8/30/2021

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-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

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: 624_W

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
1,4-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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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-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									

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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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
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: 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
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-Dichloroethene	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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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
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: 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
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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
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: Villaboies 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
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				
1,1,2,2-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

Specialty Analytical

WO#: 2108028

8/30/2021

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: Villaboys 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

Specialty Analytical

WO#: 2108028

8/30/2021

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: Villaboies 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
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: 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: 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

Specialty Analytical

WO#: 2108028

8/30/2021

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
Vinyl chloride	43.9	0.500	40.00	0	110	0.01	251				

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
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

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
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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	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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41660			
Client ID: CCV	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534976			
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: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: PBW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534977						
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

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QC SUMMARY REPORT

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41660						
Client ID: PBW	Batch ID: 18308	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534977						
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

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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: MB	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41660		
Client ID: PBW	Batch ID: 18308	TestNo: E625.1		E625	Analysis Date: 8/25/2021				SeqNo: 534977		
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

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S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 625X_W

Sample ID: MB		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date:		RunNo: 41660			
Client ID: PBW		Batch ID: 18308		TestNo: E625.1		E625		Analysis Date: 8/25/2021		SeqNo: 534977			
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: 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
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

Specialty Analytical

WO#: 2108028

8/30/2021

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				
Benzidine	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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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
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: 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
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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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	
Benzdine	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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2107227-008CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41348		
Client ID: BatchQC		Batch ID: R41348		TestNo: M2320 B			Analysis Date: 8/5/2021			SeqNo: 531448			
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: 2107227-008CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: BatchQC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531449							
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: CCB-R41348	SampType: CCB	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: CCB	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531454							
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: 2108028-002CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: 080421LLIC	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531460							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2108028-002CMS	SampType: MS	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: 080421LLIC	Batch ID: R41348	TestNo: M2320 B		Analysis Date: 8/5/2021	SeqNo: 531460						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108028-002CMSD		SampType: MSD		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: 080421LLIC		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531461			
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41348			
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B				Analysis Date: 8/5/2021		SeqNo: 531465			
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: CCV-R41348		SampType: CCV		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41348		
Client ID: CCV		Batch ID: R41348		TestNo: M2320 B		Analysis Date: 8/5/2021			SeqNo: 531466				
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: MBLK-R41348	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41348						
Client ID: PBW	Batch ID: R41348	TestNo: M2320 B	Analysis Date: 8/5/2021	SeqNo: 531468							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41374	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41374
Client ID: PBW	Batch ID: R41374	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531776	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41374	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41374
Client ID: LCSW	Batch ID: R41374	TestNo: SM5210B	Analysis Date: 8/4/2021	SeqNo: 531777	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41392	SampType: MBLK	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41392
Client ID: PBW	Batch ID: R41392	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531987	
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: LCS-R41392	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41392
Client ID: LCSW	Batch ID: R41392	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531988	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: ICV-R41433		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433		
Client ID: ICV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532511				
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: MB-R41433	SampType: MBLK	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: PBW	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532512						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41433	SampType: LCS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: LCSW	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532513						
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: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: BatchQC	Batch ID: R41433	TestNo: D7284		Analysis Date: 8/12/2021	SeqNo: 532516						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108006-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532516			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Sample ID: 2108006-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532517	
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: CCV1-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532521			
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: 2108010-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433		
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532527		
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CN_W

Sample ID: 2108010-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532528			
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: CCV2-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: CCV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532532			
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: CCV3-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433		
Client ID: CCV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532540				
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: MB-R41471	SampType: MBLK	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: PBW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533006						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	ND	5.00									

Sample ID: LCS-R41471	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: LCSW	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533007						
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: 2108007-002AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533013						
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: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B		Analysis Date: 8/17/2021	SeqNo: 533014						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533015	
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: 2108010-003AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533020	
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: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: CR6-CWA

Sample ID: CCV2-R41471		SampType: CCV		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41471			
Client ID: CCV		Batch ID: R41471		TestNo: M 3500 Cr B		Analysis Date: 8/17/2021		SeqNo: 533026					
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: CCV3-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533034							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: **HARDCALC**

Sample ID: ICV		SampType: ICV		TestCode: HARDCALC		Units: mg/L		Prep Date:			RunNo: 41344	
Client ID: ICV		Batch ID: 18312		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021			SeqNo: 531362	
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: CCV	SampType: CCV	TestCode: HARDCALC	Units: mg/L	Prep Date:	RunNo: 41344						
Client ID: CCV	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531363						
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: MB-18312	SampType: MBLK	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/5/2021	RunNo: 41344						
Client ID: PBW	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531364						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)	ND	0.200									

Sample ID: LCS-18312	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/5/2021	RunNo: 41344						
Client ID: LCSW	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531365						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: **HARDCALC**

Sample ID: LCS-18312	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/5/2021	RunNo: 41344						
Client ID: LCSW	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531365						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108028-002ADUP	SampType: DUP	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/5/2021	RunNo: 41344						
Client ID: 080421LLIC	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531367						
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: 2108028-002AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/5/2021	RunNo: 41344						
Client ID: 080421LLIC	Batch ID: 18312	TestNo: M2340 B	SW3010A	Analysis Date: 8/5/2021	SeqNo: 531368						
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: CCV		SampType: CCV		TestCode: HARDCALC		Units: mg/L		Prep Date:		RunNo: 41344		
Client ID: CCV		Batch ID: 18312		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531369		
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: 2108028-002AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/5/2021		RunNo: 41344		
Client ID: 080421LLIC		Batch ID: 18312		TestNo: M2340 B		SW3010A		Analysis Date: 8/5/2021		SeqNo: 531371		
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41358		SampType: ICV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358			
Client ID: ICV		Batch ID: R41358		TestNo: SM4500-NH3				Analysis Date: 8/6/2021		SeqNo: 531614			
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: ICB-R41358		SampType: ICB		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358	
Client ID: ICB		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021		SeqNo: 531615			
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531617						
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV1-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531623						
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: 2108016-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531628				
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: 2108016-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531629				
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531631							
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021		SeqNo: 531633				
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: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV3-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531637	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531646	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: LCS-R41356	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: LCSW	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531566	
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: 2107216-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531571	
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: 2107216-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531572	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

Sample ID: CCV1-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531575	
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: CCB1-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531576	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: 2108006-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356
Client ID: BatchQC	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531583	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108006-004BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41356		
Client ID: BatchQC		Batch ID: R41356		TestNo: E365.3				Analysis Date: 8/6/2021		SeqNo: 531584		
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: CCV2-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531587							
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: CCB2-R41356	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCB	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531588							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV3-R41356	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41356						
Client ID: CCV	Batch ID: R41356	TestNo: E365.3	Analysis Date: 8/6/2021	SeqNo: 531594							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

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

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

Sample ID: MB-R41391	SampType: MBLK	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: PBW	Batch ID: R41391	TestNo: E365.3		Analysis Date: 8/10/2021	SeqNo: 531965						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: LCS-R41391		SampType: LCS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: LCSW		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531966		
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108045-007BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391			
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531974			
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: 2108045-007BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391	
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3		Analysis Date: 8/10/2021		SeqNo: 531975			
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: 2108055-004BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3		Analysis Date: 8/10/2021		SeqNo: 531981				
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: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531982							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3		Analysis Date: 8/10/2021	SeqNo: 531982						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV-2		SampType: CCV		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: CCV		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531985		
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: CCB-R41391		SampType: CCB		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41391		
Client ID: CCB		Batch ID: R41391		TestNo: E365.3		Analysis Date: 8/10/2021			SeqNo: 531986				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total		ND		0.0200									

Sample ID: CCV-1		SampType: CCV		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41391	
Client ID: CCV		Batch ID: R41391		TestNo: E365.3		Analysis Date: 8/10/2021			SeqNo: 532023			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: SULFIDE_W

Sample ID: MB-R41359	SampType: MBLK	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359
Client ID: PBW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531647	
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: LCS-R41359	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359
Client ID: LCSW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531648	
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: 2108006-001DDUP	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: 531650	
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: 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
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41414		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: ICV		Batch ID: R41414		TestNo: SM 4500-Nor				Analysis Date: 8/11/2021		SeqNo: 532252			
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: MB-R41414	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: PBW	Batch ID: R41414	TestNo: SM 4500-Nor		Analysis Date: 8/11/2021	SeqNo: 532254						
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: 2108006-004BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor				Analysis Date: 8/11/2021		SeqNo: 532256			
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: 2108006-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor				Analysis Date: 8/11/2021		SeqNo: 532257			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

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

Sample ID: CCV1-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor		Analysis Date: 8/11/2021	SeqNo: 532259						
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: CCV2-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor		Analysis Date: 8/11/2021	SeqNo: 532261						
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: LCS-R41414		SampType: LCS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: LCSW		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532262			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2107216-004BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532266			
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: 2107216-004BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41414			
Client ID: BatchQC		Batch ID: R41414		TestNo: SM 4500-Nor		Analysis Date: 8/11/2021		SeqNo: 532267					
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: CCV3-R41414		SampType: CCV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: CCV		Batch ID: R41414		TestNo: SM 4500-Nor			Analysis Date: 8/11/2021			SeqNo: 532272			
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: CCV4-R41414	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41414						
Client ID: CCV	Batch ID: R41414	TestNo: SM 4500-Nor	Analysis Date: 8/11/2021	SeqNo: 532283							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: CCV4-R41414		SampType: CCV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41414		
Client ID: CCV		Batch ID: R41414		TestNo: SM 4500-Nor				Analysis Date: 8/11/2021			SeqNo: 532283		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: ICV-R41509		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41509			
Client ID: ICV		Batch ID: R41509		TestNo: SM 4500-Nor				Analysis Date: 8/19/2021		SeqNo: 533550			
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: MB-R41509	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: PBW	Batch ID: R41509	TestNo: SM 4500-Nor		Analysis Date: 8/19/2021	SeqNo: 533552						
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: LCS-R41509		SampType: LCS		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41509			
Client ID: LCSW		Batch ID: R41509		TestNo: SM 4500-Nor				Analysis Date: 8/19/2021		SeqNo: 533553			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2108045-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533558	
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: 2108045-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533559	
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: CCV1-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533562	
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: CCB1-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533563	
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: CCB1-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor		Analysis Date: 8/19/2021	SeqNo: 533563						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108089-003BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: BatchQC		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533568			
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: 2108089-003BMSD		SampType: MSD		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: BatchQC		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533569			
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: CCV4-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor		Analysis Date: 8/20/2021	SeqNo: 533576						
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: CCB4-R41509		SampType: CCB		TestCode: TKN_SM		Units: mg/L		Prep Date:		RunNo: 41509	
Client ID: CCB		Batch ID: R41509		TestNo: SM 4500-Nor		Analysis Date: 8/20/2021		SeqNo: 533577			
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TS_1684_W

Sample ID: MB-R41409		SampType: MBLK		TestCode: TS_1684_W		Units: mg/L		Prep Date:			RunNo: 41409				
Client ID: PBW		Batch ID: R41409		TestNo: E1684		Analysis Date: 8/9/2021			SeqNo: 532190						
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual
Total Solids		ND		5.00											

Sample ID: LCS-R41409	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41409						
Client ID: LCSW	Batch ID: R41409	TestNo: E1684	Analysis Date: 8/9/2021	SeqNo: 532191							
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: 2108010-001FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41409						
Client ID: BatchQC	Batch ID: R41409	TestNo: E1684	Analysis Date: 8/9/2021	SeqNo: 532193							
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

Specialty Analytical

WO#: 2108028

8/30/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41360	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360						
Client ID: PBW	Batch ID: R41360	TestNo: M2540 D		Analysis Date: 8/6/2021	SeqNo: 531671						
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: LCS-R41360	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360						
Client ID: LCSW	Batch ID: R41360	TestNo: M2540 D		Analysis Date: 8/6/2021	SeqNo: 531672						
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: 2108028-002DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360						
Client ID: 080421LLIC	Batch ID: R41360	TestNo: M2540 D		Analysis Date: 8/6/2021	SeqNo: 531674						
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 ☒	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	0.8°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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9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: 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: _____



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Julie Clay
9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



Date: 08/24/2021

CLIENT: Specialty Analytical
Project: 2108028
Work Order: 2108096

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
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	Villaboies 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

Original

CLIENT: Specialty Analytical
Project: 2108028

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2108096-001A, 080421LLIC										
2108106-01	Hg	Wastewater	TR	27.9		0.68	2.11	ng/L	B212210	S210907
2108096-002A, 080421LLEC										
2108106-02	Hg	Wastewater	TR	0.94		0.14	0.42	ng/L	B212210	S210922
2108096-003A, Parkway C										
2108106-03	Hg	Wastewater	TR	218		0.68	2.11	ng/L	B212210	S210907
2108096-004A, Villaboies C										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108106-01		Report Matrix: Wastewater		Collected: 08/04/2021	
Sample: 2108096-001A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108106
Lab ID: 2108106-02		Report Matrix: Wastewater		Collected: 08/04/2021	
Sample: 2108096-002A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108106
Lab ID: 2108106-03		Report Matrix: Wastewater		Collected: 08/04/2021	
Sample: 2108096-003A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					Cooler - 2108106
Lab ID: 2108106-04		Report Matrix: Wastewater		Collected: 08/04/2021	
Sample: 2108096-004A		Sample Type: Sample		Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A
					pH
					1
					Ship. Cont.
					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 CONTRATOR: Brooks Applied Labs COMPANY: Brooks Applied Labs					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 have been preserved with BrCl.</i>		
ADDRESS: 18804 North Creek Parkway, Ste 100							
CITY, STATE, ZIP: Bothell, WA 98011							
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: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool ? _____ Comments: _____	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:		
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐							
Note: RUSH requests will incur surcharges!							

Page 42 of 154

Sample Log-In Check List

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:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

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

Original



**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: ~~XXXXXX~~ 2108028

Temperature on Receipt:

*C

Project No:

PO No:

Cooling:

Shipped Via:

UPS

Collected by:

Custody Seal: Y / N Intact / Broken Cooler / Bottle

Address:

State Collected: ☒ OR ☐ WA ☐ OTHER

MDL TIER IV EDD

City, State, Zip:

Report To (PM):

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 60 days)

Telephone: 503-901-9671

AP Email: Mandi@Specialtyanalytical.com PM Email: Julie@Specialtyanalytical.com

Sample Name

Sample Date

Sample Time

Sample Matrix*

of Containers

Requested Tests

Low level metals

1651

Comments

1

080421LLEIC

8-4-21

0900

WU

1

2

080421LLEIC

8-4-21

0930

WU

1

3

Partway C

8-4-21

900

WU

1

4

Vitabais C

8-4-21

1000

WU

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):

X

3 Day:

2 Day:

Next Day:

Same Day:

Expedited turn-around requests should be coordinated in advance

Relinquished

Date/Time

8-4-21 1022

Received

X

Signature

Date/Time

8/6/21 0956

Relinquished

Date/Time

Received

X

Signature

Date/Time

Relinquished

Date/Time

Received

X

Signature

Date/Time



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

Definition Only

WO#: 2108028
Date: 8/30/2021

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.

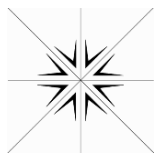
G: Result may be biased high due to biogenic interferences. Clean up is recommended.

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 Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: 2108028

Date: 8/30/2021

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

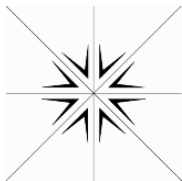
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read "M. French", written in a cursive style.

Marty French
Lab Director

Specialty Analytical

WO#: 2108045

Date Reported: 8/30/2021

CLIENT: City of Wilsonville

Collection Date: 8/5/2021 9:00:00 AM

Project: 2108045

Lab ID: 2108045-001

Matrix: WASTE WATER

Client Sample ID 08 21LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
1,2,4-Trichlorobenzene	ND	2.75	Q	µg/L	5	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
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

Collection Date: 8/5/2021 9:00:00 AM

Project: 2108045

Lab ID: 2108045-001

Matrix: WASTE WATER

Client Sample ID 08 21LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

Collection Date: 8/5/2021 9:00:00 AM

Project: 2108045

Lab ID: 2108045-001

Matrix: WASTE WATER

Client Sample ID 08 21LLIG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:49:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00781	0.00500		mg/L	1	8/12/2021 4:57:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:36:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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
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: 2108045-002

Client Sample ID 08 21LLIC

Collection Date: 8/5/2021 9:00:00 AM

Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	59.8	0.200		mg/L	1	8/9/2021 2:00:23 PM
CARBONACEOUS BOD				SM5210B		Analyst: NK
CBOD5	370	2.00		mg/L	1	8/5/2021 4:30:24 PM
BIOLOGICAL OXYGEN DEMAND- 5				SM5210B		Analyst: NK
BOD, 5 Day	260.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
ALKALINITY				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	250	10.0		mg/L CaCO3	1	8/9/2021 12:47:36 PM
AMMONIA AS NITROGEN				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	38.9	0.400		mg/L	20	8/6/2021 1:45:21 PM
PHOSPHOROUS, ALL FORMS				E365.3		Analyst: JRH
Phosphorus, Total	5.12	0.200		mg/L	10	8/10/2021 10:45:00 AM
KJELDAHL NITROGEN, TOTAL				SM 4500-NORG C		Analyst: NK
TKN as N	65.2	10.0		mg/L	50	8/19/2021 4:46:49 PM
TOTAL SUSPENDED SOLIDS				M2540 D		Analyst: JRH
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

Collection Date: 8/5/2021 9:30:00 AM

Project: 2108045

Lab ID: 2108045-003

Matrix: WASTE WATER

Client Sample ID 08 211LEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/5/2021 9:30:00 AM

Project: 2108045

Lab ID: 2108045-003

Matrix: WASTE WATER

Client Sample ID 08 21LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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

Collection Date: 8/5/2021 9:30:00 AM

Project: 2108045

Lab ID: 2108045-003

Matrix: WASTE WATER

Client Sample ID 08 21LLEG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC COMPOUNDS				E624.1	Analyst: CK	
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
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:50:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	ND	0.00500		mg/L	1	8/12/2021 5:02:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:41:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
Total Solids	204	5.00		mg/L	1	8/12/2021 8:55:10 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: 2108045-004

Client Sample ID 08 21LLEC

Collection Date: 8/5/2021 9:30:00 AM

Matrix: WASTEWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	55.1	0.200		mg/L	1	8/9/2021 2:24:50 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: NK
CBOD5	3.90	2.00		mg/L	1	8/5/2021 4:30:24 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	ND	2.0		mg/L	1	8/5/2021 4:17:23 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	55.0	10.0		mg/L CaCO3	1	8/9/2021 1:17:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	0.264	0.0200		mg/L	1	8/18/2021 1:29:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	0.408	0.0200		mg/L	1	8/10/2021 10:46:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	1.59	0.200		mg/L	1	8/19/2021 4:51:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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

Collection Date: 8/5/2021 9:15:00 AM

Project: 2108045

Lab ID: 2108045-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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

Collection Date: 8/5/2021 9:15:00 AM

Project: 2108045

Lab ID: 2108045-005

Matrix: WASTE WATER

Client Sample ID Parkway G

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:51:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00594	0.00500		mg/L	1	8/12/2021 5:07:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	8.00	1.00		mg/L	1	8/6/2021 1:46:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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
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
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
BASE/NEUTRALS/ACIDS				E625.1	E625	Analyst: CK
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
PURGEABLE ORGANIC COMPOUNDS				E624.1		Analyst: CK
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
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 Villaboiss G

Collection Date: 8/5/2021 10:00:00 AM

Matrix: WASTE WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM				M 3500 CR B		Analyst: NK
Chromium, Hexavalent	ND	5.00		µg/L	1	8/17/2021 12:52:11 PM
CYANIDE, TOTAL				D7284		Analyst: NK
Cyanide	0.00679	0.00500		mg/L	1	8/12/2021 5:12:05 PM
SULFIDE				SM4500-S2 F		Analyst: NK
Sulfide (As S)	ND	1.00		mg/L	1	8/6/2021 1:51:24 PM
TOTAL SOLIDS				E1684		Analyst: JRH
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
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

Collection Date: 8/5/2021 9:15:00 AM

Project: 2108045

Lab ID: 2108045-007

Matrix: WASTEWATER

Client Sample ID Parkway C

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	71.7	0.200		mg/L	1	8/9/2021 2:28:15 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: NK
CBOD5	426	2.00		mg/L	1	8/5/2021 4:30:24 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	318.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	260	10.0		mg/L CaCO3	1	8/9/2021 1:27:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	51.3	0.800		mg/L	40	8/18/2021 1:34:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	8.56	0.200		mg/L	10	8/10/2021 10:47:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	79.9	10.0		mg/L	50	8/19/2021 5:06:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	91.9	0.200		mg/L	1	8/9/2021 2:31:40 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: NK
CBOD5	498	2.00		mg/L	1	8/5/2021 4:30:24 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: NK
BOD, 5 Day	388.4	2.0		mg/L	1	8/5/2021 4:17:23 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	207	10.0		mg/L CaCO3	1	8/9/2021 2:27:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	32.5	0.800		mg/L	40	8/18/2021 1:39:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	5.52	0.200		mg/L	10	8/10/2021 10:50:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	56.0	10.0		mg/L	50	8/19/2021 5:11:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41380			
Client ID: ICV	Batch ID: 18328	TestNo: E200.8		E200.8	Analysis Date: 8/9/2021			SeqNo: 531861			
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: 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: 531865						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 200.8

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: 531865			
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: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531866						
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
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: 200.8

Sample ID: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531866						
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: LCS-18328	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: LCSW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531867						
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
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: 200.8

Sample ID: LCS-18328	SampType: LCS	TestCode: 200.8		Units: µg/L	Prep Date: 8/9/2021			RunNo: 41380			
Client ID: LCSW	Batch ID: 18328	TestNo: E200.8		E200.8	Analysis Date: 8/9/2021			SeqNo: 531867			
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: 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
Aluminum	305	10.0						300.0	1.58	20	RRF
Antimony	0.741	0.500						0.9267	22.3	20	
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
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: 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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 200.8

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
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: 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: 531871			
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
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: 200.8

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: 531871						
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: 2108045-002AMSD	SampType: MSD	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: 531872						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 200.8

Sample ID: 2108045-002AMSD		SampType: MSD		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: 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: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531904						
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: 2108045-002AMSD	SampType: MSD	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: 531905						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

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: 8/9/2021			SeqNo: 532060				
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

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: 8/9/2021	SeqNo: 532060							
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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
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: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

Sample ID: MB	SampType: MBLK	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: PBW	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/9/2021	SeqNo: 532061							
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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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: 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: 532084							
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
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: 624_W

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: 532084				
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

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: 532084				
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532085						
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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532085							
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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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: 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: 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: 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 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: 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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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-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: 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: 624_W

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
1,4-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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

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
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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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-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									

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: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1		Analysis Date: 8/10/2021	SeqNo: 532097						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 624_W

Sample ID: MB	SampType: CCB	TestCode: 624_W	Units: µg/L	Prep Date:	RunNo: 41389						
Client ID: CCB	Batch ID: 18334	TestNo: E624.1	Analysis Date: 8/10/2021	SeqNo: 532097							
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: 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
1,1,1,2-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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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: 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: 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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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: 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: 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

Specialty Analytical

WO#: 2108045

8/30/2021

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-Dichloroethene	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
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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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				
1,1,2,2-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:

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: 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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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				
1,1,2,2-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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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: 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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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: 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
Vinyl chloride		43.9		0.500	40.00	0	110	0.01	251				

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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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	

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	

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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: Villaboys 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

Specialty Analytical

WO#: 2108045

8/30/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41661			
Client ID: CCV	Batch ID: 18346	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534994			
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41661			
Client ID: CCV	Batch ID: 18346	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534994			
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 625X_W

Sample ID: CCV MSVWS-2000	SampType: CCV	TestCode: 625X_W		Units: µg/L	Prep Date:			RunNo: 41661			
Client ID: CCV	Batch ID: 18346	TestNo: E625.1		E625	Analysis Date: 8/25/2021			SeqNo: 534994			
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 625X_W

Sample ID: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: PBW	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534995						
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: MB	SampType: MBLK	TestCode: 625X_W	Units: µg/L	Prep Date:	RunNo: 41661						
Client ID: PBW	Batch ID: 18346	TestNo: E625.1	E625	Analysis Date: 8/25/2021	SeqNo: 534995						
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: MB	SampType: MBLK	TestCode: 625X_W		Units: µg/L	Prep Date:				RunNo: 41661		
Client ID: PBW	Batch ID: 18346	TestNo: E625.1		E625	Analysis Date: 8/25/2021				SeqNo: 534995		
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: 625X_W

Sample ID: MB		SampType: MBLK		TestCode: 625X_W		Units: µg/L		Prep Date:		RunNo: 41661			
Client ID: PBW		Batch ID: 18346		TestNo: E625.1		E625		Analysis Date: 8/25/2021		SeqNo: 534995			
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: 2108045-006CMS	SampType: MS	TestCode: 625X_W	Units: µg/L	Prep Date: 8/10/2021	RunNo: 41661						
Client ID: Villaboys 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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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: Villaboys 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				
Benzidine	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

Specialty Analytical

WO#: 2108045

8/30/2021

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: Villaboies 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

Specialty Analytical

WO#: 2108045

8/30/2021

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: Villaboies 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
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: 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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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
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: 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
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

Specialty Analytical

WO#: 2108045

8/30/2021

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	
Benzdine	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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: ALK_CWA

Sample ID: LCS-R41387		SampType: LCS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41387			
Client ID: LCSW		Batch ID: R41387		TestNo: M2320 B				Analysis Date: 8/9/2021		SeqNo: 531932			
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: MB-R41387	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: PBW	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531933							
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: 2108045-002CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:			RunNo: 41387	
Client ID: 08 21LLIC		Batch ID: R41387		TestNo: M2320 B		Analysis Date: 8/9/2021			SeqNo: 531935			
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: 2108045-002CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: 08 21LLIC	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531936							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: ALK_CWA

Sample ID: 2108045-002CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: 08 21LLIC	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531936							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV1-R41387	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: CCV	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531939							
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: CCV2-R41387	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: CCV	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531946							
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
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: BOD_C

Sample ID: MB-R41393	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41393
Client ID: PBW	Batch ID: R41393	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531998	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41393	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41393
Client ID: LCSW	Batch ID: R41393	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531999	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: BOD_CWA

Sample ID: MB-R41392	SampType: MBLK	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41392
Client ID: PBW	Batch ID: R41392	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531987	
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: LCS-R41392	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41392
Client ID: LCSW	Batch ID: R41392	TestNo: SM5210B	Analysis Date: 8/5/2021	SeqNo: 531988	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CN_W

Sample ID: ICV-R41433		SampType: ICV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: ICV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532511			
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: MB-R41433		SampType: MBLK		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: PBW		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532512			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide	ND	0.00500									

Sample ID: LCS-R41433		SampType: LCS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: LCSW		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532513			
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: 2108006-003BMS	SampType: MS	TestCode: CN_W	Units: mg/L	Prep Date:	RunNo: 41433						
Client ID: BatchQC	Batch ID: R41433	TestNo: D7284	Analysis Date: 8/12/2021	SeqNo: 532516							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CN_W

Sample ID: 2108006-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:			RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021			SeqNo: 532516			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Sample ID: 2108006-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532517			
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: CCV1-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: CCV		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532521			
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: 2108010-003BMS		SampType: MS		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433			
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284				Analysis Date: 8/12/2021		SeqNo: 532527			
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CN_W

Sample ID: 2108010-003BMSD		SampType: MSD		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: BatchQC		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532528			
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: CCV2-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433	
Client ID: CCV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532532			
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: CCV3-R41433		SampType: CCV		TestCode: CN_W		Units: mg/L		Prep Date:		RunNo: 41433		
Client ID: CCV		Batch ID: R41433		TestNo: D7284		Analysis Date: 8/12/2021		SeqNo: 532540				
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CR6-CWA

Sample ID: MB-R41471	SampType: MBLK	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: PBW	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533006	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium, Hexavalent	ND	5.00			

Sample ID: LCS-R41471	SampType: LCS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: LCSW	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533007	
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: 2108007-002AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533013	
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: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CR6-CWA

Sample ID: 2108007-002AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533014	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533015	
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: 2108010-003AMS	SampType: MS	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533020	
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: 2108010-003AMSD	SampType: MSD	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471
Client ID: BatchQC	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533021	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: CR6-CWA

Sample ID: CCV2-R41471		SampType: CCV		TestCode: CR6-CWA		Units: µg/L		Prep Date:		RunNo: 41471			
Client ID: CCV		Batch ID: R41471		TestNo: M 3500 Cr B				Analysis Date: 8/17/2021		SeqNo: 533026			
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: CCV3-R41471	SampType: CCV	TestCode: CR6-CWA	Units: µg/L	Prep Date:	RunNo: 41471						
Client ID: CCV	Batch ID: R41471	TestNo: M 3500 Cr B	Analysis Date: 8/17/2021	SeqNo: 533034							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: HARDCALC

Sample ID: MB-18329		SampType: MBLK		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/9/2021		RunNo: 41378			
Client ID: PBW		Batch ID: 18329		TestNo: M2340 B		SW3010A		Analysis Date: 8/9/2021		SeqNo: 531828			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)		ND		0.200									

Sample ID: LCS-18329	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: LCSW	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531829						
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: 2108045-002ADUP	SampType: DUP	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: 08 21LLIC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531831						
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: 2108045-002AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: 08 21LLIC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531832						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: HARDCALC

Sample ID: 2108045-002AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: 08 21LLIC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108045-002AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/9/2021		RunNo: 41378		
Client ID: 08 21LLIC		Batch ID: 18329		TestNo: M2340 B		SW3010A		Analysis Date: 8/9/2021		SeqNo: 531834		
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: NH3-N_CWA

Sample ID: ICV-R41358	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531614	
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: ICB-R41358	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: ICB	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531615	
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: MB-R41358	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: PBW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531617	
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: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531618	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: NH3-N_CWA

Sample ID: LCS-R41358	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: LCSW	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531618						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: CCV1-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3	Analysis Date: 8/6/2021	SeqNo: 531623							
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: 2108016-001CMS	SampType: MS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: BatchQC	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531628						
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: 2108016-001CMSD		SampType: MSD	TestCode: NH3-N_CWA		Units: mg/L	Prep Date:			RunNo: 41358		
Client ID: BatchQC	Batch ID: R41358		TestNo: SM4500-NH3			Analysis Date: 8/6/2021			SeqNo: 531629		
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: NH3-N_CWA

Sample ID: CCV2-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531631						
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: 2108017-001CMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531632				
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: 2108017-001CMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41358		
Client ID: BatchQC		Batch ID: R41358		TestNo: SM4500-NH3		Analysis Date: 8/6/2021			SeqNo: 531633				
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: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531646						
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: CCV5-R41358	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41358						
Client ID: CCV	Batch ID: R41358	TestNo: SM4500-NH3		Analysis Date: 8/6/2021	SeqNo: 531646						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: ICV-R41488		SampType: ICV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41488		
Client ID: ICV		Batch ID: R41488		TestNo: SM4500-NH3		Analysis Date: 8/18/2021			SeqNo: 533223				
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: ICB-R41488	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: ICB	Batch ID: R41488	TestNo: SM4500-NH3		Analysis Date: 8/18/2021	SeqNo: 533224						
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: MB-R41488	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: PBW	Batch ID: R41488	TestNo: SM4500-NH3		Analysis Date: 8/18/2021	SeqNo: 533226						
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: NH3-N_CWA

Sample ID: LCS-R41488		SampType: LCS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41488		
Client ID: LCSW		Batch ID: R41488		TestNo: SM4500-NH3		Analysis Date: 8/18/2021			SeqNo: 533227				
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: 2108030-001AMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:			RunNo: 41488		
Client ID: BatchQC		Batch ID: R41488		TestNo: SM4500-NH3		Analysis Date: 8/18/2021			SeqNo: 533230				
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: 2108030-001AMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41488		
Client ID: BatchQC		Batch ID: R41488		TestNo: SM4500-NH3		Analysis Date: 8/18/2021		SeqNo: 533231				
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: CCV2-R41488	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: CCV	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533241							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: NH3-N_CWA

Sample ID: CCV2-R41488	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: CCV	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533241							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: P-TOTAL

Sample ID: MB-R41391	SampType: MBLK	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: PBW	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531965	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Phosphorus, Total	ND	0.0200			

Sample ID: LCS-R41391	SampType: LCS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: LCSW	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531966	
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: 2108045-007BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: Parkway C	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531974	
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: 2108045-007BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: Parkway C	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531975	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: P-TOTAL

Sample ID: 2108045-007BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: Parkway C	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531975	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 2108055-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531981	
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: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531982	
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: CCV-2	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531985	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: P-TOTAL

Sample ID: CCB-R41391		SampType: CCB		TestCode: P-TOTAL		Units: mg/L		Prep Date:			RunNo: 41391		
Client ID: CCB		Batch ID: R41391		TestNo: E365.3		Analysis Date: 8/10/2021			SeqNo: 531986				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total		ND		0.0200									

Sample ID: CCV-1	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 532023							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: SULFIDE_W

Sample ID: MB-R41359	SampType: MBLK	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359
Client ID: PBW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531647	
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: LCS-R41359	SampType: LCS	TestCode: SULFIDE_W	Units: mg/L	Prep Date:	RunNo: 41359
Client ID: LCSW	Batch ID: R41359	TestNo: SM4500-S2 F	Analysis Date: 8/6/2021	SeqNo: 531648	
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: 2108006-001DDUP	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: 531650	
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: 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
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: 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: 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: TKN_SM

Sample ID: ICV-R41509		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: ICV		Batch ID: R41509		TestNo: SM 4500-Nor		Analysis Date: 8/19/2021			SeqNo: 533550				
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: MB-R41509	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: PBW	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533552							
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: LCS-R41509		SampType: LCS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: LCSW		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533553			
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: 2108045-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: 08 21LLEC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533558							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TKN_SM

Sample ID: 2108045-004BMSD	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: 08 21LLEC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533558	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 2108045-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: 08 21LLEC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533559	
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: CCB1-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533562	
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: CCB1-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533563	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TKN_SM

Sample ID: 2108089-003BMS		SampType: MS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: BatchQC		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533568			
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: 2108089-003BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533569							
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: CCV4-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/20/2021	SeqNo: 533576							
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: CCB4-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/20/2021	SeqNo: 533577							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TKN_SM

Sample ID: CCB4-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/20/2021	SeqNo: 533577							
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TS_1684_W

Sample ID: MB-R41411	SampType: MBLK	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41411
Client ID: PBW	Batch ID: R41411	TestNo: E1684	Analysis Date: 8/10/2021	SeqNo: 532217	
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: LCS-R41411	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41411
Client ID: LCSW	Batch ID: R41411	TestNo: E1684	Analysis Date: 8/10/2021	SeqNo: 532218	
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: A2108045-003FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41411
Client ID: BatchQC	Batch ID: R41411	TestNo: E1684	Analysis Date: 8/10/2021	SeqNo: 532221	
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: MB-R41450	SampType: MBLK	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41450
Client ID: PBW	Batch ID: R41450	TestNo: E1684	Analysis Date: 8/12/2021	SeqNo: 532818	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TS_1684_W

Sample ID: MB-R41450	SampType: MBLK	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41450
Client ID: PBW	Batch ID: R41450	TestNo: E1684	Analysis Date: 8/12/2021	SeqNo: 532818	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: LCS-R41450	SampType: LCS	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41450
Client ID: LCSW	Batch ID: R41450	TestNo: E1684	Analysis Date: 8/12/2021	SeqNo: 532819	
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: 2108045-003FDUP	SampType: DUP	TestCode: TS_1684_W	Units: mg/L	Prep Date:	RunNo: 41450
Client ID: 08 21LLEG	Batch ID: R41450	TestNo: E1684	Analysis Date: 8/12/2021	SeqNo: 532821	
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

Specialty Analytical

WO#: 2108045

8/30/2021

Client: City of Wilsonville

Project: 2108045

TestCode: TSS_WW

Sample ID: MB-R41360	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360
Client ID: PBW	Batch ID: R41360	TestNo: M2540 D	Analysis Date: 8/6/2021	SeqNo: 531671	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Suspended Solids	ND	10.0			

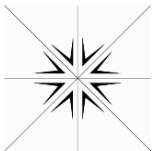
Sample ID: LCS-R41360	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360
Client ID: LCSW	Batch ID: R41360	TestNo: M2540 D	Analysis Date: 8/6/2021	SeqNo: 531672	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Suspended Solids	88.0	10.0	100.0	0	88.0 80 105

Sample ID: 2108028-002DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41360
Client ID: BatchQC	Batch ID: R41360	TestNo: M2540 D	Analysis Date: 8/6/2021	SeqNo: 531674	
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 ☒	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	0.6 °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



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



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Julie Clay
9011 SE Jannsen 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

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*

Original

www.fremontanalytical.com



Date: 08/23/2021

CLIENT: Specialty Analytical
Project: 2108045
Work Order: 2108099

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
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	Villaboies 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

Original

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,

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
2108099-001A, 080521LLIC										
2108105-01	Hg	Wastewater	TR	74.7		0.68	2.11	ng/L	B212210	S210907
2108099-002A, 080521LLEC										
2108105-02	Hg	Wastewater	TR	0.86		0.14	0.42	ng/L	B212210	S210922
2108099-003A, Parkway C										
2108105-03	Hg	Wastewater	TR	298		0.68	2.11	ng/L	B212210	S210907
2108099-004A, Villaboies C										
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
Average: 0.08		Standard Deviation: 0.03
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108105-01 Sample: 2108099-001A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/05/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108105
Lab ID: 2108105-02 Sample: 2108099-002A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/05/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108105
Lab ID: 2108105-03 Sample: 2108099-003A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/05/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	1L Amber C	N/A	Unknown BrCl (client)	N/A	1	Cooler - 2108105
Lab ID: 2108105-04 Sample: 2108099-004A				Report Matrix: Wastewater Sample Type: Sample		Collected: 08/05/2021 Received: 08/09/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
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 BAL 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: Brooks Applied Labs COMPANY: Brooks Applied Labs					SPECIAL INSTRUCTIONS / COMMENTS:		
ADDRESS: 18804 North Creek Parkway, Ste 100					Standard TAT. Please email results to Brianna Barnes at bbarnes@fremontanalytical.com and Matt Langston at mlangston@fremontanalytical.com.		
CITY, STATE, ZIP: Bothell, WA 98011					5 Day TAT preferred. Samples preserved w/BrCl.		
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:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	☐ HARDCOPY (extra cost)	☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH: Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples _____ °C Attempt to Cool? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	
Page 4 of 14							

Sample Log-In Check List

Client Name: **SPECIAL**
 Logged by: **Matt Langston**

Work Order Number: **2108099**
 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:	<u>Julie Clav</u>	Date:	<u>8/6/2021</u>
By Whom:	<u>Brianna Barnes</u>	Via:	☒ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	<u>OK to subcontract due to instrument issues?</u>		
Client Instructions:	<u>Subcontract to Brooks Applied Labs.</u>		

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): 2108094

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)

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 080521LLEIC 8-5-21 900 WU 1 1

2 080521LLEIC 8-5-21 930 WU 1 1

3 Parkway C 8-5-21 0915 WU 1 1

4 Villabars C 8-5-21 1000 WU 1 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): X 3 Day: 2 Day: Next Day: Same Day:

Expedited turn-around requests should be coordinated in advance

Relinquished x 8-5-21 Received x 8/6/21 0948

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

Client: WLSN

Address:

City, State, Zip:

Telephone: 503-701-9671

AP Email:

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): 2108045

Temperature on Receipt: 06°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)

PM Email:

G- grab
C- Composite
I- influent
E- Effluent

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests	Comments
1 O8 21LLEIG	8-5-21	0900	WID	1	EPA 200.8 Metals ~~EPA 200.8~~ SM 3500 CrB Hex Chrom SM 4500 CN SM 4500 NH ₃ XP 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	
2 O8 21LLEIC	8-5-21	0900	WID	1		
3 O8 21LLEIG	8-5-21	0930	WID	1		
4 O8 21LLEIC	8-5-21	0930	WID	1		
5 ParkwayG	8-5-21	0915	WID	1		
6 VillaboisG	8-5-21	1000	WID	1		
7 ParkwayC	8-5-21	0915	WID	1		
8 VillaboisC	8-5-21	1000	WID	1		
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

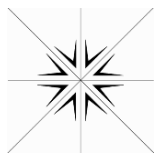
Turn-around Time: Standard (5-7 Business): ☒ 3 Day: ☐ 2 Day: ☐ Next Day: ☐ Same Day: ☐

Expedited turn-around requests should be coordinated in advance

Relinquished: Kelly McElwain Date/Time: 8-5-21

Received: [Signature] Date/Time: 8-5-21 1345

Date/Time: 8-5-21 1445



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

Definition Only

WO#: 2108045
Date: 8/30/2021

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



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Clackamas, Oregon 97015
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Definition Only

WO#: 2108045
Date: 8/30/2021

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

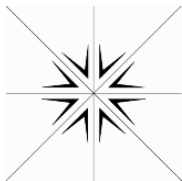
RF: Duplicate failed due to result being at or near the method-reporting limit.

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 Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

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,

A handwritten signature in black ink, appearing to read 'M. French', written in a cursive style.

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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	59.4	0.200		mg/L	1	8/9/2021 2:45:21 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	369	2.00		mg/L	1	8/6/2021 4:38:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	566.1	2.0		mg/L	1	8/6/2021 4:54:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	210	10.0		mg/L CaCO3	1	8/9/2021 1:47:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	37.5	0.800		mg/L	40	8/18/2021 1:49:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	5.83	0.200		mg/L	10	8/10/2021 10:51:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	58.4	1.00		mg/L	5	8/20/2021 10:15:49 AM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Collection Date: 8/6/2021 9:30:00 AM

Project: Wilsonville

Lab ID: 2108055-002

Matrix: WASTEWATER

Client Sample ID 080621LLEC

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	54.2	0.200		mg/L	1	8/9/2021 2:48:46 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	2.40	2.00		mg/L	1	8/6/2021 4:38:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	2.9	2.0		mg/L	1	8/6/2021 4:54:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	60.0	10.0		mg/L CaCO3	1	8/9/2021 1:57:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	0.169	0.0200		mg/L	1	8/18/2021 1:54:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	0.460	0.0200		mg/L	1	8/10/2021 10:52:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	1.44	0.200		mg/L	1	8/19/2021 5:26:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	57.8	0.200		mg/L	1	8/9/2021 2:52:11 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	395	2.00		mg/L	1	8/6/2021 4:38:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	410.1	2.0		mg/L	1	8/6/2021 4:54:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	245	10.0		mg/L CaCO3	1	8/9/2021 2:07:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	46.9	0.800		mg/L	40	8/18/2021 1:59:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	8.96	0.200		mg/L	10	8/10/2021 10:53:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	74.4	10.0		mg/L	50	8/19/2021 5:31:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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
ICP/MS METALS- TOTAL RECOVERABLE						
				E200.8	E200.8	Analyst: JRC
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
HARDNESS (CALC.)						
				M2340 B	SW3010A	Analyst: JRC
Hardness (Calc.)	79.6	0.200		mg/L	1	8/9/2021 3:02:27 PM
CARBONACEOUS BOD						
				SM5210B		Analyst: JW
CBOD5	312	2.00		mg/L	1	8/6/2021 4:38:00 PM
BIOLOGICAL OXYGEN DEMAND- 5						
				SM5210B		Analyst: JW
BOD, 5 Day	374.0	2.0		mg/L	1	8/6/2021 4:54:00 PM
ALKALINITY						
				M2320 B		Analyst: NK
Alkalinity, Total (As CaCO3)	215	10.0		mg/L CaCO3	1	8/9/2021 2:17:36 PM
AMMONIA AS NITROGEN						
				SM4500-NH3 H		Analyst: NK
Nitrogen, Ammonia (As N)	39.4	0.800		mg/L	40	8/18/2021 2:04:33 PM
PHOSPHOROUS, ALL FORMS						
				E365.3		Analyst: JRH
Phosphorus, Total	6.02	0.200		mg/L	10	8/10/2021 10:54:00 AM
KJELDAHL NITROGEN, TOTAL						
				SM 4500-NORG C		Analyst: NK
TKN as N	66.0	10.0		mg/L	50	8/19/2021 5:36:49 PM
TOTAL SUSPENDED SOLIDS						
				M2540 D		Analyst: JRH
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 41380			
Client ID: ICV	Batch ID: 18328	TestNo: E200.8		E200.8	Analysis Date: 8/9/2021			SeqNo: 531861			
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: 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: 531865						
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531865			
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: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531866						
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531866						
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: LCS-18328	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: LCSW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531867						
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

Sample ID: LCS-18328	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: LCSW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531867						
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: 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
Aluminum		305	10.0						300.0	1.58	20	RRF
Antimony		0.741	0.500						0.9267	22.3	20	
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

Specialty Analytical

WO#: 2108055

9/7/2021

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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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
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: 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: 531871			
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: 200.8

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: 531871						
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: 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
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: 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
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: MB-18328	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 8/9/2021	RunNo: 41380						
Client ID: PBW	Batch ID: 18328	TestNo: E200.8	E200.8	Analysis Date: 8/9/2021	SeqNo: 531904						
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: 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: 531905			
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: LCS-R41387		SampType: LCS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41387			
Client ID: LCSW		Batch ID: R41387		TestNo: M2320 B				Analysis Date: 8/9/2021		SeqNo: 531932			
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: MB-R41387	SampType: MBLK	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: PBW	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531933							
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: 2108045-002CMS		SampType: MS		TestCode: ALK_CWA		Units: mg/L CaCO3		Prep Date:		RunNo: 41387			
Client ID: BatchQC		Batch ID: R41387		TestNo: M2320 B				Analysis Date: 8/9/2021		SeqNo: 531935			
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: 2108045-002CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387						
Client ID: BatchQC	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531936							
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: ALK_CWA

Sample ID: 2108045-002CMSD	SampType: MSD	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387
Client ID: BatchQC	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531936	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV1-R41387	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387
Client ID: CCV	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531939	
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: CCV2-R41387	SampType: CCV	TestCode: ALK_CWA	Units: mg/L CaCO3	Prep Date:	RunNo: 41387
Client ID: CCV	Batch ID: R41387	TestNo: M2320 B	Analysis Date: 8/9/2021	SeqNo: 531946	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_C

Sample ID: MB-R41407	SampType: MBLK	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41407
Client ID: PBW	Batch ID: R41407	TestNo: SM5210B	Analysis Date: 8/6/2021	SeqNo: 532173	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
CBOD5	ND	2.00			

Sample ID: LCS-R41407	SampType: LCS	TestCode: BOD_C	Units: mg/L	Prep Date:	RunNo: 41407
Client ID: LCSW	Batch ID: R41407	TestNo: SM5210B	Analysis Date: 8/6/2021	SeqNo: 532174	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: BOD_CWA

Sample ID: MB-R41406		SampType: MBLK		TestCode: BOD_CWA		Units: mg/L		Prep Date:			RunNo: 41406		
Client ID: PBW		Batch ID: R41406		TestNo: SM5210B		Analysis Date: 8/6/2021			SeqNo: 532166				
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: LCS-R41406	SampType: LCS	TestCode: BOD_CWA	Units: mg/L	Prep Date:	RunNo: 41406						
Client ID: LCSW	Batch ID: R41406	TestNo: SM5210B	Analysis Date: 8/6/2021	SeqNo: 532167							
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: MB-18329		SampType: MBLK		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/9/2021		RunNo: 41378			
Client ID: PBW		Batch ID: 18329		TestNo: M2340 B		SW3010A		Analysis Date: 8/9/2021		SeqNo: 531828			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hardness (Calc.)		ND		0.200									

Sample ID: LCS-18329	SampType: LCS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: LCSW	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531829						
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: 2108045-002ADUP	SampType: DUP	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: BatchQC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531831						
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: 2108045-002AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: BatchQC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531832						
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: HARDCALC

Sample ID: 2108045-002AMS	SampType: MS	TestCode: HARDCALC	Units: mg/L	Prep Date: 8/9/2021	RunNo: 41378						
Client ID: BatchQC	Batch ID: 18329	TestNo: M2340 B	SW3010A	Analysis Date: 8/9/2021	SeqNo: 531832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108045-002AMSD		SampType: MSD		TestCode: HARDCALC		Units: mg/L		Prep Date: 8/9/2021		RunNo: 41378		
Client ID: BatchQC		Batch ID: 18329		TestNo: M2340 B		SW3010A		Analysis Date: 8/9/2021		SeqNo: 531834		
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: ICV-R41488	SampType: ICV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: ICV	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533223	
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: ICB-R41488	SampType: ICB	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: ICB	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533224	
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: MB-R41488	SampType: MBLK	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: PBW	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533226	
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: LCS-R41488	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488
Client ID: LCSW	Batch ID: R41488	TestNo: SM4500-NH3	Analysis Date: 8/18/2021	SeqNo: 533227	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: LCS-R41488	SampType: LCS	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: LCSW	Batch ID: R41488	TestNo: SM4500-NH3		Analysis Date: 8/18/2021	SeqNo: 533227						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2108030-001AMS		SampType: MS		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41488	
Client ID: BatchQC		Batch ID: R41488		TestNo: SM4500-NH3				Analysis Date: 8/18/2021		SeqNo: 533230	
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: 2108030-001AMSD		SampType: MSD		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41488			
Client ID: BatchQC		Batch ID: R41488		TestNo: SM4500-NH3				Analysis Date: 8/18/2021		SeqNo: 533231			
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: CCV1-R41488	SampType: CCV	TestCode: NH3-N_CWA	Units: mg/L	Prep Date:	RunNo: 41488						
Client ID: CCV	Batch ID: R41488	TestNo: SM4500-NH3		Analysis Date: 8/18/2021	SeqNo: 533235						
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: NH3-N_CWA

Sample ID: CCV2-R41488		SampType: CCV		TestCode: NH3-N_CWA		Units: mg/L		Prep Date:		RunNo: 41488			
Client ID: CCV		Batch ID: R41488		TestNo: SM4500-NH3		Analysis Date: 8/18/2021		SeqNo: 533241					
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: MB-R41391		SampType: MBLK		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391			
Client ID: PBW		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531965			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total		ND		0.0200									

Sample ID: LCS-R41391		SampType: LCS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: LCSW		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531966		
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: 2108045-007BMS		SampType: MS		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391		
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531974		
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: 2108045-007BMSD		SampType: MSD		TestCode: P-TOTAL		Units: mg/L		Prep Date:		RunNo: 41391			
Client ID: BatchQC		Batch ID: R41391		TestNo: E365.3				Analysis Date: 8/10/2021		SeqNo: 531975			
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: 2108045-007BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: BatchQC	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531975	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 2108055-004BMS	SampType: MS	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: Villaboies C	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531981	
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: 2108055-004BMSD	SampType: MSD	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: Villaboies C	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531982	
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: CCV-2	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531985	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: P-TOTAL

Sample ID: CCB-R41391	SampType: CCB	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: CCB	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 531986							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total	ND	0.0200									

Sample ID: CCV-1	SampType: CCV	TestCode: P-TOTAL	Units: mg/L	Prep Date:	RunNo: 41391						
Client ID: CCV	Batch ID: R41391	TestNo: E365.3	Analysis Date: 8/10/2021	SeqNo: 532023							
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: ICV-R41509		SampType: ICV		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: ICV		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533550			
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: MB-R41509	SampType: MBLK	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: PBW	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533552							
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: LCS-R41509		SampType: LCS		TestCode: TKN_SM		Units: mg/L		Prep Date:			RunNo: 41509		
Client ID: LCSW		Batch ID: R41509		TestNo: SM 4500-Nor			Analysis Date: 8/19/2021			SeqNo: 533553			
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: 2108045-004BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533558							
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2108045-004BMSD	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533558	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 2108045-004BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533559	
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: CCV1-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533562	
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: CCB1-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533563	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: 2108089-003BMS	SampType: MS	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533568							
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: 2108089-003BMSD	SampType: MSD	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: BatchQC	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533569							
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: CCV3-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533573							
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: CCB3-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509						
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533574							
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TKN_SM

Sample ID: CCB3-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/19/2021	SeqNo: 533574	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: CCV4-R41509	SampType: CCV	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCV	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/20/2021	SeqNo: 533576	
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: CCB4-R41509	SampType: CCB	TestCode: TKN_SM	Units: mg/L	Prep Date:	RunNo: 41509
Client ID: CCB	Batch ID: R41509	TestNo: SM 4500-Nor	Analysis Date: 8/20/2021	SeqNo: 533577	
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

Specialty Analytical

WO#: 2108055

9/7/2021

Client: City of Wilsonville

Project: Wilsonville

TestCode: TSS_WW

Sample ID: MB-R41396	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41396
Client ID: PBW	Batch ID: R41396	TestNo: M2540 D	Analysis Date: 8/9/2021	SeqNo: 532024	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Suspended Solids	ND	10.0			

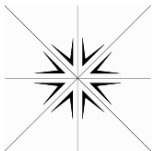
Sample ID: LCS-R41396	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41396
Client ID: LCSW	Batch ID: R41396	TestNo: M2540 D	Analysis Date: 8/9/2021	SeqNo: 532025	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Suspended Solids	85.0	10.0	100.0	0	85.0 80 105

Sample ID: 2108055-001DDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 41396
Client ID: 080621LLIC	Batch ID: R41396	TestNo: M2540 D	Analysis Date: 8/9/2021	SeqNo: 532027	
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
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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 ☒	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 0.9°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



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 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,

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

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	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	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	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
080621 LLIC										
2108141-01	Hg	WW	TR	32.8		0.68	2.11	ng/L	B212309	S210956
080621 LLEC										
2108141-02	Hg	WW	TR	0.42	J	0.14	0.42	ng/L	B212309	S210967
Parkway C										
2108141-03	Hg	WW	TR	108		0.68	2.11	ng/L	B212309	S210956
Villboise C										
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
Average: 0.11		Standard Deviation: 0.02
Limit: 0.50		Limit: 0.13
		MDL: 0.13
		MRL: 0.40



Sample Containers

Lab ID: 2108141-01			Report Matrix: WW			Collected: 08/06/2021	
Sample: 080621 LLIC			Sample Type: Sample			Received: 08/11/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A		Cooler - 2108141
Lab ID: 2108141-02			Report Matrix: WW			Collected: 08/06/2021	
Sample: 080621 LLEC			Sample Type: Sample			Received: 08/11/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A		Cooler - 2108141
Lab ID: 2108141-03			Report Matrix: WW			Collected: 08/06/2021	
Sample: Parkway C			Sample Type: Sample			Received: 08/11/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided - Hg	N/A	N/A	BrCl (client)	N/A		Cooler - 2108141
Lab ID: 2108141-04			Report Matrix: WW			Collected: 08/06/2021	
Sample: Villboise C			Sample Type: Sample			Received: 08/11/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
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

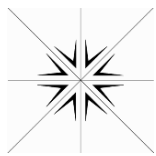
Specialty Analytical 9011 SE Jannsen Rd Clackamas, OR 97015 Phone: 503-607-1331 Fax: 503-607-1336		Chain of Custody Record									
		Date: <u>8-6-21</u>		Page: <u>1</u> of <u>1</u>		Laboratory Project No (internal):					
Client: <u>Specialty Analytical</u>		Project Name: <u>2108055</u>				Temperature on Receipt: °C					
Address:		Project No: PO No:				Cooling: Shipped Via: <u>UPS</u>					
City, State, Zip:		Collected by:				Custody Seal: Y / N Intact / Broken Cooler / Bottle					
Telephone:		State Collected: <u>OR</u> WA OTHER				MDL TIER IV EDD					
AP Email: <u>mandy@specialtyanalytical.com</u>		Report To (PM):				Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 60 days)					
PM Email: <u>julie@specialtyanalytical.com</u>											

Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests										Comments	
					Lower Lab / Me / CW											
1 <u>080621 LLIC</u>	<u>8-6-21</u>	<u>0900</u>	<u>WW</u>	<u>1</u>	<u>1</u>											
2 <u>080621 LLEC</u>	<u>08-6-21</u>	<u>0930</u>	<u>WW</u>	<u>1</u>	<u>1</u>											
3 <u>Parkway C</u>	<u>8-6-21</u>	<u>900</u>	<u>WW</u>	<u>1</u>	<u>1</u>											
4 <u>Villabona C</u>	<u>8-6-21</u>	<u>930</u>	<u>WW</u>	<u>1</u>	<u>1</u>											
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): <u>X</u>	3 Day: _____	2 Day: _____	Next Day: _____	Same Day: _____
Expedited turn-around requests should be coordinated in advance					

Relinquished x <u>Kelly Mc Clelland</u>	Date/Time <u>8-6-21</u>	Received x <u>[Signature]</u>	Date/Time <u>8/11/21 1027</u>
Relinquished x	Date/Time	Received x	Date/Time
Relinquished x	Date/Time	Received x	Date/Time



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Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: 2108055
Date: 9/7/2021

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.

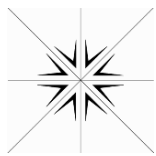
G: Result may be biased high due to biogenic interferences. Clean up is recommended.

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



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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.

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 ^A	--	1.3 ^A	--
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
2	Alkalinity		n	--	20,000 ^B	--	--

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)

^B 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.^M	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: http://www.oregon.gov/deq/wq/Pages/WQ-Standards-Toxics.aspx

M 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 ^{C, D}	150 ^{C, D}	69 ^{C, D}	36 ^{C, D}

^c Criterion is expressed in terms of “dissolved” concentrations in the water column.

^D Criterion is applied as total inorganic arsenic (i.e. arsenic (III) + arsenic (V)).

5	BHC Gamma (Lindane)	58899	y	0.95	0.08 ^A	0.16 ^A	--

^A 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 °C	8.8 °C

^c Criterion is expressed in terms of “dissolved” concentrations in the water column.

^E 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.

^F 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 ^A	0.0043 ^A	0.09 ^A	0.004 ^A
^A 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	--	--
^C Criterion is expressed in terms of "dissolved" concentrations in the water column.							
^F 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 ^C	11 ^C	1100 ^C	50 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column.							
13	Copper	7440508	y	See C, N	See C, N	4.8 ^C	3.1 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column.							
^N 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.							
[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.]							
14	Cyanide	57125	y	22 ^J	5.2 ^J	1 ^J	1 ^J
^J This criterion is expressed as µg free cyanide (CN)/L.							
15	DDT 4,4'	50293	y	1.1 ^{A, G}	0.001 ^{A, G}	0.13 ^{A, G}	0.001 ^{A, G}
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
^G 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 ^A	0.0019 ^A
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
18	Endosulfan	115297	n	0.22 ^{A, H}	0.056 ^{A, H}	0.034 ^{A, H}	0.0087 ^{A, H}
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion. ^H 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 ^A	0.056 ^A	0.034 ^A	0.0087 ^A
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
20	Endosulfan Beta	33213659	y	0.22 ^A	0.056 ^A	0.034 ^A	0.0087 ^A
^A 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 ^A	0.0023 ^A
^A 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 ^A	0.0038 ^A	0.053 ^A	0.0036 ^A
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
24	Heptachlor Epoxide	1024573	y	0.52 ^A	0.0038 ^A	0.053 ^A	0.0036 ^A
^A 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 C , F	See C , F	210 ^C	8.1 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column. ^F 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

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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 ^C	8.2 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column. ^F 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
^H 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 ^K	0.014 ^K	10 ^K	0.03 ^K
^K This criterion applies to total PCBs (e.g. determined as Aroclors or congeners)							
36	Selenium	7782492	y	See C , L	4.6 ^C	290 ^C	71 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column. ^L 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 ^C	1.9 ^C	--
^C Criterion is expressed in terms of "dissolved" concentrations in the water column. ^F 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

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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)
41	Zinc	7440666	y	See C , F	See C , F	90 ^C	81 ^C

^C Criterion is expressed in terms of "dissolved" concentrations in the water column.

^F 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.

Table N-1.	
Parameter	Regression Equation
Alkalinity	$\text{Alk.} = \exp^{(0.88 \cdot [\ln(\text{SpC})] - 0.41)}$
Calcium	$\text{Ca} = \exp^{(0.96 \cdot [\ln(\text{SpC})] - 2.29)}$
Chloride	$\text{Cl} = \exp^{(1.15 \cdot [\ln(\text{SpC})] - 3.82)}$
Magnesium	$\text{Mg} = \exp^{(0.91 \cdot [\ln(\text{SpC})] - 3.09)}$
Potassium	$\text{K} = \exp^{(0.84 \cdot [\ln(\text{SpC})] - 3.74)}$
Sodium	$\text{Na} = \exp^{(0.86 \cdot [\ln(\text{SpC})] - 2.22)}$
Sulfate	$\text{SO}_4 = \exp^{(1.45 \cdot [\ln(\text{SpC})] - 5.59)}$

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 th	20 th
Coastal	20 th	20 th
Cascades	20 th	20 th
Eastern	15 th	15 th
Columbia River	20 th	20 th

(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

$$\text{Acute Criterion} = 0.7249 \times \frac{0.0114}{1 + 10^{7.204 - \text{pH}}} + \frac{1.6181}{1 + 10^{\text{pH} - 7.204}} \times \text{MIN}(51.93, 23.12 \times 10^{0.036 \times (20 - T)})$$

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 ^A

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 Aquatic Life Water Quality Guidance Values for Toxic Pollutants 340-041-8033						
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			



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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	



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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) ^A	7440382	y	y	2.1	2.1 (freshwater) 1.0 (saltwater)
^A The arsenic criteria are expressed as total inorganic arsenic. The "organism only" freshwater criterion is based on a risk level of approximately 1×10^{-5} , and the "water + organism" criterion is based on a risk level of 1×10^{-4} .						
8	Asbestos ^B	1332214	y	n	7,000,000 fibers/L	--
^B 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 ^C	7440393	n	n	1000	--
^C 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



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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	Chloromethyl ether, bis	542881	y	n	0.000024	0.000029
29	Chloronaphthalene 2	91587	n	n	150	160
30	Chlorophenol 2	95578	n	n	14	15
31	Chlorophenoxy Herbicide (2,4,5,-TP) ^D	93721	n	n	10	--
	^D 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.					
32	Chlorophenoxy Herbicide (2,4-D) ^E	94757	n	n	100	--



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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)
	^E 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.					
33	Chrysene	218019	y	n	0.0013	0.0018
34	Copper ^F	7440508	n	y	1300	--
	^F 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.					
35	Cyanide ^G	57125	n	y	130	130
	^G The cyanide criterion is expressed as total cyanide (CN)/L.					
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



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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



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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	<i>Hexachlorocyclo-hexane-Technical</i>	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	<i>Manganese</i> ^H	7439965	n	n	--	100
	^H 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.					
80	<i>Methoxychlor</i> ^I	72435	n	y	100	--
	^I 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.					
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) ^J	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)
	^J This value is expressed as the fish tissue concentration of methylmercury. Contaminated fish and shellfish is the primary human route of exposure to methylmercury.					
85	Nickel	7440020	n	y	140	170
86	Nitrates ^K	14797558	n	n	10000	--
	^K 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.					
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) ^L	NA	y	y	0.0000064	0.0000064
	^L This criterion applies to total PCBs (e.g. determined as Aroclors or congeners).					
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





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 µg/L. If there is no NPDES permit limit, leave this blank.

Receiving Stream Background. Enter the receiving stream background concentration in µg/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 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



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.

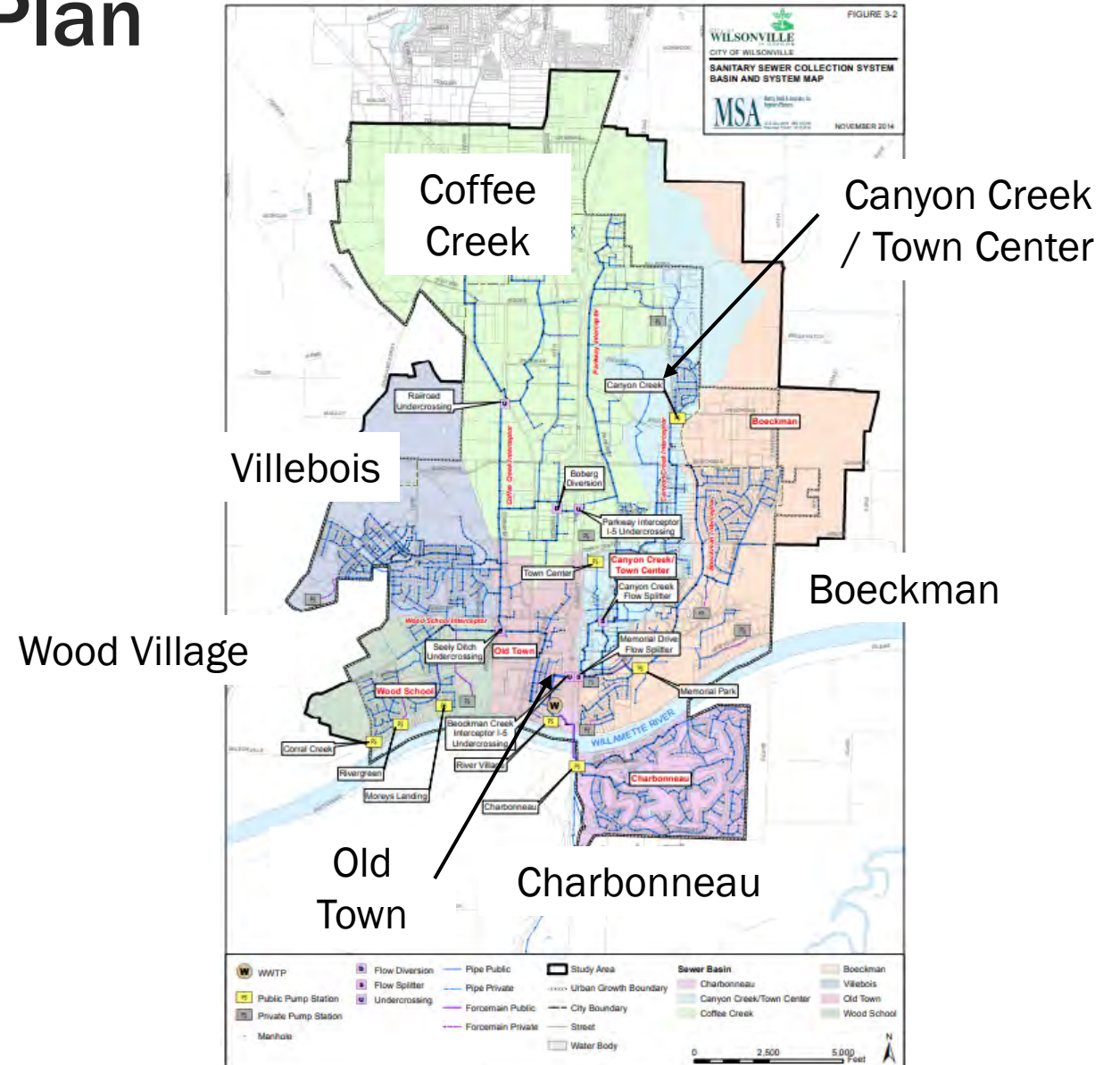
Background

- Collection System Master Plan (2014)
- Basalt Creek Concept Plan (2014)
- Coffee Creek Urban Renewal Plan (2016)
- 2020 Industrial User data

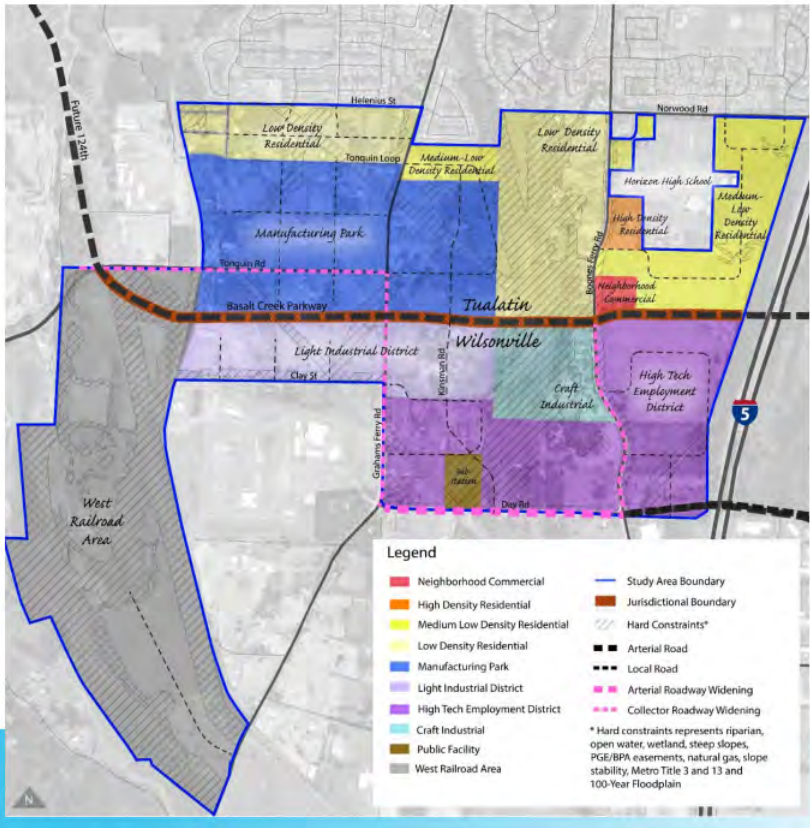
Collection System Master Plan

From Table 5-13 – Future Development Net Acreage and Dry Weather Loading by Land Use

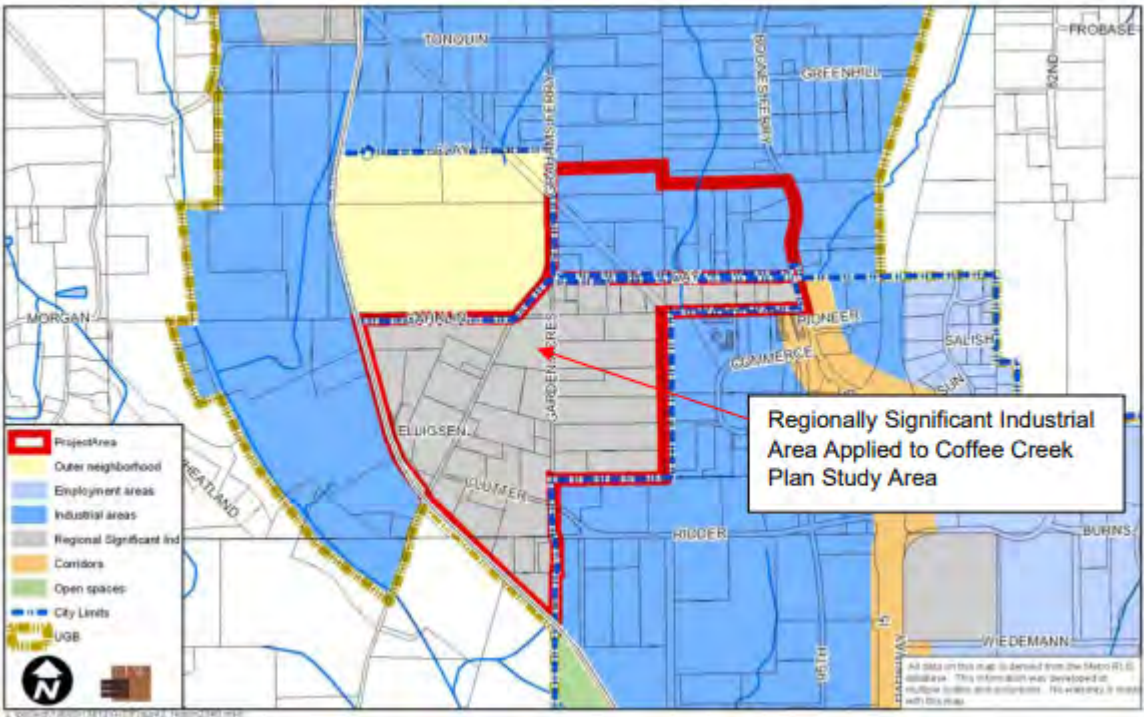
Basin	Net Industrial Acreage
Boeckman	0
Canyon Creek / Town Center	15
Charbonneau	0
Coffee Creek	88
Old Town	22
Villebois	0
Wood School	17
Total	142



Basalt Creek and Coffee Creek Plans



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>	174	0.174	0.087	0.061
	<i>Basalt Creek Development</i>	137	0.137	0.069	0.048
Old Town		22	0.022	0.011	0.008
Villebois		0	0	0	0
Wood School		17	0.017	0.009	0.006
TOTAL		365	0.365	0.183	0.128

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