

CERTIFICATE OF ANALYSIS

REPORTED TO Newell Regional Services Corporation
P.O. Box 638
Brooks, AB T1R 1B6

ATTENTION Ryan Melrose

PO NUMBER

PROJECT Schedule 4

PROJECT INFO WTP 2024 Summer Analysis

WORK ORDER 24G2081

RECEIVED / TEMP 2024-07-17 08:50 / 19.6°C

REPORTED 2024-07-30 12:18

COC NUMBER No #

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

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If you have any questions or concerns, please contact me at efex@caro.ca

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TEST RESULTS

REPORTED TO PROJECT Newell Regional Services Corporation
Schedule 4

WORK ORDER REPORTED 24G2081
2024-07-30 12:18

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
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WTP HDR #1 (24G2081-01) | Matrix: Water | Sampled: 2024-07-16 09:45

Acid Herbicides

2,4-D	< 0.10	MAC = 100	0.10	µg/L	2024-07-29	
2,4-DB	< 0.10	N/A	0.10	µg/L	2024-07-29	
Dichlorprop (2,4-DP)	< 0.10	N/A	0.10	µg/L	2024-07-29	
Fenoprop	< 0.10	N/A	0.10	µg/L	2024-07-29	
MCPA	< 0.02	MAC = 350	0.02	µg/L	2024-07-29	
MCPB	< 0.10	N/A	0.10	µg/L	2024-07-29	
2,4,5-T	< 0.10	N/A	0.10	µg/L	2024-07-29	
MCPB	< 0.10	N/A	0.10	µg/L	2024-07-29	
Acifluorfen	< 0.10	N/A	0.10	µg/L	2024-07-29	
Bentazon	< 0.10	N/A	0.10	µg/L	2024-07-29	
Chloramben	< 0.10	N/A	0.10	µg/L	2024-07-29	
Dicamba	< 0.10	MAC = 110	0.10	µg/L	2024-07-29	
Triclopyr	< 0.10	N/A	0.10	µg/L	2024-07-29	
Picloram	< 0.10	MAC = 190	0.10	µg/L	2024-07-29	
Clopyralid	< 0.10	N/A	0.10	µg/L	2024-07-29	
Bromoxynil	< 0.10	MAC = 30	0.10	µg/L	2024-07-29	
Dinoseb	< 0.10	N/A	0.10	µg/L	2024-07-29	

Anions

Bromate	< 0.005	MAC = 0.01	0.010	mg/L	2024-07-25	
Chlorate	< 0.50	MAC = 1	0.50	mg/L	2024-07-20	
Chloride	19.8	AO ≤ 250	0.50	mg/L	2024-07-20	
Chlorite	< 0.50	MAC = 1	0.50	mg/L	2024-07-20	
Fluoride	0.15	MAC = 1.5	0.10	mg/L	2024-07-20	
Nitrate (as N)	< 0.050	MAC = 10	0.050	mg/L	2024-07-20	HT1
Nitrite (as N)	< 0.050	MAC = 1	0.050	mg/L	2024-07-20	HT1
Sulfate	61.0	AO ≤ 500	1.0	mg/L	2024-07-20	

Calculated Parameters

Chloramines	0.270	MAC = 3	0.0400	mg/L	N/A	
Total Trihalomethanes	0.0383	MAC = 0.1	0.00400	mg/L	N/A	
Ion Balance	97.7	N/A		%	N/A	
Hardness, Total (as CaCO3)	171	None Required	0.541	mg/L	N/A	
Nitrate+Nitrite (as N)	< 0.0500	N/A	0.0500	mg/L	N/A	
Solids, Total Dissolved	245	AO ≤ 500	5.00	mg/L	N/A	

Chlorinated Phenols

2-Chlorophenol	< 0.10	N/A	0.10	µg/L	2024-07-22	
3 & 4-Chlorophenol	< 0.10	N/A	0.10	µg/L	2024-07-22	
4-Chloro-3-Methylphenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,3-Dichlorophenol	< 0.20	N/A	0.20	µg/L	2024-07-22	
2,4 & 2,5-Dichlorophenol	< 0.20	AO ≤ 0.3	0.20	µg/L	2024-07-22	
2,6-Dichlorophenol	< 0.20	N/A	0.20	µg/L	2024-07-22	
3,4-Dichlorophenol	< 0.20	N/A	0.20	µg/L	2024-07-22	

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WTP HDR #1 (24G2081-01) | Matrix: Water | Sampled: 2024-07-16 09:45, Continued

Chlorinated Phenols, Continued

3,5-Dichlorophenol	< 0.20	N/A	0.20	µg/L	2024-07-22	
2,3,4-Trichlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,3,5-Trichlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,3,6-Trichlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,4,5-Trichlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,4,6-Trichlorophenol	< 0.50	AO ≤ 2	0.50	µg/L	2024-07-22	
3,4,5-Trichlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,3,4,5 & 2,3,5,6-Tetrachlorophenol	< 0.50	N/A	0.50	µg/L	2024-07-22	
2,3,4,6-Tetrachlorophenol	< 0.50	AO ≤ 1	0.50	µg/L	2024-07-22	
Pentachlorophenol	< 0.50	AO ≤ 30	0.50	µg/L	2024-07-22	
Surrogate: 2,4-Dibromophenol	93		60-130	%	2024-07-22	
Surrogate: 2,4,6-Tribromophenol	87		60-130	%	2024-07-22	
Surrogate: Phenol-d6	128		70-130	%	2024-07-22	

General Parameters

Alkalinity, Total (as CaCO ₃)	135	N/A	2.0	mg/L	2024-07-22	
Bicarbonate (HCO ₃)	165	N/A	2.0	mg/L	2024-07-22	
Carbonate (CO ₃)	< 2.0	N/A	2.0	mg/L	2024-07-22	
Hydroxide (OH)	< 2.0	N/A	2.0	mg/L	2024-07-22	
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2024-07-23	
Carbon, Total Organic	2.42	N/A	0.50	mg/L	2024-07-20	
Chlorine, Total	1.40	None Required	0.02	mg/L	2024-07-19	HT2
Chlorine, Free	1.13	N/A	0.02	mg/L	2024-07-19	HT2
Colour, True	< 5.0	AO ≤ 15	5.0	CU	2024-07-18	
Conductivity (EC)	432	N/A	2.0	µS/cm	2024-07-22	
Cyanide, Total	< 0.0020	MAC = 0.2	0.0020	mg/L	2024-07-20	
Nitritotriacetic Acid	< 0.20	MAC = 0.4	0.20	mg/L	2024-07-19	
pH	8.27	7.0-10.5	0.10	pH units	2024-07-22	HT2
Sulfide, Total	< 0.020	AO ≤ 0.05	0.020	mg/L	2024-07-19	
Turbidity	< 0.10	OG < 1	0.10	NTU	2024-07-18	

Microbiological Parameters

Microcystin, total	< 0.05	MAC = 1.5	0.05	µg/L	2024-07-24	
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Miscellaneous Herbicides

Glyphosate	< 0.050	MAC = 0.28	0.050	mg/L	2024-07-23	
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Miscellaneous Organics

N-Nitrosodimethylamine	< 0.000009	MAC = 0.00004	0.000009	mg/L	2024-07-23	
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Pesticides, Herbicides, and Fungicides

Alachlor	< 0.100	N/A	0.100	µg/L	2024-07-26	
Aldrin	< 0.006	N/A	0.006	µg/L	2024-07-26	
Atrazine and metabolites	< 0.100	MAC = 5	0.100	µg/L	2024-07-26	
Azinphos-methyl	< 0.200	MAC = 20	0.200	µg/L	2024-07-26	

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<i>Pesticides, Herbicides, and Fungicides, Continued</i>						
alpha-BHC	< 0.010	N/A	0.010	µg/L	2024-07-26	
beta-BHC	< 0.050	N/A	0.050	µg/L	2024-07-26	
delta-BHC	< 0.050	N/A	0.050	µg/L	2024-07-26	
gamma-BHC (Lindane)	< 0.050	N/A	0.050	µg/L	2024-07-26	
Bromacil	< 0.100	N/A	0.100	µg/L	2024-07-26	
Bromoxynil	< 0.200	MAC = 30	0.200	µg/L	2024-07-26	
Butachlor	< 0.020	N/A	0.020	µg/L	2024-07-26	
Captan	< 0.100	N/A	0.100	µg/L	2024-07-26	
Chlordane (cis + trans)	< 0.050	N/A	0.050	µg/L	2024-07-26	
Chlorothalonil	< 0.050	N/A	0.050	µg/L	2024-07-26	
Chlorpyrifos	< 0.010	MAC = 90	0.010	µg/L	2024-07-26	
Cyanazine	< 0.100	N/A	0.100	µg/L	2024-07-26	
DDT, Total	< 0.010	N/A	0.010	µg/L	2024-07-26	
Deltamethrin	< 0.100	N/A	0.100	µg/L	2024-07-26	
Diazinon	< 0.020	MAC = 20	0.020	µg/L	2024-07-26	
Dichlorvos	< 0.100	N/A	0.100	µg/L	2024-07-26	
Diclofop-methyl	< 0.100	MAC = 9	0.100	µg/L	2024-07-26	
Dieldrin	< 0.010	N/A	0.010	µg/L	2024-07-26	
Dimethoate	< 0.200	MAC = 20	0.200	µg/L	2024-07-26	
Disulfoton	< 0.100	N/A	0.100	µg/L	2024-07-26	
Diuron	< 0.200	MAC = 150	0.200	µg/L	2024-07-26	
Endosulfan I + II	< 0.010	N/A	0.010	µg/L	2024-07-26	
Endosulfan sulfate	< 0.050	N/A	0.050	µg/L	2024-07-26	
Endrin	< 0.020	N/A	0.020	µg/L	2024-07-26	
Endrin aldehyde	< 0.020	N/A	0.020	µg/L	2024-07-26	
Endrin ketone	< 0.020	N/A	0.020	µg/L	2024-07-26	
Fenchlorphos (Ronnell)	< 0.100	N/A	0.100	µg/L	2024-07-26	
Heptachlor	< 0.010	N/A	0.010	µg/L	2024-07-26	
Heptachlor epoxide	< 0.010	N/A	0.010	µg/L	2024-07-26	
Linuron	< 0.050	N/A	0.050	µg/L	2024-07-26	
Malathion	< 0.100	MAC = 290	0.100	µg/L	2024-07-26	
Methoxychlor	< 0.050	N/A	0.050	µg/L	2024-07-26	
Methyl parathion	< 0.100	N/A	0.100	µg/L	2024-07-26	
Metolachlor	< 0.100	MAC = 50	0.100	µg/L	2024-07-26	
Metribuzin	< 0.200	MAC = 80	0.200	µg/L	2024-07-26	
Parathion	< 0.100	N/A	0.100	µg/L	2024-07-26	
Pentachloronitrobenzene	< 0.100	N/A	0.100	µg/L	2024-07-26	
Permethrin	< 0.010	N/A	0.010	µg/L	2024-07-26	
Phorate	< 0.100	MAC = 2	0.100	µg/L	2024-07-26	
Prometon	< 0.300	N/A	0.300	µg/L	2024-07-26	
Prometryne	< 0.100	N/A	0.100	µg/L	2024-07-26	
Simazine	< 0.200	MAC = 10	0.200	µg/L	2024-07-26	
Sulfotep	< 0.100	N/A	0.100	µg/L	2024-07-26	

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WTP HDR #1 (24G2081-01) | Matrix: Water | Sampled: 2024-07-16 09:45, Continued

Pesticides, Herbicides, and Fungicides, Continued

Tebuthiuron	< 0.200	N/A	0.200	µg/L	2024-07-26	
Temephos (Abate)	< 0.500	N/A	0.500	µg/L	2024-07-26	
Terbufos	< 0.100	MAC = 1	0.100	µg/L	2024-07-26	
Triallate	< 0.100	N/A	0.100	µg/L	2024-07-26	
Trifluralin	< 0.200	MAC = 45	0.200	µg/L	2024-07-26	
Surrogate: Tributyl Phosphate	79		50-140	%	2024-07-26	
Surrogate: 4-chloro-3-nitrobenzotrifluoride	73		50-140	%	2024-07-26	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	N/A	0.050	µg/L	2024-07-23	
Acenaphthylene	< 0.200	N/A	0.200	µg/L	2024-07-23	
Acridine	< 0.050	N/A	0.050	µg/L	2024-07-23	
Anthracene	< 0.010	N/A	0.010	µg/L	2024-07-23	
Benz(a)anthracene	< 0.010	N/A	0.010	µg/L	2024-07-23	
Benzo(a)pyrene	< 0.010	MAC = 0.04	0.010	µg/L	2024-07-23	
Benzo(b+j)fluoranthene	< 0.050	N/A	0.050	µg/L	2024-07-23	
Benzo(g,h,i)perylene	< 0.050	N/A	0.050	µg/L	2024-07-23	
Benzo(k)fluoranthene	< 0.050	N/A	0.050	µg/L	2024-07-23	
2-Chloronaphthalene	< 0.100	N/A	0.100	µg/L	2024-07-23	
Chrysene	< 0.050	N/A	0.050	µg/L	2024-07-23	
Dibenz(a,h)anthracene	< 0.010	N/A	0.010	µg/L	2024-07-23	
Fluoranthene	< 0.030	N/A	0.030	µg/L	2024-07-23	
Fluorene	< 0.050	N/A	0.050	µg/L	2024-07-23	
Indeno(1,2,3-cd)pyrene	< 0.050	N/A	0.050	µg/L	2024-07-23	
1-Methylnaphthalene	< 0.100	N/A	0.100	µg/L	2024-07-23	
2-Methylnaphthalene	< 0.100	N/A	0.100	µg/L	2024-07-23	
Naphthalene	< 0.200	N/A	0.200	µg/L	2024-07-23	
Phenanthrene	< 0.100	N/A	0.100	µg/L	2024-07-23	
Pyrene	< 0.020	N/A	0.020	µg/L	2024-07-23	
Quinoline	< 0.050	N/A	0.050	µg/L	2024-07-23	
Surrogate: Naphthalene-d8	90		50-140	%	2024-07-23	
Surrogate: Perylene-d12	78		50-140	%	2024-07-23	

Total Metals

Aluminum, total	0.118	OG < 0.1	0.0050	mg/L	2024-07-19	
Antimony, total	< 0.00020	MAC = 0.006	0.00020	mg/L	2024-07-19	
Arsenic, total	0.00106	MAC = 0.01	0.00050	mg/L	2024-07-19	
Barium, total	0.0712	MAC = 2	0.0050	mg/L	2024-07-19	
Boron, total	< 0.0500	MAC = 5	0.0500	mg/L	2024-07-19	
Cadmium, total	< 0.000010	MAC = 0.007	0.000010	mg/L	2024-07-19	
Calcium, total	41.2	None Required	0.20	mg/L	2024-07-19	
Chromium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2024-07-19	
Copper, total	0.00046	MAC = 2	0.00040	mg/L	2024-07-19	
Iron, total	< 0.010	AO ≤ 0.3	0.010	mg/L	2024-07-19	

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WTP HDR #1 (24G2081-01) | Matrix: Water | Sampled: 2024-07-16 09:45, Continued

Total Metals, Continued

Lead, total	< 0.00020	MAC = 0.005	0.00020	mg/L	2024-07-19	
Magnesium, total	16.6	None Required	0.010	mg/L	2024-07-19	
Manganese, total	0.00092	MAC = 0.12	0.00020	mg/L	2024-07-19	
Mercury, total	< 0.000010	MAC = 0.001	0.000010	mg/L	2024-07-18	
Potassium, total	2.21	N/A	0.10	mg/L	2024-07-19	
Selenium, total	< 0.00050	MAC = 0.05	0.00050	mg/L	2024-07-19	
Silver, total	< 0.000050	None Required	0.000050	mg/L	2024-07-19	
Sodium, total	22.0	AO ≤ 200	0.10	mg/L	2024-07-19	
Strontium, total	0.232	MAC = 7	0.0010	mg/L	2024-07-19	
Uranium, total	0.000673	MAC = 0.02	0.000020	mg/L	2024-07-19	
Zinc, total	< 0.0040	AO ≤ 5	0.0040	mg/L	2024-07-19	

Volatile Organic Compounds (VOC)

Benzene	< 0.5	MAC = 5	0.5	µg/L	2024-07-19	
Bromodichloromethane	5.7	N/A	1.0	µg/L	2024-07-19	
Bromoform	< 1.0	N/A	1.0	µg/L	2024-07-19	
Carbon tetrachloride	< 0.5	MAC = 2	0.5	µg/L	2024-07-19	
Chlorobenzene	< 1.0	AO ≤ 30	1.0	µg/L	2024-07-19	
Chloroethane	< 2.0	N/A	2.0	µg/L	2024-07-19	
Chloroform	32.6	N/A	1.0	µg/L	2024-07-19	
Dibromochloromethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,2-Dibromoethane	< 0.3	N/A	0.3	µg/L	2024-07-19	
Dibromomethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,2-Dichlorobenzene	< 0.5	AO ≤ 3	0.5	µg/L	2024-07-19	
1,3-Dichlorobenzene	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,4-Dichlorobenzene	< 1.0	AO ≤ 1	1.0	µg/L	2024-07-19	
1,1-Dichloroethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,2-Dichloroethane	< 1.0	MAC = 5	1.0	µg/L	2024-07-19	
1,1-Dichloroethylene	< 1.0	MAC = 14	1.0	µg/L	2024-07-19	
cis-1,2-Dichloroethylene	< 1.0	N/A	1.0	µg/L	2024-07-19	
trans-1,2-Dichloroethylene	< 1.0	N/A	1.0	µg/L	2024-07-19	
Dichloromethane	< 3.0	MAC = 50	3.0	µg/L	2024-07-19	
1,2-Dichloropropane	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,3-Dichloropropene (cis + trans)	< 1.0	N/A	1.0	µg/L	2024-07-19	
Ethylbenzene	< 1.0	AO ≤ 1.6	1.0	µg/L	2024-07-19	
Methyl tert-butyl ether	< 1.0	AO ≤ 15	1.0	µg/L	2024-07-19	
Styrene	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,1,2,2-Tetrachloroethane	< 0.5	N/A	0.5	µg/L	2024-07-19	
Tetrachloroethylene	< 1.0	MAC = 10	1.0	µg/L	2024-07-19	
Toluene	< 0.5	MAC = 60	0.5	µg/L	2024-07-19	
1,1,1-Trichloroethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
1,1,2-Trichloroethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
Trichloroethylene	< 1.0	MAC = 5	1.0	µg/L	2024-07-19	

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Volatile Organic Compounds (VOC), Continued						
Trichlorofluoromethane	< 1.0	N/A	1.0	µg/L	2024-07-19	
Vinyl chloride	< 1.0	MAC = 2	1.0	µg/L	2024-07-19	
Xylenes (total)	< 2.0	AO ≤ 20	2.0	µg/L	2024-07-19	
Surrogate: Toluene-d8	91		70-130	%	2024-07-19	
Surrogate: 4-Bromofluorobenzene	106		70-130	%	2024-07-19	

Sample Qualifiers:

HT1 The sample was prepared and/or analyzed past the recommended holding time.

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

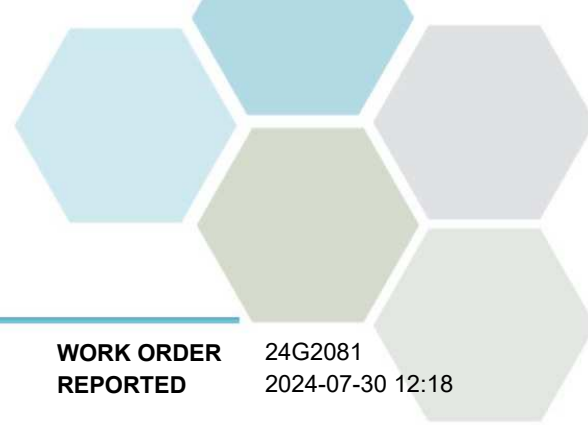
APPENDIX 1: SUPPORTING INFORMATION

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Analysis Description	Method Ref.	Technique	Accredited	Location
Acid Herbicides in Water in Water	In-House	N/A	✓	Richmond
Alkalinity in Water	SM 2320 B* (2021)	Titration with H2SO4	✓	Edmonton
Ammonia, Total in Water	SM 4500-NH3 D* (2021)	Ion Selective Electrode	✓	Edmonton
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Edmonton
Bromate in Water	SM 4110 B (2020)	Ion Chromatography	✓	Sublet
Carbon, Total Organic in Water	SM 5310 B (2022)	Combustion, Infrared CO2 Detection	✓	Kelowna
Chlorine, Free in Water	SM 4500-Cl G (2021)	Colorimetry (DPD)	✓	Edmonton
Chlorine, Total in Water	SM 4500-Cl G (2021)	Colorimetry (DPD)	✓	Edmonton
Colour, True in Water	SM 2120 C (2021)	Spectrophotometry (456 nm)	✓	Edmonton
Conductivity in Water	SM 2510 B (2021)	Conductivity Meter	✓	Edmonton
Cyanide, SAD in Water	ASTM D7511-12	Flow Injection with In-Line UV Digestion and Amperometry	✓	Kelowna
Cyanobacterial Toxins in Water	EPA 546*	Adda Enzyme-Linked Immunosorbent Assay (ELISA)	✓	Sublet
Glyphosate in Water	EPA 547*	Direct Aqueous Injection HPLC with Post-Column Derivatization and Fluorescence Detection	✓	Richmond
Hardness in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Ion Balance in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Mercury, total in Water	EPA 245.7*	BrCl2 Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	✓	Richmond
Nitrate+Nitrite in Water	SM 2340 B (2021)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
Nitritotriacetic Acid in Water	EPA 430.1	Manual Colorimetry (Zinc-Zincon)		Kelowna
N-Nitrosodimethylamine in Water	In-House	N/A	✓	Sublet
Pesticides in Water	EPA 3510C* / EPA 8270D*	Liquid-Liquid DCM Extraction (B/N) / GC-MSD (SIM)	✓	Richmond
pH in Water	SM 4500-H+ B (2021)	Electrometry	✓	Edmonton
Phenols, Chlorinated in Water	EPA 3510C* / EPA 8270D	Liquid-Liquid DCM Extraction (Acidic) / GC-MSD (SIM)	✓	Richmond
Polycyclic Aromatic Hydrocarbons in Water	EPA 3511* / EPA 8270D	Hexane MicroExtraction (Base/Neutral) / GC-MSD (SIM)		Edmonton
Solids, Total Dissolved in Water	SM 1030 E (2021)	SM 1030 E	✓	N/A
Sulfide, Total in Water	SM 4500-S2 D* (2021)	Colorimetry (Methylene Blue)	✓	Edmonton
Total Metals in Water	EPA 200.2 / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	✓	Richmond
Turbidity in Water	SM 2130 B (2020)	Nephelometry	✓	Edmonton
Volatile Organic Compounds in Water	EPA 5030B / EPA 8260D	Purge&Trap / GC-MSD (SIM)		Edmonton

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method



APPENDIX 1: SUPPORTING INFORMATION

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Glossary of Terms:

RL	Reporting Limit (default)
%	Percent
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
AO	Aesthetic Objective
CU	Colour Units (referenced against a platinum cobalt standard)
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, pH > 7 = basic
µg/L	Micrograms per litre
µS/cm	Microsiemens per centimetre
ASTM	ASTM International Test Methods
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

The results in this report apply to the received samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Caro will dispose of all samples within 30 days of sample receipt, unless otherwise agreed.

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: efex@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.

APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Acid Herbicides, Batch B4G4324

Blank (B4G4324-BLK1)			Prepared: 2024-07-25, Analyzed: 2024-07-29						
2,4-D	< 0.10	0.10 µg/L							
2,4-DB	< 0.10	0.10 µg/L							
Dichlorprop (2,4-DP)	< 0.10	0.10 µg/L							
Fenoprop	< 0.10	0.10 µg/L							
MCPA	< 0.02	0.02 µg/L							
MCPB	< 0.10	0.10 µg/L							
2,4,5-T	< 0.10	0.10 µg/L							
MCP	< 0.10	0.10 µg/L							
Acifluorfen	< 0.10	0.10 µg/L							
Bentazon	< 0.10	0.10 µg/L							
Chloramben	< 0.10	0.10 µg/L							
Dicamba	< 0.10	0.10 µg/L							
Triclopyr	< 0.10	0.10 µg/L							
Picloram	< 0.10	0.10 µg/L							
Clpyralid	< 0.10	0.10 µg/L							
Bromoxynil	< 0.10	0.10 µg/L							
Dinoseb	< 0.10	0.10 µg/L							

LCS (B4G4324-BS1)			Prepared: 2024-07-25, Analyzed: 2024-07-29						
2,4-D	5.08	0.10 µg/L	4.98		102	70-130			
2,4-DB	4.75	0.10 µg/L	5.00		95	70-130			
Dichlorprop (2,4-DP)	4.77	0.10 µg/L	4.99		96	70-130			
Fenoprop	4.87	0.10 µg/L	5.00		97	70-130			
MCPA	5.36	0.02 µg/L	5.00		107	70-130			
MCPB	4.47	0.10 µg/L	5.00		89	70-130			
2,4,5-T	5.20	0.10 µg/L	5.00		104	70-130			
MCP	5.18	0.10 µg/L	5.00		104	70-130			
Acifluorfen	4.73	0.10 µg/L	4.98		95	70-130			
Bentazon	6.39	0.10 µg/L	5.00		128	70-130			
Chloramben	5.25	0.10 µg/L	4.99		105	70-130			
Dicamba	4.02	0.10 µg/L	5.00		80	70-130			
Triclopyr	5.37	0.10 µg/L	5.00		107	70-130			
Picloram	6.00	0.10 µg/L	4.98		120	70-130			
Clpyralid	5.14	0.10 µg/L	4.98		103	70-130			
Bromoxynil	5.75	0.10 µg/L	5.00		115	70-130			
Dinoseb	5.60	0.10 µg/L	4.99		112	70-130			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Acid Herbicides, Batch B4G4324, Continued									
LCS Dup (B4G4324-BSD1)				Prepared: 2024-07-25, Analyzed: 2024-07-29					
2,4-D	4.70	0.10 µg/L	4.98		94	70-130	8	30	
2,4-DB	5.35	0.10 µg/L	5.00		107	70-130	12	30	
Dichlorprop (2,4-DP)	4.61	0.10 µg/L	4.99		92	70-130	3	30	
Fenoprop	4.80	0.10 µg/L	5.00		96	70-130	1	30	
MCPA	5.21	0.02 µg/L	5.00		104	70-130	3	30	
MCPB	4.34	0.10 µg/L	5.00		87	70-130	3	30	
2,4,5-T	5.11	0.10 µg/L	5.00		102	70-130	2	30	
MCPB	5.08	0.10 µg/L	5.00		102	70-130	2	30	
Acifluorfen	4.65	0.10 µg/L	4.98		93	70-130	2	30	
Bentazon	5.72	0.10 µg/L	5.00		114	70-130	11	30	
Chloramben	5.27	0.10 µg/L	4.99		106	70-130	< 1	30	
Dicamba	4.39	0.10 µg/L	5.00		88	70-130	9	30	
Triclopyr	5.80	0.10 µg/L	5.00		116	70-130	8	30	
Picloram	5.64	0.10 µg/L	4.98		113	70-130	6	30	
Clopyralid	5.59	0.10 µg/L	4.98		112	70-130	8	30	
Bromoxynil	5.31	0.10 µg/L	5.00		106	70-130	8	30	
Dinoseb	4.93	0.10 µg/L	4.99		99	70-130	13	30	

Anions, Batch B4G3584

Blank (B4G3584-BLK1)			Prepared: 2024-07-19, Analyzed: 2024-07-19						
Chlorate	< 0.50	0.50 mg/L							
Chloride	< 0.50	0.50 mg/L							
Chlorite	< 0.50	0.50 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.050	0.050 mg/L							
Nitrite (as N)	< 0.050	0.050 mg/L							
Sulfate	< 1.0	1.0 mg/L							

LCS (B4G3584-BS1)			Prepared: 2024-07-19, Analyzed: 2024-07-19						
Chlorate	9.79	0.50 mg/L	10.0		98	89-112			
Chloride	9.46	0.50 mg/L	10.0		95	90-110			
Chlorite	9.31	0.50 mg/L	10.0		93	80-120			
Fluoride	0.91	0.10 mg/L	1.00		91	85-115			
Nitrate (as N)	0.918	0.050 mg/L	1.00		92	92-108			
Nitrite (as N)	0.462	0.050 mg/L	0.500		92	85-115			
Sulfate	50.9	1.0 mg/L	50.0		102	90-110			

Chlorinated Phenols, Batch B4G3359

Blank (B4G3359-BLK1)			Prepared: 2024-07-18, Analyzed: 2024-07-22						
2-Chlorophenol	< 0.10	0.10 µg/L							
3 & 4-Chlorophenol	< 0.10	0.10 µg/L							
4-Chloro-3-Methylphenol	< 0.50	0.50 µg/L							
2,3-Dichlorophenol	< 0.20	0.20 µg/L							
2,4 & 2,5-Dichlorophenol	< 0.20	0.20 µg/L							
2,6-Dichlorophenol	< 0.20	0.20 µg/L							
3,4-Dichlorophenol	< 0.20	0.20 µg/L							
3,5-Dichlorophenol	< 0.20	0.20 µg/L							
2,3,4-Trichlorophenol	< 0.50	0.50 µg/L							
2,3,5-Trichlorophenol	< 0.50	0.50 µg/L							
2,3,6-Trichlorophenol	< 0.50	0.50 µg/L							
2,4,5-Trichlorophenol	< 0.50	0.50 µg/L							
2,4,6-Trichlorophenol	< 0.50	0.50 µg/L							
3,4,5-Trichlorophenol	< 0.50	0.50 µg/L							

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Chlorinated Phenols, Batch B4G3359, Continued									
Blank (B4G3359-BLK1), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-22				
2,3,4,5 & 2,3,5,6-Tetrachlorophenol	< 0.50	0.50 µg/L							
2,3,4,6-Tetrachlorophenol	< 0.50	0.50 µg/L							
Pentachlorophenol	< 0.50	0.50 µg/L							
Surrogate: 2,4-Dibromophenol	2.01	µg/L	2.36		85	60-130			
Surrogate: 2,4,6-Tribromophenol	1.98	µg/L	2.68		74	60-130			
Surrogate: Phenol-d6	2.63	µg/L	2.10		125	70-130			
LCS (B4G3359-BS1)					Prepared: 2024-07-18, Analyzed: 2024-07-22				
2-Chlorophenol	9.46	0.10 µg/L	10.0		95	60-130			
3 & 4-Chlorophenol	16.4	0.10 µg/L	20.0		82	60-130			
4-Chloro-3-Methylphenol	11.0	0.50 µg/L	10.8		102	60-130			
2,3-Dichlorophenol	8.47	0.20 µg/L	10.0		85	60-130			
2,4 & 2,5-Dichlorophenol	19.3	0.20 µg/L	20.0		97	60-130			
2,6-Dichlorophenol	9.61	0.20 µg/L	10.0		96	60-130			
3,4-Dichlorophenol	10.1	0.20 µg/L	10.0		101	60-130			
3,5-Dichlorophenol	10.8	0.20 µg/L	10.0		108	60-130			
2,3,4-Trichlorophenol	10.2	0.50 µg/L	10.0		102	60-130			
2,3,5-Trichlorophenol	9.67	0.50 µg/L	10.0		97	60-130			
2,3,6-Trichlorophenol	10.3	0.50 µg/L	10.0		103	60-130			
2,4,5-Trichlorophenol	10.1	0.50 µg/L	10.0		101	60-130			
2,4,6-Trichlorophenol	10.3	0.50 µg/L	10.0		103	60-130			
3,4,5-Trichlorophenol	10.2	0.50 µg/L	10.0		102	60-130			
2,3,4,5 & 2,3,5,6-Tetrachlorophenol	19.6	0.50 µg/L	20.0		98	60-130			
2,3,4,6-Tetrachlorophenol	8.87	0.50 µg/L	10.0		89	60-130			
Pentachlorophenol	11.2	0.50 µg/L	10.0		112	60-130			
Surrogate: 2,4-Dibromophenol	2.41	µg/L	2.36		102	60-130			
Surrogate: 2,4,6-Tribromophenol	2.37	µg/L	2.68		88	60-130			
Surrogate: Phenol-d6	2.63	µg/L	2.10		125	70-130			
LCS Dup (B4G3359-BSD1)					Prepared: 2024-07-18, Analyzed: 2024-07-22				
2-Chlorophenol	8.63	0.10 µg/L	10.0		86	60-130	9	40	
3 & 4-Chlorophenol	16.0	0.10 µg/L	20.0		80	60-130	2	40	
4-Chloro-3-Methylphenol	10.3	0.50 µg/L	10.8		96	60-130	6	40	
2,3-Dichlorophenol	8.98	0.20 µg/L	10.0		90	60-130	6	40	
2,4 & 2,5-Dichlorophenol	17.7	0.20 µg/L	20.0		88	60-130	9	40	
2,6-Dichlorophenol	8.88	0.20 µg/L	10.0		89	60-130	8	40	
3,4-Dichlorophenol	9.77	0.20 µg/L	10.0		98	60-130	3	40	
3,5-Dichlorophenol	10.3	0.20 µg/L	10.0		103	60-130	4	40	
2,3,4-Trichlorophenol	9.46	0.50 µg/L	10.0		95	60-130	7	40	
2,3,5-Trichlorophenol	9.76	0.50 µg/L	10.0		98	60-130	< 1	40	
2,3,6-Trichlorophenol	9.60	0.50 µg/L	10.0		96	60-130	7	40	
2,4,5-Trichlorophenol	10.0	0.50 µg/L	10.0		100	60-130	< 1	40	
2,4,6-Trichlorophenol	10.1	0.50 µg/L	10.0		101	60-130	2	40	
3,4,5-Trichlorophenol	10.0	0.50 µg/L	10.0		100	60-130	1	40	
2,3,4,5 & 2,3,5,6-Tetrachlorophenol	18.3	0.50 µg/L	20.0		92	60-130	7	40	
2,3,4,6-Tetrachlorophenol	9.50	0.50 µg/L	10.0		95	60-130	7	40	
Pentachlorophenol	11.4	0.50 µg/L	10.0		114	60-130	2	40	
Surrogate: 2,4-Dibromophenol	2.31	µg/L	2.36		98	60-130			
Surrogate: 2,4,6-Tribromophenol	2.25	µg/L	2.68		84	60-130			
Surrogate: Phenol-d6	2.64	µg/L	2.10		126	70-130			

General Parameters, Batch B4G3352

Blank (B4G3352-BLK1)					Prepared: 2024-07-20, Analyzed: 2024-07-20				
Carbon, Total Organic	< 0.50	0.50 mg/L							

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4G3352, Continued									
Blank (B4G3352-BLK2)				Prepared: 2024-07-20, Analyzed: 2024-07-20					
Carbon, Total Organic	< 0.50	0.50 mg/L							
Blank (B4G3352-BLK3)				Prepared: 2024-07-20, Analyzed: 2024-07-20					
Carbon, Total Organic	< 0.50	0.50 mg/L							
LCS (B4G3352-BS1)				Prepared: 2024-07-20, Analyzed: 2024-07-20					
Carbon, Total Organic	10.5	0.50 mg/L	10.0		105	78-116			
LCS (B4G3352-BS2)				Prepared: 2024-07-20, Analyzed: 2024-07-20					
Carbon, Total Organic	10.8	0.50 mg/L	10.0		108	78-116			
LCS (B4G3352-BS3)				Prepared: 2024-07-20, Analyzed: 2024-07-20					
Carbon, Total Organic	10.9	0.50 mg/L	10.0		109	78-116			
General Parameters, Batch B4G3430									
Blank (B4G3430-BLK1)				Prepared: 2024-07-18, Analyzed: 2024-07-18					
Colour, True	< 5.0	5.0 CU							
LCS (B4G3430-BS1)				Prepared: 2024-07-18, Analyzed: 2024-07-18					
Colour, True	26	5.0 CU	25.0		104	90-109			
General Parameters, Batch B4G3431									
Blank (B4G3431-BLK1)				Prepared: 2024-07-18, Analyzed: 2024-07-18					
Turbidity	< 0.10	0.10 NTU							
LCS (B4G3431-BS1)				Prepared: 2024-07-18, Analyzed: 2024-07-18					
Turbidity	39.6	0.10 NTU	40.0		99	90-110			
General Parameters, Batch B4G3525									
Blank (B4G3525-BLK1)				Prepared: 2024-07-19, Analyzed: 2024-07-19					
Nitritotriacetic Acid	< 0.20	0.20 mg/L							
LCS (B4G3525-BS1)				Prepared: 2024-07-19, Analyzed: 2024-07-19					
Nitritotriacetic Acid	1.17	0.20 mg/L	1.00		117	80-120			
LCS Dup (B4G3525-BSD1)				Prepared: 2024-07-19, Analyzed: 2024-07-19					
Nitritotriacetic Acid	1.18	0.20 mg/L	1.00		118	80-120	< 1	20	
General Parameters, Batch B4G3537									
Blank (B4G3537-BLK1)				Prepared: 2024-07-19, Analyzed: 2024-07-19					
Chlorine, Total	< 0.02	0.02 mg/L							
Chlorine, Free	< 0.02	0.02 mg/L							
Duplicate (B4G3537-DUP1)		Source: 24G2081-01		Prepared: 2024-07-19, Analyzed: 2024-07-19					
Chlorine, Total	1.36	0.02 mg/L		1.40			3	10	
Chlorine, Free	0.92	0.02 mg/L		1.13			20	20	
Reference (B4G3537-SRM1)				Prepared: 2024-07-19, Analyzed: 2024-07-19					
Chlorine, Total	1.54	0.02 mg/L		1.59			97	91.2-108.8	
Chlorine, Free	1.54	0.02 mg/L		1.59			97	91.2-108.8	

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B4G3573									
Blank (B4G3573-BLK1)			Prepared: 2024-07-19, Analyzed: 2024-07-19						
Sulfide, Total	< 0.020	0.020 mg/L							
LCS (B4G3573-BS1)			Prepared: 2024-07-19, Analyzed: 2024-07-19						
Sulfide, Total	0.515	0.020 mg/L	0.530		97	80-120			
Matrix Spike (B4G3573-MS1)			Source: 24G2081-01		Prepared: 2024-07-19, Analyzed: 2024-07-19				
Sulfide, Total	0.210	0.020 mg/L	0.530	< 0.020	40	70-130			MS1
General Parameters, Batch B4G3594									
Blank (B4G3594-BLK1)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	< 0.0020	0.0020 mg/L							
Blank (B4G3594-BLK2)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	< 0.0020	0.0020 mg/L							
LCS (B4G3594-BS1)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	0.0191	0.0020 mg/L	0.0200		95	82-120			
LCS (B4G3594-BS2)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	0.0181	0.0020 mg/L	0.0200		90	82-120			
LCS Dup (B4G3594-BSD1)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	0.0199	0.0020 mg/L	0.0200		99	82-120	4	10	
LCS Dup (B4G3594-BSD2)			Prepared: 2024-07-20, Analyzed: 2024-07-20						
Cyanide, Total	0.0200	0.0020 mg/L	0.0200		100	82-120	10	10	
General Parameters, Batch B4G3735									
Blank (B4G3735-BLK1)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
Alkalinity, Total (as CaCO ₃)	< 2.0	2.0 mg/L							
Bicarbonate (HCO ₃)	< 2.0	2.0 mg/L							
Carbonate (CO ₃)	< 2.0	2.0 mg/L							
Hydroxide (OH)	< 2.0	2.0 mg/L							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B4G3735-BLK2)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
Alkalinity, Total (as CaCO ₃)	< 2.0	2.0 mg/L							
Bicarbonate (HCO ₃)	< 2.0	2.0 mg/L							
Carbonate (CO ₃)	< 2.0	2.0 mg/L							
Hydroxide (OH)	< 2.0	2.0 mg/L							
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B4G3735-BS1)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
Alkalinity, Total (as CaCO ₃)	251	2.0 mg/L	250		100	94-108			
Conductivity (EC)	992	2.0 µS/cm	1000		99	95-105			
LCS (B4G3735-BS2)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
Alkalinity, Total (as CaCO ₃)	251	2.0 mg/L	250		100	94-108			
Conductivity (EC)	984	2.0 µS/cm	1000		98	95-105			
Reference (B4G3735-SRM1)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
pH	7.08	0.10 pH units	7.00		101	98-102			
Reference (B4G3735-SRM2)			Prepared: 2024-07-22, Analyzed: 2024-07-22						
pH	7.12	0.10 pH units	7.00		102	98-102			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B4G3871

Blank (B4G3871-BLK1)			Prepared: 2024-07-23, Analyzed: 2024-07-23						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B4G3871-BS1)			Prepared: 2024-07-23, Analyzed: 2024-07-23						
Ammonia, Total (as N)	0.204	0.050 mg/L	0.200		102	85-115			

Miscellaneous Herbicides, Batch B4G3819

Blank (B4G3819-BLK1)			Prepared: 2024-07-23, Analyzed: 2024-07-23						
Glyphosate	< 0.050	0.050 mg/L							
LCS (B4G3819-BS1)			Prepared: 2024-07-23, Analyzed: 2024-07-23						
Glyphosate	0.241	0.050 mg/L	0.250		96	70-130			
LCS Dup (B4G3819-BSD1)			Prepared: 2024-07-23, Analyzed: 2024-07-23						
Glyphosate	0.282	0.050 mg/L	0.250		113	70-130	16	20	

Pesticides, Herbicides, and Fungicides, Batch B4G3479

Blank (B4G3479-BLK1)			Prepared: 2024-07-18, Analyzed: 2024-07-26						
Alachlor	< 0.100	0.100 µg/L							
Aldrin	< 0.006	0.006 µg/L							
Atrazine and metabolites	< 0.100	0.100 µg/L							
Azinphos-methyl	< 0.200	0.200 µg/L							
alpha-BHC	< 0.010	0.010 µg/L							
beta-BHC	< 0.050	0.050 µg/L							
delta-BHC	< 0.050	0.050 µg/L							
gamma-BHC (Lindane)	< 0.050	0.050 µg/L							
Bromacil	< 0.100	0.100 µg/L							
Bromoxynil	< 0.200	0.200 µg/L							
Butachlor	< 0.020	0.020 µg/L							
Captan	< 0.100	0.100 µg/L							
Chlordane (cis + trans)	< 0.050	0.050 µg/L							
Chlorothalonil	< 0.050	0.050 µg/L							
Chlorpyrifos	< 0.010	0.010 µg/L							
Cyanazine	< 0.100	0.100 µg/L							
DDT, Total	< 0.010	0.010 µg/L							
Deltamethrin	< 0.100	0.100 µg/L							
Diazinon	< 0.020	0.020 µg/L							
Dichlorvos	< 0.100	0.100 µg/L							
Diclofop-methyl	< 0.100	0.100 µg/L							
Dieldrin	< 0.010	0.010 µg/L							
Dimethoate	< 0.200	0.200 µg/L							
Disulfoton	< 0.100	0.100 µg/L							
Diuron	< 0.200	0.200 µg/L							
Endosulfan I + II	< 0.010	0.010 µg/L							
Endosulfan sulfate	< 0.050	0.050 µg/L							
Endrin	< 0.020	0.020 µg/L							
Endrin aldehyde	< 0.020	0.020 µg/L							
Endrin ketone	< 0.020	0.020 µg/L							
Fenchlorphos (Ronnel)	< 0.100	0.100 µg/L							
Heptachlor	< 0.010	0.010 µg/L							
Heptachlor epoxide	< 0.010	0.010 µg/L							
Linuron	< 0.050	0.050 µg/L							
Malathion	< 0.100	0.100 µg/L							
Methoxychlor	< 0.050	0.050 µg/L							

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Pesticides, Herbicides, and Fungicides, Batch B4G3479, Continued									
Blank (B4G3479-BLK1), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-26				
Methyl parathion	< 0.100	0.100 µg/L							
Metolachlor	< 0.100	0.100 µg/L							
Metribuzin	< 0.200	0.200 µg/L							
Parathion	< 0.100	0.100 µg/L							
Pentachloronitrobenzene	< 0.100	0.100 µg/L							
Permethrin	< 0.010	0.010 µg/L							
Phorate	< 0.100	0.100 µg/L							
Prometon	< 0.300	0.300 µg/L							
Prometryne	< 0.100	0.100 µg/L							
Simazine	< 0.200	0.200 µg/L							
Sulfotep	< 0.100	0.100 µg/L							
Tebuthiuron	< 0.200	0.200 µg/L							
Temephos (Abate)	< 0.500	0.500 µg/L							
Terbufos	< 0.100	0.100 µg/L							
Triallate	< 0.100	0.100 µg/L							
Trifluralin	< 0.200	0.200 µg/L							
Surrogate: Tributyl Phosphate	0.697	µg/L	1.00		70	50-140			
Surrogate: 4-chloro-3-nitrobenzotrifluoride	0.639	µg/L	0.970		66	50-140			
LCS (B4G3479-BS1)					Prepared: 2024-07-18, Analyzed: 2024-07-25				
Alachlor	0.909	0.100 µg/L	1.01		90	50-140			
Aldrin	0.688	0.006 µg/L	1.00		69	50-140			
Atrazine	0.873	0.100 µg/L	1.01		86	50-140			
Atrazine-desethyl	0.581	0.100 µg/L	1.01		58	50-140			
Azinphos-methyl	0.900	0.200 µg/L	0.992		91	50-140			
alpha-BHC	0.765	0.010 µg/L	1.00		77	50-140			
beta-BHC	0.736	0.050 µg/L	1.01		73	50-140			
delta-BHC	0.737	0.050 µg/L	1.00		74	50-140			
gamma-BHC (Lindane)	0.741	0.050 µg/L	1.00		74	50-140			
Bromacil	1.09	0.100 µg/L	1.00		109	50-140			
Bromoxynil	0.842	0.200 µg/L	1.01		83	50-140			
Butachlor	1.01	0.020 µg/L	1.00		101	50-140			
Captan	0.692	0.100 µg/L	0.998		69	50-140			
Chlordane (cis + trans)	1.85	0.050 µg/L	2.01		92	50-140			
Chlorothalonil	0.812	0.050 µg/L	0.989		82	50-140			
Chlorpyrifos	0.843	0.010 µg/L	1.00		84	50-140			
Cyanazine	0.907	0.100 µg/L	1.00		91	50-140			
DDT, Total	5.60	0.010 µg/L	6.03		93	50-140			
Deltamethrin	8.16	0.100 µg/L	10.0		82	50-140			
Diazinon	0.743	0.020 µg/L	1.02		73	50-140			
Dichlorvos	0.740	0.100 µg/L	1.02		73	50-140			
Diclofop-methyl	1.06	0.100 µg/L	1.00		106	50-140			
Dieldrin	0.929	0.010 µg/L	1.00		93	50-140			
Dimethoate	0.830	0.200 µg/L	1.01		82	50-140			
Disulfoton	0.739	0.100 µg/L	1.01		73	50-140			
Diuron	1.02	0.200 µg/L	1.01		101	50-140			
Endosulfan I + II	1.74	0.010 µg/L	2.01		87	50-140			
Endosulfan sulfate	0.955	0.050 µg/L	1.01		95	50-140			
Endrin	0.920	0.020 µg/L	1.01		91	50-140			
Endrin aldehyde	1.04	0.020 µg/L	1.00		104	50-140			
Endrin ketone	0.792	0.020 µg/L	1.01		78	50-140			
Fenchlorphos (Ronnel)	0.885	0.100 µg/L	1.01		88	50-140			
Heptachlor	0.814	0.010 µg/L	1.01		81	50-140			
Heptachlor epoxide	0.904	0.010 µg/L	1.01		90	50-140			
Linuron	0.720	0.050 µg/L	0.994		72	50-140			
Malathion	1.02	0.100 µg/L	0.998		102	50-140			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Pesticides, Herbicides, and Fungicides, Batch B4G3479, Continued									
LCS (B4G3479-BS1), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-25				
Methoxychlor	0.829	0.050 µg/L	1.01		82	50-140			
Methyl parathion	0.856	0.100 µg/L	0.998		86	50-140			
Metolachlor	0.992	0.100 µg/L	1.00		99	50-140			
Metribuzin	0.976	0.200 µg/L	1.00		98	50-140			
Parathion	1.05	0.100 µg/L	1.02		103	50-140			
Pentachloronitrobenzene	0.783	0.100 µg/L	0.989		79	50-140			
Permethrin	1.05	0.010 µg/L	1.06		99	50-140			
Phorate	0.736	0.100 µg/L	1.01		73	50-140			
Prometon	0.957	0.300 µg/L	1.00		96	50-140			
Prometryne	0.955	0.100 µg/L	1.00		96	50-140			
Simazine	0.872	0.200 µg/L	1.01		86	50-140			
Sulfotep	0.840	0.100 µg/L	0.972		86	50-140			
Tebuthiuron	1.01	0.200 µg/L	1.00		101	50-140			
Temephos (Abate)	5.94	0.500 µg/L	10.0		59	50-140			
Terbufos	0.959	0.100 µg/L	1.01		95	50-140			
Triallate	0.899	0.100 µg/L	1.04		86	50-140			
Trifluralin	0.909	0.200 µg/L	1.00		91	50-140			
Surrogate: Tributyl Phosphate	0.831	µg/L	1.00		83	50-140			
Surrogate: 4-chloro-3-nitrobenzotrifluoride	0.721	µg/L	0.970		74	50-140			

LCS Dup (B4G3479-BSD1)					Prepared: 2024-07-18, Analyzed: 2024-07-25				
Alachlor	0.913	0.100 µg/L	1.01		90	50-140	< 1	30	
Aldrin	0.641	0.006 µg/L	1.00		64	50-140	7	30	
Atrazine	0.865	0.100 µg/L	1.01		86	50-140	< 1	30	
Atrazine-desethyl	0.544	0.100 µg/L	1.01		54	50-140	7	30	
Azinphos-methyl	0.892	0.200 µg/L	0.992		90	50-140	1	30	
alpha-BHC	0.742	0.010 µg/L	1.00		74	50-140	3	30	
beta-BHC	0.738	0.050 µg/L	1.01		73	50-140	< 1	30	
delta-BHC	0.698	0.050 µg/L	1.00		70	50-140	5	30	
gamma-BHC (Lindane)	0.710	0.050 µg/L	1.00		71	50-140	4	30	
Bromacil	1.11	0.100 µg/L	1.00		111	50-140	2	30	
Bromoxynil	0.832	0.200 µg/L	1.01		82	50-140	1	30	
Butachlor	1.02	0.020 µg/L	1.00		102	50-140	< 1	30	
Captan	0.689	0.100 µg/L	0.998		69	50-140	< 1	30	
Chlordane (cis + trans)	1.88	0.050 µg/L	2.01		93	50-140	1	30	
Chlorothalonil	0.817	0.050 µg/L	0.989		83	50-140	< 1	30	
Chlorpyrifos	0.825	0.010 µg/L	1.00		82	50-140	2	30	
Cyanazine	0.904	0.100 µg/L	1.00		90	50-140	< 1	30	
DDT, Total	5.62	0.010 µg/L	6.03		93	50-140	< 1	30	
Deltamethrin	8.08	0.100 µg/L	10.0		81	50-140	1	30	
Diazinon	0.714	0.020 µg/L	1.02		70	50-140	4	30	
Dichlorvos	0.728	0.100 µg/L	1.02		71	50-140	2	30	
Diclofop-methyl	1.07	0.100 µg/L	1.00		107	50-140	1	30	
Dieldrin	0.929	0.010 µg/L	1.00		93	50-140	< 1	30	
Dimethoate	0.816	0.200 µg/L	1.01		81	50-140	2	30	
Disulfoton	0.741	0.100 µg/L	1.01		73	50-140	< 1	30	
Diuron	0.987	0.200 µg/L	1.01		98	50-140	4	30	
Endosulfan I + II	1.75	0.010 µg/L	2.01		87	50-140	< 1	30	
Endosulfan sulfate	0.975	0.050 µg/L	1.01		97	50-140	2	30	
Endrin	0.946	0.020 µg/L	1.01		94	50-140	3	30	
Endrin aldehyde	0.982	0.020 µg/L	1.00		98	50-140	6	30	
Endrin ketone	0.784	0.020 µg/L	1.01		78	50-140	1	30	
Fenchlorphos (Ronnel)	0.865	0.100 µg/L	1.01		86	50-140	2	30	
Heptachlor	0.822	0.010 µg/L	1.01		81	50-140	< 1	30	
Heptachlor epoxide	0.914	0.010 µg/L	1.01		91	50-140	1	30	
Linuron	0.761	0.050 µg/L	0.994		77	50-140	6	30	

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Pesticides, Herbicides, and Fungicides, Batch B4G3479, Continued									
LCS Dup (B4G3479-BSD1), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-25				
Malathion	1.02	0.100 µg/L	0.998		102	50-140	< 1	30	
Methoxychlor	0.821	0.050 µg/L	1.01		81	50-140	1	30	
Methyl parathion	0.865	0.100 µg/L	0.998		87	50-140	1	30	
Metolachlor	0.986	0.100 µg/L	1.00		99	50-140	< 1	30	
Metribuzin	0.957	0.200 µg/L	1.00		96	50-140	2	30	
Parathion	1.06	0.100 µg/L	1.02		104	50-140	2	30	
Pentachloronitrobenzene	0.753	0.100 µg/L	0.989		76	50-140	4	30	
Permethrin	1.05	0.010 µg/L	1.06		99	50-140	< 1	30	
Phorate	0.715	0.100 µg/L	1.01		71	50-140	3	30	
Prometon	0.963	0.300 µg/L	1.00		96	50-140	< 1	30	
Prometryne	0.972	0.100 µg/L	1.00		97	50-140	2	30	
Simazine	0.871	0.200 µg/L	1.01		86	50-140	< 1	30	
Sulfotep	0.819	0.100 µg/L	0.972		84	50-140	2	30	
Tebuthiuron	1.03	0.200 µg/L	1.00		103	50-140	2	30	
Temephos (Abate)	5.84	0.500 µg/L	10.0		58	50-140	2	30	
Terbufos	0.952	0.100 µg/L	1.01		94	50-140	< 1	30	
Triallate	0.891	0.100 µg/L	1.04		86	50-140	< 1	30	
Trifluralin	0.913	0.200 µg/L	1.00		91	50-140	< 1	30	
Surrogate: Tributyl Phosphate	0.808	µg/L	1.00		81	50-140			
Surrogate: 4-chloro-3-nitrobenzotrifluoride	0.682	µg/L	0.970		70	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B4G3472

Blank (B4G3472-BLK1)			Prepared: 2024-07-18, Analyzed: 2024-07-23						
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benz(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Naphthalene-d8	16.8	µg/L	20.0		84	50-140			
Surrogate: Perylene-d12	18.8	µg/L	20.0		94	50-140			

LCS (B4G3472-BS2)			Prepared: 2024-07-18, Analyzed: 2024-07-23						
Acenaphthene	17.7	0.050 µg/L	20.0		88	50-140			
Acenaphthylene	18.8	0.200 µg/L	20.0		94	50-140			
Acridine	23.8	0.050 µg/L	19.3		123	50-140			
Anthracene	19.9	0.010 µg/L	20.0		99	50-140			
Benz(a)anthracene	19.9	0.010 µg/L	20.0		99	50-140			
Benzo(a)pyrene	23.4	0.010 µg/L	20.0		117	50-140			
Benzo(b+j)fluoranthene	39.3	0.050 µg/L	40.0		98	50-140			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B4G3472, Continued									
LCS (B4G3472-BS2), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-23				
Benzo(g,h,i)perylene	20.3	0.050 µg/L	20.0		102	50-140			
Benzo(k)fluoranthene	18.9	0.050 µg/L	20.0		95	50-140			
2-Chloronaphthalene	19.1	0.100 µg/L	20.4		93	50-140			
Chrysene	20.6	0.050 µg/L	20.0		103	50-140			
Dibenz(a,h)anthracene	19.9	0.010 µg/L	20.0		100	50-140			
Fluoranthene	20.4	0.030 µg/L	20.0		102	50-140			
Fluorene	18.5	0.050 µg/L	20.0		93	50-140			
Indeno(1,2,3-cd)pyrene	20.3	0.050 µg/L	20.0		101	50-140			
1-Methylnaphthalene	18.0	0.100 µg/L	20.0		90	50-140			
2-Methylnaphthalene	18.6	0.100 µg/L	20.0		93	50-140			
Naphthalene	19.0	0.200 µg/L	20.0		95	50-140			
Phenanthrene	20.1	0.100 µg/L	20.0		100	50-140			
Pyrene	20.4	0.020 µg/L	20.0		102	50-140			
Quinoline	22.4	0.050 µg/L	20.2		111	50-140			
Surrogate: Naphthalene-d8	18.0	µg/L	20.0		90	50-140			
Surrogate: Perylene-d12	19.0	µg/L	20.0		95	50-140			

LCS Dup (B4G3472-BS2)					Prepared: 2024-07-18, Analyzed: 2024-07-23				
Acenaphthene	19.1	0.050 µg/L	20.0		95	50-140	8	30	
Acenaphthylene	20.0	0.200 µg/L	20.0		100	50-140	6	30	
Acridine	22.9	0.050 µg/L	19.3		119	50-140	4	30	
Anthracene	20.4	0.010 µg/L	20.0		102	50-140	2	30	
Benz(a)anthracene	20.0	0.010 µg/L	20.0		100	50-140	< 1	30	
Benzo(a)pyrene	23.6	0.010 µg/L	20.0		118	50-140	1	30	
Benzo(b+j)fluoranthene	39.9	0.050 µg/L	40.0		100	50-140	1	30	
Benzo(g,h,i)perylene	20.5	0.050 µg/L	20.0		103	50-140	1	30	
Benzo(k)fluoranthene	19.1	0.050 µg/L	20.0		96	50-140	1	30	
2-Chloronaphthalene	20.2	0.100 µg/L	20.4		99	50-140	6	30	
Chrysene	20.8	0.050 µg/L	20.0		104	50-140	1	30	
Dibenz(a,h)anthracene	19.9	0.010 µg/L	20.0		100	50-140	< 1	30	
Fluoranthene	20.8	0.030 µg/L	20.0		104	50-140	2	30	
Fluorene	19.3	0.050 µg/L	20.0		97	50-140	4	30	
Indeno(1,2,3-cd)pyrene	20.5	0.050 µg/L	20.0		102	50-140	1	30	
1-Methylnaphthalene	19.0	0.100 µg/L	20.0		95	50-140	5	30	
2-Methylnaphthalene	19.7	0.100 µg/L	20.0		99	50-140	6	30	
Naphthalene	19.6	0.200 µg/L	20.0		98	50-140	3	30	
Phenanthrene	20.5	0.100 µg/L	20.0		103	50-140	2	30	
Pyrene	20.8	0.020 µg/L	20.0		104	50-140	2	30	
Quinoline	21.6	0.050 µg/L	20.2		107	50-140	4	30	
Surrogate: Naphthalene-d8	19.1	µg/L	20.0		95	50-140			
Surrogate: Perylene-d12	19.9	µg/L	20.0		99	50-140			

Total Metals, Batch B4G3457

Blank (B4G3457-BLK1)					Prepared: 2024-07-18, Analyzed: 2024-07-18				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B4G3457-BLK2)					Prepared: 2024-07-18, Analyzed: 2024-07-18				
Mercury, total	< 0.000010	0.000010 mg/L							
LCS (B4G3457-BS1)					Prepared: 2024-07-18, Analyzed: 2024-07-18				
Mercury, total	0.00223	0.000010 mg/L	0.00250		89	80-120			
LCS (B4G3457-BS2)					Prepared: 2024-07-18, Analyzed: 2024-07-18				
Mercury, total	0.00235	0.000010 mg/L	0.00250		94	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Newell Regional Services Corporation
Schedule 4

WORK ORDER REPORTED 24G2081
2024-07-30 12:18

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B4G3457, Continued

Duplicate (B4G3457-DUP1)		Source: 24G2081-01		Prepared: 2024-07-18, Analyzed: 2024-07-18					
Mercury, total	< 0.000010	0.000010 mg/L		< 0.000010				20	

Total Metals, Batch B4G3564

Blank (B4G3564-BLK1)		Prepared: 2024-07-19, Analyzed: 2024-07-19							
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Boron, total	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							

LCS (B4G3564-BS1)		Prepared: 2024-07-19, Analyzed: 2024-07-19							
Aluminum, total	3.88	0.0050 mg/L	4.00		97	80-120			
Antimony, total	0.0392	0.00020 mg/L	0.0400		98	80-120			
Arsenic, total	0.391	0.00050 mg/L	0.400		98	80-120			
Barium, total	0.0394	0.0050 mg/L	0.0400		98	80-120			
Boron, total	0.388	0.0500 mg/L	0.400		97	80-120			
Cadmium, total	0.0394	0.000010 mg/L	0.0400		99	80-120			
Calcium, total	3.97	0.20 mg/L	4.00		99	80-120			
Chromium, total	0.0394	0.00050 mg/L	0.0400		98	80-120			
Copper, total	0.0389	0.00040 mg/L	0.0400		97	80-120			
Iron, total	3.97	0.010 mg/L	4.00		99	80-120			
Lead, total	0.0397	0.00020 mg/L	0.0400		99	80-120			
Magnesium, total	3.93	0.010 mg/L	4.00		98	80-120			
Manganese, total	0.0394	0.00020 mg/L	0.0400		98	80-120			
Potassium, total	3.95	0.10 mg/L	4.00		99	80-120			
Selenium, total	0.388	0.00050 mg/L	0.400		97	80-120			
Silver, total	0.0396	0.000050 mg/L	0.0400		99	80-120			
Sodium, total	3.96	0.10 mg/L	4.00		99	80-120			
Strontium, total	0.0391	0.0010 mg/L	0.0400		98	80-120			
Uranium, total	0.0403	0.000020 mg/L	0.0400		101	80-120			
Zinc, total	0.386	0.0040 mg/L	0.400		96	80-120			

Volatile Organic Compounds (VOC), Batch B4G3387

Blank (B4G3387-BLK1)		Prepared: 2024-07-18, Analyzed: 2024-07-19							
Benzene	< 0.5	0.5 µg/L							
Bromodichloromethane	< 1.0	1.0 µg/L							
Bromoform	< 1.0	1.0 µg/L							
Carbon tetrachloride	< 0.5	0.5 µg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Newell Regional Services Corporation
Schedule 4

WORK ORDER REPORTED 24G2081
2024-07-30 12:18

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Volatile Organic Compounds (VOC), Batch B4G3387, Continued

Blank (B4G3387-BLK1), Continued

Prepared: 2024-07-18, Analyzed: 2024-07-19

Chlorobenzene	< 1.0	1.0 µg/L							
Chloroethane	< 2.0	2.0 µg/L							
Chloroform	< 1.0	1.0 µg/L							
Dibromochloromethane	< 1.0	1.0 µg/L							
1,2-Dibromoethane	< 0.3	0.3 µg/L							
Dibromomethane	< 1.0	1.0 µg/L							
1,2-Dichlorobenzene	< 0.5	0.5 µg/L							
1,3-Dichlorobenzene	< 1.0	1.0 µg/L							
1,4-Dichlorobenzene	< 1.0	1.0 µg/L							
1,1-Dichloroethane	< 1.0	1.0 µg/L							
1,2-Dichloroethane	< 1.0	1.0 µg/L							
1,1-Dichloroethylene	< 1.0	1.0 µg/L							
cis-1,2-Dichloroethylene	< 1.0	1.0 µg/L							
trans-1,2-Dichloroethylene	< 1.0	1.0 µg/L							
Dichloromethane	< 3.0	3.0 µg/L							
1,2-Dichloropropane	< 1.0	1.0 µg/L							
1,3-Dichloropropene (cis + trans)	< 1.0	1.0 µg/L							
Ethylbenzene	< 1.0	1.0 µg/L							
Methyl tert-butyl ether	< 1.0	1.0 µg/L							
Styrene	< 1.0	1.0 µg/L							
1,1,2,2-Tetrachloroethane	< 0.5	0.5 µg/L							
Tetrachloroethylene	< 1.0	1.0 µg/L							
Toluene	< 0.5	0.5 µg/L							
1,1,1-Trichloroethane	< 1.0	1.0 µg/L							
1,1,2-Trichloroethane	< 1.0	1.0 µg/L							
Trichloroethylene	< 1.0	1.0 µg/L							
Trichlorofluoromethane	< 1.0	1.0 µg/L							
Vinyl chloride	< 1.0	1.0 µg/L							
Xylenes (total)	< 2.0	2.0 µg/L							
Surrogate: Toluene-d8	20.8	µg/L	18.8		110	70-130			
Surrogate: 4-Bromofluorobenzene	20.8	µg/L	19.9		105	70-130			

LCS (B4G3387-BS1)

Prepared: 2024-07-18, Analyzed: 2024-07-19

Benzene	20.3	0.5 µg/L	20.1		101	70-130			
Bromodichloromethane	23.5	1.0 µg/L	20.1		117	70-130			
Bromoform	23.5	1.0 µg/L	20.1		117	70-130			
Carbon tetrachloride	22.5	0.5 µg/L	20.1		112	70-130			
Chlorobenzene	19.5	1.0 µg/L	20.1		97	70-130			
Chloroethane	23.0	2.0 µg/L	20.1		114	60-140			
Chloroform	21.1	1.0 µg/L	20.1		105	70-130			
Dibromochloromethane	23.7	1.0 µg/L	20.1		118	70-130			
1,2-Dibromoethane	20.5	0.3 µg/L	20.1		102	70-130			
Dibromomethane	20.9	1.0 µg/L	20.1		104	70-130			
1,2-Dichlorobenzene	20.6	0.5 µg/L	20.1		102	70-130			
1,3-Dichlorobenzene	20.2	1.0 µg/L	20.1		101	70-130			
1,4-Dichlorobenzene	19.5	1.0 µg/L	20.1		97	70-130			
1,1-Dichloroethane	19.1	1.0 µg/L	20.1		95	70-130			
1,2-Dichloroethane	22.8	1.0 µg/L	20.1		113	70-130			
1,1-Dichloroethylene	24.3	1.0 µg/L	20.1		121	70-130			
cis-1,2-Dichloroethylene	18.3	1.0 µg/L	20.1		91	70-130			
trans-1,2-Dichloroethylene	22.6	1.0 µg/L	20.1		113	70-130			
Dichloromethane	24.8	3.0 µg/L	20.1		123	70-130			
1,2-Dichloropropane	18.2	1.0 µg/L	20.1		91	70-130			
1,3-Dichloropropene (cis + trans)	40.3	1.0 µg/L	40.0		101	70-130			
Ethylbenzene	20.5	1.0 µg/L	20.1		102	70-130			
Methyl tert-butyl ether	19.4	1.0 µg/L	20.0		97	70-130			

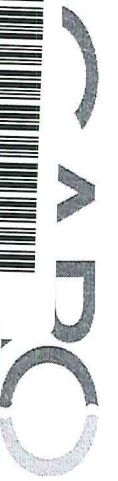


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Newell Regional Services Corporation Schedule 4	WORK ORDER REPORTED	24G2081 2024-07-30 12:18
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Volatile Organic Compounds (VOC), Batch B4G3387, Continued									
LCS (B4G3387-BS1), Continued					Prepared: 2024-07-18, Analyzed: 2024-07-19				
Styrene	20.6	1.0 µg/L	20.1		102	70-130			
1,1,2,2-Tetrachloroethane	16.8	0.5 µg/L	20.1		84	70-130			
Tetrachloroethylene	18.9	1.0 µg/L	20.1		94	70-130			
Toluene	20.8	0.5 µg/L	20.1		103	70-130			
1,1,1-Trichloroethane	21.5	1.0 µg/L	20.1		107	70-130			
1,1,2-Trichloroethane	20.1	1.0 µg/L	20.1		100	70-130			
Trichloroethylene	21.0	1.0 µg/L	20.1		105	70-130			
Trichlorofluoromethane	18.6	1.0 µg/L	20.1		93	60-140			
Vinyl chloride	14.3	1.0 µg/L	20.1		71	60-140			
Xylenes (total)	64.0	2.0 µg/L	60.3		106	70-130			
Surrogate: Toluene-d8	18.9	µg/L	18.8		101	70-130			
Surrogate: 4-Bromofluorobenzene	19.6	µg/L	19.9		98	70-130			

QC Qualifiers:									
MS1	The matrix spike recovery was outside of control limits due to a matrix effect and/or interference.								



CARO.ca 1-888-311-8846

CHAIN OF CUSTODY RECORD

CARO AB COC, Rev 2022-08



SERVICES
Obviously.

#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
17225 109 Avenue NW, Edmonton, AB T5S 1H7
#108 - 4475 Wayburne Drive, Burnaby, BC V5G 4X4

INVOICE TO: SAME AS REPORT TO ☒

COMPANY:

ADDRESS:

ADDRESS: 330 Canal St Brooks AB

CONTACT: Ryan Melrose

TEL/FAX: 403-743-3117

DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐

DATA FORMAT: EXCEL ☐ WATERTRAX ☒ ESdat ☐

EMAIL 1: Rmelrose@NSC.ca

EMAIL 2: C.Robinson@NSC.ca

EMAIL 3:

CONTACT: Ryan Melrose

TEL/FAX: 403-743-3117

DELIVERY METHOD: EMAIL ☒ MAIL ☐ OTHER* ☐

EMAIL 1: Tlake@NSC.ca

EMAIL 2:

EMAIL 3:

** If you would like to sign up for CARO's online service offerings, please check here: ☐

SAMPLED BY:

CLIENT SAMPLE ID:

WHP HDR #1

MATRIX: DRINKING WATER ☐ OTHER WATER ☐ SOIL ☐ OTHER ☐

CONTAINER QTY: DATE: 2024-07-16 TIME: 09:45

CHLORINATED ☐ FILTERED ☐ PRESERVED ☐

(e.g. flow/volume media etc. notes)

SOIL FHC F1-F4 BTEX ☐

WATER PHC F1-F2 BTEX ☐

VOC ☐ THM ☐ PAH ☐ HAA ☐

DISSOLVED METALS Hg ☐ Cr ☐

TOTAL METALS Hg ☐ Cr ☐

SOIL METALS SatP B ☐ Cr ☐ Hg ☐

SOIL SALINITY BASIC ☐ DETAILED ☐

CLASS 2 LANDFILL ☐

ROUTINE WATER ☐

COD ☐ BOD ☐ TOC ☐ DOC ☐

TSS ☐ TDS ☐ VSS ☐

AMMONIA ☐ TKN ☐ TP ☐

TO&G ☐ PHENOLICS ☐

TCOL ☐ E. Coli ☐ FCOL ☐ HPC ☐

TOXICITY TROUT ☐ DAPHNIA ☐

PSA HYDROMETER ☐ 75 um SIEVE ☐

See Attached Schedule 4 Phenols

HOLD

POSSIBLE SAMPLE HAZARD CODE(S)

A: Biohazard B: Cyanide C: PCBs D: Asbestos E: Heavy Metals F: Flammable G: Strong Odour H: High Contamination I: Other (please specify)

PROJECT NUMBER / INFO:

ANALYSES REQUESTED:

RELINQUISHED BY: Kyle Zahn

DATE: July 16, 2024

TIME: 10:15

RECEIVED BY: J.K. (Rev)

DATE: 17/7

TIME: 8:50

PAGE 1 OF 1

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SCHEDULE 4

Table of Physical, Inorganic chemicals, Organic chemicals and Pesticides

Substance	Specific Parameter	Substance	Specific Parameter
Physical Parameters (Primary and Secondary)	Colour; pH; Total Dissolved Solids	Organic Chemicals and Pesticides (Primary)	Atrazine + metabolites; Benzene; Benzo(a)pyrene; Bromoxynil; Carbon Tetrachloride; Chlorpyrifos; Cyanazine; Cyanobacterial toxins (as Total Microcystin); Diazinon; Dicamba; 1,2-Dichlorobenzene; 1,4-Dichlorobenzene; 1,2-Dichlorethane; Dichloromethane; 2,4-Dichlorophenol; 2,4-D; Diclofop-methyl; Diuron; Dimethoate; Ethylbenzene; Glyphosate; Malathion; Methoxychlor; Metolachlor; Metribuzin; Monochlorobenzene; Nitrilotriacetic Acid (NTA); Pentachlorophenol; Picloram; Simazine; Terbufos; Tetrachloroethylene; 2,3,4,6-Tetrachlorophenol; Toluene; Trichloroethylene; 2,4,6-Trichlorophenol; Trifluralin; and Vinyl Chloride.
Inorganic chemicals (Primary)	Antimony; Arsenic; Barium; Boron; Bromate; Cadmium; Chloramines; Chromium; Cyanide; Fluoride; Lead; Mercury; Nitrate; Nitrite; Selenium; and Uranium;		
Inorganic and Organic Chemicals (Secondary)	Aluminum; Ammonia; Calcium; Chloride; Copper; Total Hardness; Iron; Magnesium; Manganese; Silver; Sodium; Sulphate; Sulphide; Total Organic Carbon; Xylenes (total); and Zinc;		