Town of Cochrane
101 Ranchehouse Rd
Cochrane AB T4C 2K8
ATTN: Richard Gaida

Date: 26-AUG-19
PO No.:
WO No.: L2323109
Project Ref: SCHEDULE 4 MONITORING (BI-ANNUAL)
Sample ID: WTP
Sampled By: RG
Date Collected: 06-AUG-19
Lab Sample ID: L2323109-1
Matrix: WATER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Chloramines						
Chlorine, Total	0.80		mg/L			06-AUG-19
Chlorine, Free	0.80		mg/L			06-AUG-19
Total Chloramines (as Cl2)	<0.20		mg/L			07-AUG-19
Chlorate, Chlorite, and Bromate in Water						
Chlorite by IC						
Chlorite	<0.050		mg/L	1.0		09-AUG-19
Chlorate by IC						
Chlorate	<0.050		mg/L	1.0		09-AUG-19
Bromate in Water by LC/MS-MS						
Bromate	0.48		ug/L	10		09-AUG-19
Diquat and Paraquat by LC/MS-MS						
Paraquat in Water by LC/MS-MS						
Paraquat	<1.0		ug/L	7		13-AUG-19
Diquat by LC/MS-MS						
Diquat	<1.0		ug/L	70		13-AUG-19
Herb Screen GC/MS						
Miscellaneous Pesticides						
Trifluralin	<0.00010		mg/L	0.045		12-AUG-19
Triallate	<0.00010		mg/L			12-AUG-19
Fluazifop-p-butyl	<0.00010		mg/L			12-AUG-19
Diclofop-methyl	<0.00010		mg/L	0.009		12-AUG-19
Ethalfluralin	<0.00010		mg/L			12-AUG-19
Surr: D14-Terphenyl	74.0		%			12-AUG-19
Herbicides in Water						
Clopyralid	<0.00010		mg/L			12-AUG-19
Dicamba	<0.00010		mg/L	0.12		12-AUG-19
Mecoprop	<0.00010		mg/L			12-AUG-19
MCPA	<0.00010		mg/L			12-AUG-19
2,4-D	<0.00010		mg/L	0.1		12-AUG-19
Bromoxynil	<0.00010		mg/L	0.005		12-AUG-19
Triclopyr	<0.00010		mg/L			12-AUG-19
2,4,5-T	<0.00010		mg/L			12-AUG-19
2,4,5-TP	<0.00010		mg/L			12-AUG-19
Picloram	<0.00010		mg/L	0.19		12-AUG-19
2,4-DB	<0.00010		mg/L			12-AUG-19
2,4-DP	<0.00010		mg/L			12-AUG-19
Dinoseb	<0.00010		mg/L			12-AUG-19
MCPB	<0.00010		mg/L			12-AUG-19
Surr: 2,4-Dichlorophenylacetic Acid	109.0		%			12-AUG-19
Total Metals (ABT1)						

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Total Metals (ABT1)						
Total Metals in Water by CRC ICPMS						
Aluminum (Al)-Total	0.104		mg/L		0.1	13-AUG-19
Antimony (Sb)-Total	<0.00010		mg/L	0.006		13-AUG-19
Arsenic (As)-Total	0.00010		mg/L	0.01		13-AUG-19
Barium (Ba)-Total	0.0332		mg/L	1		13-AUG-19
Boron (B)-Total	<0.010		mg/L	5		13-AUG-19
Cadmium (Cd)-Total	<0.0000050		mg/L	0.005		13-AUG-19
Calcium (Ca)-Total	36.9		mg/L			13-AUG-19
Chromium (Cr)-Total	0.00012		mg/L	0.05		13-AUG-19
Copper (Cu)-Total	<0.00050		mg/L	2.0	1.0	13-AUG-19
Iron (Fe)-Total	<0.010		mg/L		0.3	13-AUG-19
Lead (Pb)-Total	<0.000050		mg/L	0.005		13-AUG-19
Magnesium (Mg)-Total	12.6		mg/L			13-AUG-19
Manganese (Mn)-Total	0.00023		mg/L	0.12	0.02	13-AUG-19
Nickel (Ni)-Total	<0.00050		mg/L			13-AUG-19
Potassium (K)-Total	0.540		mg/L			13-AUG-19
Selenium (Se)-Total	0.000427		mg/L	0.05		13-AUG-19
Silver (Ag)-Total	0.000016		mg/L			13-AUG-19
Sodium (Na)-Total	3.35		mg/L		200	13-AUG-19
Uranium (U)-Total	0.000167		mg/L	0.02		13-AUG-19
Zinc (Zn)-Total	<0.0030		mg/L		5.0	13-AUG-19
Total Mercury in Water by CVAAS						
Mercury (Hg)-Total	<0.0000050		mg/L	0.001		09-AUG-19
Routine Water Analysis						
*Nitrate and Nitrite (as N)	0.168		mg/L	10		07-AUG-19
pH, Conductivity and Total Alkalinity						
pH	8.08		pH		7-10.5	07-AUG-19
Conductivity (EC)	321		uS/cm			07-AUG-19
Bicarbonate (HCO3)	140		mg/L			07-AUG-19
Carbonate (CO3)	<5.0		mg/L			07-AUG-19
Hydroxide (OH)	<5.0		mg/L			07-AUG-19
Alkalinity, Total (as CaCO3)	115		mg/L			07-AUG-19
Sulfate in Water by IC						
Sulfate (SO4)	32.7		mg/L		500	06-AUG-19
Nitrite in Water by IC						
*Nitrite (as N)	<0.010		mg/L	1		06-AUG-19
Nitrate in Water by IC						
*Nitrate (as N)	0.168		mg/L	10		06-AUG-19
Ion Balance Calculation						
Ion Balance	107		%			26-AUG-19

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Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Routine Water Analysis						
Ion Balance Calculation						
TDS (Calculated)	174		mg/L		500	26-AUG-19
Hardness (as CaCO3)	167		mg/L		500	26-AUG-19
Fluoride in Water by IC						
Fluoride (F)	0.080		mg/L	1.5		06-AUG-19
Dissolved Metals by ICPOES						
Dissolved Metals Filtration Location	LAB					06-AUG-19
Calcium (Ca)-Dissolved	44.2		mg/L			07-AUG-19
Magnesium (Mg)-Dissolved	13.7		mg/L			07-AUG-19
Potassium (K)-Dissolved	0.58		mg/L			07-AUG-19
Sodium (Na)-Dissolved	3.5		mg/L		200	07-AUG-19
Chloride in Water by IC						
Chloride (Cl)	9.65		mg/L		250	06-AUG-19
Cyanide, Total	<0.0020		mg/L	0.2		08-AUG-19
Ammonia, Total (as N)	<0.050		mg/L			23-AUG-19
Colour, True	<5.0		CU		15	06-AUG-19
Diuron	<1.0		ug/L	150		09-AUG-19
Glyphosate	<5.0		ug/L	280		12-AUG-19
Methyl tert-butyl ether	<0.0050		mg/L		0.015	08-AUG-19
Microcystin	<0.20		ug/L	1.5		10-AUG-19
Nitrilotriacetic Acid (NTA)	<0.20		mg/L	0.4		11-AUG-19
Sulphide (as S)	<0.0015		mg/L		0.05	08-AUG-19
Xylenes	<0.0014		mg/L	0.09	0.02	19-AUG-19
Total Organic Carbon	<1.0		mg/L			07-AUG-19
Trihalomethanes						
Chloroform	0.0079		mg/L			08-AUG-19
Bromodichloromethane	0.0015		mg/L			08-AUG-19
Dibromochloromethane	<0.0010		mg/L			08-AUG-19
Bromoform	<0.0050		mg/L			08-AUG-19
Surr: 1,4-Difluorobenzene	105.4		%			08-AUG-19
Surr: 4-Bromofluorobenzene	122.2		%			08-AUG-19
Surr: 3,4-Dichlorotoluene	128.5		%			08-AUG-19
Total THMs	0.00940		mg/L	0.1		08-AUG-19
Pesticides, Organochlorine						
Aldrin	<0.10		ug/L			12-AUG-19
a-chlordane	<0.10		ug/L			12-AUG-19

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Pesticides, Organochlorine							
	g-chlordane	<0.10		ug/L			12-AUG-19
	alpha-BHC	<0.10		ug/L			12-AUG-19
	beta-BHC	<0.10		ug/L			12-AUG-19
	delta-BHC	<0.10		ug/L			12-AUG-19
	o,p-DDD	<0.10		ug/L			12-AUG-19
	pp-DDD	<0.10		ug/L			12-AUG-19
	o,p-DDE	<0.10		ug/L			12-AUG-19
	pp-DDE	<0.10		ug/L			12-AUG-19
	op-DDT	<0.10		ug/L			12-AUG-19
	pp-DDT	<0.10		ug/L			12-AUG-19
	Dieldrin	<0.10		ug/L			12-AUG-19
	alpha-Endosulfan	<0.10		ug/L			12-AUG-19
	beta-Endosulfan	<0.10		ug/L			12-AUG-19
	Endosulfan Sulfate	<0.10		ug/L			12-AUG-19
	Endrin	<0.10		ug/L			12-AUG-19
	Endrin Aldehyde	<0.10		ug/L			12-AUG-19
	Hexachlorobenzene	<0.10		ug/L			12-AUG-19
	Heptachlor	<0.10		ug/L			12-AUG-19
	Heptachlor Epoxide	<0.10		ug/L			12-AUG-19
	Lindane	<0.10		ug/L			12-AUG-19
	Methoxychlor	<0.10		ug/L			12-AUG-19
	Mirex	<0.10		ug/L			12-AUG-19
	Oxychlordane	<0.10		ug/L			12-AUG-19
Surr:	2-Fluorobiphenyl	81.5		%			12-AUG-19
Surr:	d14-Terphenyl	95.3		%			12-AUG-19
N-Nitrosodimethylamine by HRMS							
	N-Nitrosodimethylamine	2.75	M,B	ng/L	40		20-AUG-19
Surr:	N-Nitrosodimethylamine (Surr.)	36.0		%			20-AUG-19
Miscellaneous Pesticides							
	Alachlor	<0.10		ug/L			12-AUG-19
	Ametryn	<0.10		ug/L			12-AUG-19
	Atrazine	<0.10		ug/L			12-AUG-19
	Atrazine Desethyl	<0.10		ug/L			12-AUG-19
	Azinphos-methyl	<0.10		ug/L	20		12-AUG-19
	Bendiocarb	<0.50		ug/L			12-AUG-19
	Carbaryl	<0.50		ug/L	90		12-AUG-19
	Carbofuran	<0.50		ug/L	90		12-AUG-19
	Chlorpyrifos	<0.10		ug/L	90		12-AUG-19
	Cyanazine	<0.10		ug/L			12-AUG-19
	Diazinon	<0.10		ug/L	20		12-AUG-19
	Diclofop-methyl	<0.10		ug/L	9		12-AUG-19
	Dimethoate	<0.10		ug/L	20		12-AUG-19
	Malathion	<0.10		ug/L	190		12-AUG-19

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Miscellaneous Pesticides							
	Methyl Parathion	<0.10		ug/L			12-AUG-19
	Metolachlor	<0.10		ug/L	50		12-AUG-19
	Metribuzin	<1.0		ug/L	80		12-AUG-19
	Parathion	<0.10		ug/L	50		12-AUG-19
	Phorate	<0.10		ug/L	2		12-AUG-19
	Prometon	<0.10		ug/L			12-AUG-19
	Prometryne	<0.10		ug/L			12-AUG-19
	Propazine	<0.10		ug/L			12-AUG-19
	Simazine	<0.10		ug/L	10		12-AUG-19
	Temephos	<1.0		ug/L			12-AUG-19
	Terbufos	<0.10		ug/L	1		12-AUG-19
	Terbutryn	<0.10		ug/L			12-AUG-19
	Triallate	<0.10		ug/L			12-AUG-19
	Trifluralin	<0.10		ug/L	45		12-AUG-19
Surr:	2-Fluorobiphenyl	76.0		%			12-AUG-19
Surr:	d14-Terphenyl	74.0		%			12-AUG-19
EPA 8260 Volatile Organics							
	Dichlorodifluoromethane	<0.0010		mg/L			09-AUG-19
	Chloromethane	<0.010		mg/L			09-AUG-19
	Vinyl chloride	<0.00050		mg/L	0.002		09-AUG-19
	Bromomethane	<0.010		mg/L			09-AUG-19
	Chloroethane	<0.010		mg/L			09-AUG-19
	Trichlorofluoromethane	<0.0010		mg/L			09-AUG-19
	1,1-Dichloroethene	<0.0010		mg/L	0.014		09-AUG-19
	Methylene chloride	<0.0010		mg/L	0.05		09-AUG-19
	trans-1,2-Dichloroethene	<0.0010		mg/L			09-AUG-19
	1,1-Dichloroethane	<0.0010		mg/L			09-AUG-19
	2,2-Dichloropropane	<0.0010		mg/L			09-AUG-19
	cis-1,2-Dichloroethene	<0.0010		mg/L			09-AUG-19
	Chloroform	0.0074		mg/L			09-AUG-19
	Bromochloromethane	<0.0010		mg/L			09-AUG-19
	1,2-Dichloroethane	<0.0010		mg/L	0.005		09-AUG-19
	1,1,1-Trichloroethane	<0.0010		mg/L			09-AUG-19
	1,1-Dichloropropene	<0.0010		mg/L			09-AUG-19
	Carbon tetrachloride	<0.0010		mg/L	0.005		09-AUG-19
	Benzene	<0.0010		mg/L	0.005		09-AUG-19
	Trichloroethene	<0.0010		mg/L	0.005		09-AUG-19
	1,2-Dichloropropane	<0.0010		mg/L			09-AUG-19
	Bromodichloromethane	0.0017		mg/L			09-AUG-19
	Dibromomethane	<0.0010		mg/L			09-AUG-19
	cis-1,3-Dichloropropene	<0.0010		mg/L			09-AUG-19
	trans-1,3-Dichloropropene	<0.0010		mg/L			09-AUG-19
	Toluene	<0.0010		mg/L	0.06	0.024	09-AUG-19
	1,1,2-Trichloroethane	<0.0010		mg/L			09-AUG-19

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Matrix: WATER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
EPA 8260 Volatile Organics						
1,3-Dichloropropane	<0.0010		mg/L			09-AUG-19
Tetrachloroethene	<0.0010		mg/L	0.03		09-AUG-19
Dibromochloromethane	<0.0010		mg/L			09-AUG-19
1,2-Dibromoethane	<0.0010		mg/L			09-AUG-19
Chlorobenzene	<0.0010		mg/L	0.08		09-AUG-19
Ethylbenzene	<0.0010		mg/L	0.14	0.0016	09-AUG-19
1,1,1,2-Tetrachloroethane	<0.0010		mg/L			09-AUG-19
m+p-Xylenes	<0.0010		mg/L			09-AUG-19
o-Xylene	<0.0010		mg/L			09-AUG-19
Styrene	<0.0010		mg/L			09-AUG-19
Bromoform	<0.0010		mg/L			09-AUG-19
Isopropylbenzene	<0.0010		mg/L			09-AUG-19
1,1,2,2-Tetrachloroethane	<0.0050		mg/L			09-AUG-19
1,2,3-Trichloropropane	<0.0020		mg/L			09-AUG-19
n-Propylbenzene	<0.0010		mg/L			09-AUG-19
Bromobenzene	<0.0010		mg/L			09-AUG-19
1,3,5-Trimethylbenzene	<0.0010		mg/L			09-AUG-19
2-Chlorotoluene	<0.0010		mg/L			09-AUG-19
4-Chlorotoluene	<0.0010		mg/L			09-AUG-19
tert-Butylbenzene	<0.0010		mg/L			09-AUG-19
1,2,4-Trimethylbenzene	<0.0010		mg/L			09-AUG-19
sec-Butylbenzene	<0.0010		mg/L			09-AUG-19
p-Isopropyltoluene	<0.0010		mg/L			09-AUG-19
1,3-Dichlorobenzene	<0.0010		mg/L			09-AUG-19
1,4-Dichlorobenzene	<0.0010		mg/L	0.005	0.001	09-AUG-19
n-Butylbenzene	<0.0010		mg/L			09-AUG-19
1,2-Dichlorobenzene	<0.0010		mg/L	0.2	0.003	09-AUG-19
1,2-Dibromo-3-chloropropane	<0.0010		mg/L			09-AUG-19
1,2,4-Trichlorobenzene	<0.0010		mg/L			09-AUG-19
Hexachlorobutadiene	<0.0010		mg/L			09-AUG-19
1,2,3-Trichlorobenzene	<0.0010		mg/L			09-AUG-19
Surr: 1,4-Difluorobenzene	101.7		%			09-AUG-19
Surr: 4-Bromofluorobenzene	98.6		%			09-AUG-19
Surr: 3,4-Dichlorotoluene	129.1		%			09-AUG-19
Chlorinated Aromatics - Phenolic Comp						
2,4,6-Trichlorophenol	<0.00010		mg/L	0.005	0.002	21-AUG-19
2,4 & 2,5-Dichlorophenol	<0.00010		mg/L			21-AUG-19
2,3,4,6-Tetrachlorophenol	<0.00010		mg/L	0.1	0.001	21-AUG-19
Pentachlorophenol	<0.00010		mg/L	0.06	0.03	21-AUG-19
Phenol	<0.00050		mg/L			21-AUG-19
Surr: 2-Fluorophenol	87.9		%			21-AUG-19
Surr: Phenol d5	68.4		%			21-AUG-19
Surr: 2,4,6-Tribromophenol	97.4		%			21-AUG-19

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Benzo(a)pyrene							
	Benzo(a)pyrene	<0.0050		ug/L	0.04		12-AUG-19
Surr:	d14-Terphenyl	88.6		%			12-AUG-19

CDWQG = Health Canada Guideline Limits updated JUNE 2019

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
* Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality
- A blank entry designates no known limit.
- A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.

Approved by

Patryk Wojciak, B.Sc., P.Chem.
Account Manager

Town of Cochrane
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ATTN: Richard Gaida

Date: 26-AUG-19
PO No.:
WO No.: L2323109
Project Ref: SCHEDULE 4 MONITORING (BI-ANNUAL)
Sample ID: WTP
Sampled By: RG
Date Collected: 09-AUG-19
Lab Sample ID: L2323109-2
Matrix: WATER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Total cyanobacterial cell count	<1		cells/mL			13-AUG-19
Note: No cyanobacteria observed.						

CDWQG = Health Canada Guideline Limits updated **JUNE 2019**

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
* Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality
- A blank entry designates no known limit.
- A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.

Approved by

Patryk Wojciak, B.Sc., P.Chem.
Account Manager

Guidelines & Objectives

Sample Parameter Qualifier key listed:

Qualifier	Description
M,B	A peak has been manually integrated and the analyte was detected in the Method Blank at >10% of the sample concentration.

Health Canada MAC Health Related Criteria Limits

Nitrate/Nitrite-N*	Criteria limit is 10 mg/L (1.0 mg/L if present as all Nitrite-N). High concentrations may contribute to blue baby syndrome in infants.
Lead*	A cumulative body poison, uncommon in naturally occurring hard waters.
Fluoride*	Present in fluoridated water supplies at 0.8 mg/L to reduce dental caries. Elevated levels causes fluorosis (mottling of teeth).
Total Coliforms*	Criteria is 0 CFU/100mL. Adverse health effects.
E. Coli*	Criteria is 0 CFU/100 mL. Certain E. Coli bacteria can be life threatening.

*Health Canada Canadian Drinking Water Quality Guidelines (MAC limit)

Aesthetic Objective Concentration Levels

Alkalinity	Acid neutralizing capacity. Usually a measure of carbonate and bicarbonates and calculated and reported as calcium carbonate.
Balance	Quality control parameter ratioing cations to anions
Bicarbonate	See Alkalinity. Report as the anion HCO3-1
Carbonate	See Alkalinity. Reported at the anion CO3-2
Calcium	See Hardness. Common major cation of water chemistry.
Chloride	Common major anion of water chemistry.
Conductance	Physical test measuring water salinity (dissolved ions or solids)
Hardness	Classical measure or capacity of water to precipitate soap (chiefly calcium and magnesium ions). Causes scaling tendency in water if carbonates/bicarbonates are present (if >200 mg/L). For drinking water purposes waters with results <200 mg/L are considered acceptable, results >200 mg/L are considered poor but can be tolerated. Results >500 mg/L are unacceptable.
Hydroxide	See alkalinity
Magnesium	See hardness. Common major cation of water chemistry. Elevated levels (>125 mg/L) may exert a cathartic or diuretic action.
pH	Measure of water acidity/alkalinity. Normal range is 7.0-8.5.
Potassium	Common major cation of water chemistry.
Sodium	Common major cation of water chemistry. Measure of salinity (saltiness).The aesthetic objective (not related to health) for sodium in drinking water is 200 mg/L. However, where sodium concentration of the drinking water exceeds 20 mg/L, it is recommended that any person on a sodium restricted diet consult with his/her physician or Medical Officer of Health concerning the use of that water.
Sulphate	Common major anion of water chemistry. Elevated levels may exert a cathartic or diuretic action.
Total Dissolved Solids	A measure of water salinity.
Iron	Causes staining to laundry and porcelain and astringent taste. Oxidizes to red-brown precipitate on exposure to air.
Manganese	Elevated levels may cause staining of laundry and porcelain.
Heterotrophic Plate Count	Criteria is 500 cfu/mL Measure of heterotrophic bacteria present.

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2323109 Report Date: 26-AUG-19

Client: Town of Cochrane
101 Ranchehouse Rd
Cochrane AB T4C 2K8
Contact: Richard Gaida

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BAP-WT	**Water**							
Batch R4746384								
WG3126529-2 LCS								
Benzo(a)pyrene			95.3		%		60-130	12-AUG-19
WG3126529-1 MB								
Benzo(a)pyrene			<0.0050		ug/L		0.005	12-AUG-19
Surrogate: d14-Terphenyl			94.1		%		40-130	12-AUG-19
BROMATE-ONT-DW-WT	**Water**							
Batch R4746593								
WG3127905-3 DUP		**L2323109-1**						
Bromate		0.48	0.49		ug/L	2.3	25	09-AUG-19
WG3127905-2 LCS								
Bromate			105.0		%		70-130	09-AUG-19
WG3127905-1 MB								
Bromate			<0.30		ug/L		0.3	09-AUG-19
WG3127905-4 MS		**L2323109-1**						
Bromate			86.7		%		70-130	09-AUG-19
C-TOT-ORG-CL	**Water**							
Batch R4743308								
WG3126809-2 LCS								
Total Organic Carbon			95.4		%		80-120	07-AUG-19
WG3126809-1 MB								
Total Organic Carbon			<1.0		mg/L		1	07-AUG-19
CHLORATE-IC-WT	**Water**							
Batch R4746940								
WG3128375-2 LCS								
Chlorate			90.5		%		85-115	09-AUG-19
WG3128375-1 MB								
Chlorate			<0.050		mg/L		0.05	09-AUG-19
CHLORITE-IC-WT	**Water**							
Batch R4746940								
WG3128375-2 LCS								
Chlorite			99.9		%		85-115	09-AUG-19
WG3128375-1 MB								
Chlorite			<0.050		mg/L		0.05	09-AUG-19
CL-IC-N-CL	**Water**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-3 DUP		**L2323109-1**						
Chloride (Cl)		9.65	9.66		mg/L	0.1	20	06-AUG-19
WG3125988-2 LCS								
Chloride (Cl)			100.4		%		90-110	06-AUG-19
WG3125988-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	06-AUG-19
WG3125988-4 MS		**L2323109-1**						
Chloride (Cl)			110.3		%		75-125	06-AUG-19
CL2-FREE-CL	**Water**							
Batch R4742871								
WG3126145-3 DUP		**L2323109-1**						
Chlorine, Free		0.80	0.80		mg/L	0.0	15	06-AUG-19
WG3126145-1 MB								
Chlorine, Free			<0.10		mg/L		0.1	06-AUG-19
CL2-TOT-CL	**Water**							
Batch R4742871								
WG3126145-3 DUP		**L2323109-1**						
Chlorine, Total		0.80	0.80		mg/L	0.0	15	06-AUG-19
WG3126145-1 MB								
Chlorine, Total			<0.10		mg/L		0.1	06-AUG-19
CN-TOT-WT	**Water**							
Batch R4745024								
WG3127263-6 LCS								
Cyanide, Total			89.9		%		80-120	08-AUG-19
WG3127263-5 MB								
Cyanide, Total			<0.0020		mg/L		0.002	08-AUG-19
COLOUR-TRUE-CL	**Water**							
Batch R4740570								
WG3124903-2 LCS								
Colour, True			103.1		%		85-115	06-AUG-19
WG3124903-1 MB								
Colour, True			<5.0		CU		5	06-AUG-19
DIQUAT-WT	**Water**							
Batch R4752465								
WG3129951-3 DUP		**L2323109-1**						
Diquat		<1.0	<1.0	RPD-NA	ug/L	N/A	30	13-AUG-19
WG3129951-2 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DIQUAT-WT	**Water**							
Batch R4752465								
WG3129951-2 LCS								
Diquat			88.4		%		70-130	13-AUG-19
WG3129951-1 MB								
Diquat			<1.0		ug/L		1	13-AUG-19
WG3129951-4 MS		**L2323109-1**						
Diquat			92.3		%		70-130	13-AUG-19
DIURON-WT	**Water**							
Batch R4746492								
WG3127671-2 LCS								
Diuron			106.0		%		70-130	09-AUG-19
WG3127671-1 MB								
Diuron			<1.0		ug/L		1	09-AUG-19
F-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-3 DUP		**L2323109-1**						
Fluoride (F)		0.080	0.081		mg/L	0.4	20	06-AUG-19
WG3125988-2 LCS								
Fluoride (F)			106.9		%		90-110	06-AUG-19
WG3125988-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	06-AUG-19
WG3125988-4 MS		**L2323109-1**						
Fluoride (F)			115.9		%		75-125	06-AUG-19
GLYPHOSATE-WT	**Water**							
Batch R4746451								
WG3128124-2 LCS								
Glyphosate			88.8		%		50-150	12-AUG-19
WG3128124-1 MB								
Glyphosate			<5.0		ug/L		5	12-AUG-19
HERBSCR-LCMS-WT	**Water**							
Batch R4746669								
WG3129586-2 LCS								
Clopyralid			79.5		%		50-150	12-AUG-19
Dicamba			95.5		%		65-130	12-AUG-19
Mecoprop			112.0		%		65-130	12-AUG-19
MCPA			104.0		%		65-130	12-AUG-19
2,4-D			90.4		%		65-130	12-AUG-19
Bromoxynil			119.0		%		65-130	12-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HERBSCR-LCMS-WT	**Water**							
Batch R4746669								
WG3129586-2 LCS								
Triclopyr			78.2		%		65-130	12-AUG-19
2,4,5-T			88.3		%		65-130	12-AUG-19
2,4,5-TP			110.0		%		65-130	12-AUG-19
Picloram			85.5		%		50-150	12-AUG-19
2,4-DB			107.0		%		65-130	12-AUG-19
2,4-DP			90.1		%		65-130	12-AUG-19
Dinoseb			118.0		%		50-150	12-AUG-19
MCPB			113.0		%		65-130	12-AUG-19
WG3129586-1 MB								
Clopyralid			<0.00010		mg/L		0.0001	12-AUG-19
Dicamba			<0.00010		mg/L		0.0001	12-AUG-19
Mecoprop			<0.00010		mg/L		0.0001	12-AUG-19
MCPA			<0.00010		mg/L		0.0001	12-AUG-19
2,4-D			<0.00010		mg/L		0.0001	12-AUG-19
Bromoxynil			<0.00010		mg/L		0.0001	12-AUG-19
Triclopyr			<0.00010		mg/L		0.0001	12-AUG-19
2,4,5-T			<0.00010		mg/L		0.0001	12-AUG-19
2,4,5-TP			<0.00010		mg/L		0.0001	12-AUG-19
Picloram			<0.00010		mg/L		0.0001	12-AUG-19
2,4-DB			<0.00010		mg/L		0.0001	12-AUG-19
2,4-DP			<0.00010		mg/L		0.0001	12-AUG-19
Dinoseb			<0.00010		mg/L		0.0001	12-AUG-19
MCPB			<0.00010		mg/L		0.0001	12-AUG-19
Surrogate: 2,4-Dichlorophenylacetic Acid			108.0		%		50-130	12-AUG-19
HG-T-CVAA-CL	**Water**							
Batch R4745603								
WG3128652-2 LCS								
Mercury (Hg)-Total			107.0		%		80-120	09-AUG-19
WG3128652-1 MB								
Mercury (Hg)-Total			<0.000005		mg/L		0.000005	09-AUG-19
MET-DIS-ICP-CL	**Water**							
Batch R4742769								
WG3125905-10 LCS		**TMRM**						
Calcium (Ca)-Dissolved			97.8		%		80-120	07-AUG-19
Magnesium (Mg)-Dissolved			96.3		%		80-120	07-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-ICP-CL	**Water**							
Batch R4742769								
WG3125905-10 LCS		**TMRM**						
Potassium (K)-Dissolved			93.7		%		80-120	07-AUG-19
Sodium (Na)-Dissolved			98.2		%		80-120	07-AUG-19
WG3125905-9 MB								
Calcium (Ca)-Dissolved			<0.10		mg/L		0.1	07-AUG-19
Magnesium (Mg)-Dissolved			<0.10		mg/L		0.1	07-AUG-19
Potassium (K)-Dissolved			<0.50		mg/L		0.5	07-AUG-19
Sodium (Na)-Dissolved			<1.0		mg/L		1	07-AUG-19
MET-T-CCMS-CL	**Water**							
Batch R4744534								
WG3125735-2 LCS		**TMRM**						
Aluminum (Al)-Total			98.9		%		80-120	08-AUG-19
Antimony (Sb)-Total			103.5		%		80-120	08-AUG-19
Arsenic (As)-Total			102.4		%		80-120	08-AUG-19
Barium (Ba)-Total			94.4		%		80-120	08-AUG-19
Boron (B)-Total			85.5		%		80-120	08-AUG-19
Cadmium (Cd)-Total			96.1		%		80-120	08-AUG-19
Calcium (Ca)-Total			88.7		%		80-120	08-AUG-19
Chromium (Cr)-Total			96.5		%		80-120	08-AUG-19
Copper (Cu)-Total			94.7		%		80-120	08-AUG-19
Iron (Fe)-Total			82.4		%		80-120	08-AUG-19
Lead (Pb)-Total			93.4		%		80-120	08-AUG-19
Magnesium (Mg)-Total			97.8		%		80-120	08-AUG-19
Manganese (Mn)-Total			96.2		%		80-120	08-AUG-19
Nickel (Ni)-Total			95.6		%		80-120	08-AUG-19
Potassium (K)-Total			98.2		%		80-120	08-AUG-19
Selenium (Se)-Total			85.5		%		80-120	08-AUG-19
Silver (Ag)-Total			93.3		%		80-120	08-AUG-19
Sodium (Na)-Total			99.4		%		80-120	08-AUG-19
Uranium (U)-Total			93.8		%		80-120	08-AUG-19
Zinc (Zn)-Total			91.4		%		80-120	08-AUG-19
WG3125735-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	08-AUG-19
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	08-AUG-19
Arsenic (As)-Total			<0.00010		mg/L		0.0001	08-AUG-19
Barium (Ba)-Total			<0.00010		mg/L		0.0001	08-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-CL	**Water**							
Batch R4744534								
WG3125735-1 MB								
Boron (B)-Total			<0.010		mg/L		0.01	08-AUG-19
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	08-AUG-19
Calcium (Ca)-Total			<0.050		mg/L		0.05	08-AUG-19
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	08-AUG-19
Copper (Cu)-Total			<0.00050		mg/L		0.0005	08-AUG-19
Iron (Fe)-Total			<0.010		mg/L		0.01	08-AUG-19
Lead (Pb)-Total			<0.000050		mg/L		0.00005	08-AUG-19
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	08-AUG-19
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	08-AUG-19
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	08-AUG-19
Potassium (K)-Total			<0.050		mg/L		0.05	08-AUG-19
Selenium (Se)-Total			<0.000050		mg/L		0.00005	08-AUG-19
Silver (Ag)-Total			<0.000010		mg/L		0.00001	08-AUG-19
Sodium (Na)-Total			<0.050		mg/L		0.05	08-AUG-19
Uranium (U)-Total			<0.000010		mg/L		0.00001	08-AUG-19
Zinc (Zn)-Total			<0.0030		mg/L		0.003	08-AUG-19
MICROCYSTIN-WP	**Water**							
Batch R4745993								
WG3129169-2 LCS								
Microcystin			110.5		%		70-130	10-AUG-19
WG3129169-1 MB								
Microcystin			<0.20		ug/L		0.2	10-AUG-19
MISCSCR-WT	**Water**							
Batch R4745027								
WG3126529-2 LCS								
Trifluralin			76.6		%		60-130	09-AUG-19
Triallate			92.2		%		60-130	09-AUG-19
Fluazifop-p-butyl			118.1		%		50-150	09-AUG-19
Diclofop-methyl			104.5		%		60-140	09-AUG-19
Ethalfluralin			88.8		%		50-150	09-AUG-19
WG3126529-1 MB								
Trifluralin			<0.00010		mg/L		0.0001	09-AUG-19
Triallate			<0.00010		mg/L		0.0001	09-AUG-19
Fluazifop-p-butyl			<0.00010		mg/L		0.0001	09-AUG-19
Diclofop-methyl			<0.00010		mg/L		0.0001	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MISCSCR-WT	**Water**							
Batch R4745027								
WG3126529-1 MB								
Ethalfluralin			<0.00010		mg/L		0.0001	09-AUG-19
Surrogate: D14-Terphenyl			91.3		%		40-130	09-AUG-19
MTBE-CL	**Water**							
Batch R4745457								
WG3128532-8 DUP		**L2323109-1**						
Methyl tert-butyl ether		<0.0050	<0.0050	RPD-NA	mg/L	N/A	30	09-AUG-19
WG3128532-10 LCS								
Methyl tert-butyl ether			112.1		%		70-130	09-AUG-19
WG3128532-6 LCS								
Methyl tert-butyl ether			112.0		%		70-130	08-AUG-19
WG3128532-1 MB								
Methyl tert-butyl ether			<0.0050		mg/L		0.005	08-AUG-19
WG3128532-7 MB								
Methyl tert-butyl ether			<0.0050		mg/L		0.005	09-AUG-19
WG3128532-9 MS		**L2323109-1**						
Methyl tert-butyl ether			111.3		%		50-150	09-AUG-19
NDMA-IHM-HRMS-BU	**Water**							
Batch R4765078								
WG3128236-2 LCS								
N-Nitrosodimethylamine			126.0		%		60-135	20-AUG-19
WG3128236-1 MB								
N-Nitrosodimethylamine			2.9	M	ng/L		2	20-AUG-19
Surrogate: N-Nitrosodimethylamine (Surr.)			53.0		%		13-109	20-AUG-19
NH3-F-CL	**Water**							
Batch R4768758								
WG3141851-22 LCS								
Ammonia, Total (as N)			106.3		%		85-115	23-AUG-19
WG3141851-21 MB								
Ammonia, Total (as N)			<0.050		mg/L		0.05	23-AUG-19
NO2-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-3 DUP		**L2323109-1**						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	06-AUG-19
WG3125988-2 LCS								
Nitrite (as N)			103.0		%		90-110	06-AUG-19
WG3125988-1 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-1 MB								
Nitrite (as N)			<0.010		mg/L		0.01	06-AUG-19
WG3125988-4 MS		**L2323109-1**						
Nitrite (as N)			106.0		%		75-125	06-AUG-19
NO3-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-3 DUP		**L2323109-1**						
Nitrate (as N)		0.168	0.168		mg/L	0.1	20	06-AUG-19
WG3125988-2 LCS								
Nitrate (as N)			100.7		%		90-110	06-AUG-19
WG3125988-1 MB								
Nitrate (as N)			<0.020		mg/L		0.02	06-AUG-19
WG3125988-4 MS		**L2323109-1**						
Nitrate (as N)			112.4		%		75-125	06-AUG-19
NTA-WT	**Water**							
Batch R4746287								
WG3128473-2 LCS								
Nitrilotriacetic Acid (NTA)			101.2		%		75-125	11-AUG-19
WG3128473-1 MB								
Nitrilotriacetic Acid (NTA)			<0.20		mg/L		0.2	11-AUG-19
PARAQUAT-WT	**Water**							
Batch R4752465								
WG3129951-3 DUP		**L2323109-1**						
Paraquat		<1.0	<1.0	RPD-NA	ug/L	N/A	30	13-AUG-19
WG3129951-2 LCS								
Paraquat			110.8		%		70-130	13-AUG-19
WG3129951-1 MB								
Paraquat			<1.0		ug/L		1	13-AUG-19
WG3129951-4 MS		**L2323109-1**						
Paraquat			97.2		%		70-130	13-AUG-19
PEST-MISC-WT	**Water**							
Batch R4745027								
WG3126529-2 LCS								
Alachlor			107.5		%		60-130	09-AUG-19
Ametryn			102.1		%		60-130	09-AUG-19
Atrazine			88.5		%		60-130	09-AUG-19
Atrazine Desethyl			54.8		%		50-130	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PEST-MISC-WT	**Water**							
Batch R4745027								
WG3126529-2 LCS								
Azinphos-methyl			126.2		%		60-140	09-AUG-19
Bendiocarb			87.1		%		50-140	09-AUG-19
Carbaryl			106.0		%		50-140	09-AUG-19
Carbofuran			112.0		%		60-140	09-AUG-19
Chlorpyrifos			83.1		%		60-130	09-AUG-19
Cyanazine			75.1		%		50-140	09-AUG-19
Diazinon			84.6		%		60-130	09-AUG-19
Diclofop-methyl			104.5		%		60-140	09-AUG-19
Dimethoate			93.3		%		60-130	09-AUG-19
Malathion			98.7		%		60-130	09-AUG-19
Methyl Parathion			98.7		%		60-130	09-AUG-19
Metolachlor			96.9		%		60-130	09-AUG-19
Metribuzin			90.8		%		60-130	09-AUG-19
Parathion			96.5		%		60-140	09-AUG-19
Phorate			104.7		%		30-140	09-AUG-19
Prometon			106.8		%		60-130	09-AUG-19
Prometryne			98.9		%		60-130	09-AUG-19
Propazine			99.95		%		60-130	09-AUG-19
Simazine			103.9		%		60-130	09-AUG-19
Temephos			78.4		%		50-150	09-AUG-19
Terbufos			90.3		%		60-130	09-AUG-19
Terbutryn			92.8		%		60-130	09-AUG-19
Triallate			92.2		%		60-130	09-AUG-19
Trifluralin			76.6		%		60-130	09-AUG-19
WG3126529-1 MB								
Alachlor			<0.10		ug/L		0.1	09-AUG-19
Ametryn			<0.10		ug/L		0.1	09-AUG-19
Atrazine			<0.10		ug/L		0.1	09-AUG-19
Atrazine Desethyl			<0.10		ug/L		0.1	09-AUG-19
Azinphos-methyl			<0.10		ug/L		0.1	09-AUG-19
Bendiocarb			<0.50		ug/L		0.5	09-AUG-19
Carbaryl			<0.50		ug/L		0.5	09-AUG-19
Carbofuran			<0.50		ug/L		0.5	09-AUG-19
Chlorpyrifos			<0.10		ug/L		0.1	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PEST-MISC-WT	**Water**							
Batch R4745027								
WG3126529-1 MB								
Cyanazine			<0.10		ug/L		0.1	09-AUG-19
Diazinon			<0.10		ug/L		0.1	09-AUG-19
Diclofop-methyl			<0.10		ug/L		0.1	09-AUG-19
Dimethoate			<0.10		ug/L		0.1	09-AUG-19
Malathion			<0.10		ug/L		0.1	09-AUG-19
Methyl Parathion			<0.10		ug/L		0.1	09-AUG-19
Metolachlor			<0.10		ug/L		0.1	09-AUG-19
Metribuzin			<1.0		ug/L		1	09-AUG-19
Parathion			<0.10		ug/L		0.1	09-AUG-19
Phorate			<0.10		ug/L		0.1	09-AUG-19
Prometon			<0.10		ug/L		0.1	09-AUG-19
Prometryne			<0.10		ug/L		0.1	09-AUG-19
Propazine			<0.10		ug/L		0.1	09-AUG-19
Simazine			<0.10		ug/L		0.1	09-AUG-19
Temephos			<1.0		ug/L		1	09-AUG-19
Terbufos			<0.10		ug/L		0.1	09-AUG-19
Terbutryn			<0.10		ug/L		0.1	09-AUG-19
Triallate			<0.10		ug/L		0.1	09-AUG-19
Trifluralin			<0.10		ug/L		0.1	09-AUG-19
Surrogate: 2-Fluorobiphenyl			74.2		%		40-130	09-AUG-19
Surrogate: d14-Terphenyl			91.3		%		40-130	09-AUG-19
PEST-OC-WT	**Water**							
Batch R4746717								
WG3126529-2 LCS								
Aldrin			121.3		%		50-150	12-AUG-19
a-chlordane			77.2		%		50-150	12-AUG-19
g-chlordane			83.8		%		50-150	12-AUG-19
alpha-BHC			101.6		%		50-150	12-AUG-19
beta-BHC			104.3		%		50-150	12-AUG-19
delta-BHC			102.0		%		50-150	12-AUG-19
o,p-DDD			80.7		%		50-150	12-AUG-19
pp-DDD			85.6		%		50-150	12-AUG-19
o,p-DDE			81.5		%		50-150	12-AUG-19
pp-DDE			78.7		%		50-150	12-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PEST-OC-WT	**Water**							
Batch R4746717								
WG3126529-2 LCS								
op-DDT			104.3		%		50-150	12-AUG-19
pp-DDT			130.8		%		50-150	12-AUG-19
Dieldrin			86.4		%		50-150	12-AUG-19
alpha-Endosulfan			84.5		%		50-150	12-AUG-19
beta-Endosulfan			90.4		%		50-150	12-AUG-19
Endosulfan Sulfate			93.2		%		50-150	12-AUG-19
Endrin			143.7		%		50-150	12-AUG-19
Endrin Aldehyde			70.1		%		50-150	12-AUG-19
Hexachlorobenzene			80.6		%		40-130	12-AUG-19
Heptachlor			106.7		%		50-150	12-AUG-19
Heptachlor Epoxide			81.3		%		50-150	12-AUG-19
Lindane			96.4		%		50-150	12-AUG-19
Methoxychlor			128.0		%		50-150	12-AUG-19
Mirex			82.5		%		50-150	12-AUG-19
Oxychlordane			75.8		%		50-150	12-AUG-19
WG3126529-1 MB								
Aldrin			<0.10		ug/L		0.1	12-AUG-19
a-chlordane			<0.10		ug/L		0.1	12-AUG-19
g-chlordane			<0.10		ug/L		0.1	12-AUG-19
alpha-BHC			<0.10		ug/L		0.1	12-AUG-19
beta-BHC			<0.10		ug/L		0.1	12-AUG-19
delta-BHC			<0.10		ug/L		0.1	12-AUG-19
o,p-DDD			<0.10		ug/L		0.1	12-AUG-19
pp-DDD			<0.10		ug/L		0.1	12-AUG-19
o,p-DDE			<0.10		ug/L		0.1	12-AUG-19
pp-DDE			<0.10		ug/L		0.1	12-AUG-19
op-DDT			<0.10		ug/L		0.1	12-AUG-19
pp-DDT			<0.10		ug/L		0.1	12-AUG-19
Dieldrin			<0.10		ug/L		0.1	12-AUG-19
alpha-Endosulfan			<0.10		ug/L		0.1	12-AUG-19
beta-Endosulfan			<0.10		ug/L		0.1	12-AUG-19
Endosulfan Sulfate			<0.10		ug/L		0.1	12-AUG-19
Endrin			<0.10		ug/L		0.1	12-AUG-19
Endrin Aldehyde			<0.10		ug/L		0.1	12-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PEST-OC-WT	**Water**							
Batch R4746717								
WG3126529-1 MB								
Hexachlorobenzene			<0.10		ug/L		0.1	12-AUG-19
Heptachlor			<0.10		ug/L		0.1	12-AUG-19
Heptachlor Epoxide			<0.10		ug/L		0.1	12-AUG-19
Lindane			<0.10		ug/L		0.1	12-AUG-19
Methoxychlor			<0.10		ug/L		0.1	12-AUG-19
Mirex			<0.10		ug/L		0.1	12-AUG-19
Oxychlordane			<0.10		ug/L		0.1	12-AUG-19
Surrogate: 2-Fluorobiphenyl			85.8		%		40-130	12-AUG-19
Surrogate: d14-Terphenyl			93.6		%		40-130	12-AUG-19
PH/EC/ALK-CL	**Water**							
Batch R4744134								
WG3126748-17 LCS								
Conductivity (EC)			105.0		%		90-110	07-AUG-19
Alkalinity, Total (as CaCO3)			93.6		%		85-115	07-AUG-19
WG3126748-16 MB								
Conductivity (EC)			<2.0		uS/cm		2	07-AUG-19
Bicarbonate (HCO3)			<5.0		mg/L		5	07-AUG-19
Carbonate (CO3)			<5.0		mg/L		5	07-AUG-19
Hydroxide (OH)			<5.0		mg/L		5	07-AUG-19
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	07-AUG-19
PHN-ABT1-ED	**Water**							
Batch R4762924								
WG3137540-2 LCS								
2,4,6-Trichlorophenol			84.0		%		50-130	21-AUG-19
2,4 & 2,5-Dichlorophenol			87.2		%		50-130	21-AUG-19
2,3,4,6-Tetrachlorophenol			85.3		%		60-130	21-AUG-19
Pentachlorophenol			86.8		%		60-130	21-AUG-19
Phenol			74.8		%		30-130	21-AUG-19
WG3137540-1 MB								
2,4,6-Trichlorophenol			<0.00010		mg/L		0.0001	21-AUG-19
2,4 & 2,5-Dichlorophenol			<0.00010		mg/L		0.0001	21-AUG-19
2,3,4,6-Tetrachlorophenol			<0.00010		mg/L		0.0001	21-AUG-19
Pentachlorophenol			<0.00010		mg/L		0.0001	21-AUG-19
Phenol			<0.00050		mg/L		0.0005	21-AUG-19
Surrogate: 2-Fluorophenol			88.1		%		20-130	21-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHN-ABT1-ED	**Water**							
Batch R4762924								
WG3137540-1 MB								
Surrogate: Phenol d5			75.0		%		30-130	21-AUG-19
Surrogate: 2,4,6-Tribromophenol			102.6		%		40-130	21-AUG-19
SO4-IC-N-CL	**Water**							
Batch R4742727								
WG3125988-3 DUP		**L2323109-1**						
Sulfate (SO4)		32.7	32.7		mg/L	0.0	20	06-AUG-19
WG3125988-2 LCS								
Sulfate (SO4)			100.8		%		90-110	06-AUG-19
WG3125988-1 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	06-AUG-19
WG3125988-4 MS		**L2323109-1**						
Sulfate (SO4)			109.1		%		75-125	06-AUG-19
SULPHIDE-CFA-ED	**Water**							
Batch R4744638								
WG3127475-2 LCS								
Sulphide (as S)			82.8		%		75-125	08-AUG-19
WG3127475-6 LCS								
Sulphide (as S)			80.0		%		75-125	08-AUG-19
WG3127475-1 MB								
Sulphide (as S)			<0.0015		mg/L		0.0015	08-AUG-19
WG3127475-5 MB								
Sulphide (as S)			<0.0015		mg/L		0.0015	08-AUG-19
THM-PT-MS-CL	**Water**							
Batch R4745457								
WG3128532-8 DUP		**L2323109-1**						
Chloroform		0.0079	0.0064		mg/L	20	30	09-AUG-19
Bromodichloromethane		0.0015	0.0015		mg/L	0.0	30	09-AUG-19
Dibromochloromethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Bromoform		<0.0050	<0.0050	RPD-NA	mg/L	N/A	30	09-AUG-19
WG3128532-10 LCS								
Chloroform			112.7		%		70-130	09-AUG-19
Bromodichloromethane			112.2		%		70-130	09-AUG-19
Dibromochloromethane			117.4		%		70-130	09-AUG-19
Bromoform			98.6		%		70-130	09-AUG-19
WG3128532-6 LCS								
Chloroform			110.5		%		70-130	08-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
THM-PT-MS-CL	**Water**							
Batch R4745457								
WG3128532-6 LCS								
Bromodichloromethane			109.6		%		70-130	08-AUG-19
Dibromochloromethane			115.2		%		70-130	08-AUG-19
Bromoform			98.6		%		70-130	08-AUG-19
WG3128532-1 MB								
Chloroform			<0.0010		mg/L		0.001	08-AUG-19
Bromodichloromethane			<0.0010		mg/L		0.001	08-AUG-19
Dibromochloromethane			<0.0010		mg/L		0.001	08-AUG-19
Bromoform			<0.0050		mg/L		0.005	08-AUG-19
WG3128532-7 MB								
Chloroform			<0.0010		mg/L		0.001	09-AUG-19
Bromodichloromethane			<0.0010		mg/L		0.001	09-AUG-19
Dibromochloromethane			<0.0010		mg/L		0.001	09-AUG-19
Bromoform			<0.0050		mg/L		0.005	09-AUG-19
WG3128532-9 MS		**L2323109-1**						
Chloroform			111.3		%		50-140	09-AUG-19
Bromodichloromethane			114.0		%		50-140	09-AUG-19
Dibromochloromethane			118.4		%		50-140	09-AUG-19
Bromoform			97.5		%		50-140	09-AUG-19
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-8 DUP		**L2323109-1**						
Dichlorodifluoromethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Chloromethane		<0.010	<0.010	RPD-NA	mg/L	N/A	30	09-AUG-19
Vinyl chloride		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	09-AUG-19
Bromomethane		<0.010	<0.010	RPD-NA	mg/L	N/A	30	09-AUG-19
Chloroethane		<0.010	<0.010	RPD-NA	mg/L	N/A	30	09-AUG-19
Trichlorofluoromethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1-Dichloroethene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Methylene chloride		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
trans-1,2-Dichloroethene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1-Dichloroethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
2,2-Dichloropropane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
cis-1,2-Dichloroethene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Chloroform		0.0074	0.0064		mg/L	14	30	09-AUG-19
Bromochloromethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-8 DUP		**L2323109-1**						
1,2-Dichloroethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1,1-Trichloroethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1-Dichloropropene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Carbon tetrachloride		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Benzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Trichloroethene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2-Dichloropropane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Bromodichloromethane		0.0017	0.0015		mg/L	13	30	09-AUG-19
Dibromomethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
cis-1,3-Dichloropropene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
trans-1,3-Dichloropropene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Toluene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1,2-Trichloroethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,3-Dichloropropane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Tetrachloroethene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Dibromochloromethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2-Dibromoethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Chlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Ethylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1,1,2-Tetrachloroethane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
m+p-Xylenes		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
o-Xylene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Styrene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Bromoform		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Isopropylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,1,2,2-Tetrachloroethane		<0.0050	<0.0050	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2,3-Trichloropropane		<0.0020	<0.0020	RPD-NA	mg/L	N/A	30	09-AUG-19
n-Propylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Bromobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,3,5-Trimethylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
2-Chlorotoluene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
4-Chlorotoluene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
tert-Butylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2,4-Trimethylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-8 DUP		**L2323109-1**						
sec-Butylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
p-Isopropyltoluene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	50	09-AUG-19
1,3-Dichlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,4-Dichlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
n-Butylbenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2-Dichlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2-Dibromo-3-chloropropane		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2,4-Trichlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
Hexachlorobutadiene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
1,2,3-Trichlorobenzene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	09-AUG-19
WG3128532-10 LCS								
Dichlorodifluoromethane			80.2		%		60-140	09-AUG-19
Chloromethane			72.2		%		60-140	09-AUG-19
Vinyl chloride			87.8		%		60-140	09-AUG-19
Bromomethane			91.1		%		60-140	09-AUG-19
Chloroethane			115.1		%		60-140	09-AUG-19
Trichlorofluoromethane			110.0		%		60-140	09-AUG-19
1,1-Dichloroethene			96.7		%		70-130	09-AUG-19
Methylene chloride			110.1		%		60-140	09-AUG-19
trans-1,2-Dichloroethene			97.3		%		70-130	09-AUG-19
1,1-Dichloroethane			113.3		%		70-130	09-AUG-19
2,2-Dichloropropane			112.4		%		70-130	09-AUG-19
cis-1,2-Dichloroethene			107.9		%		70-130	09-AUG-19
Chloroform			112.7		%		70-130	09-AUG-19
Bromochloromethane			111.0		%		70-130	09-AUG-19
1,2-Dichloroethane			113.1		%		70-130	09-AUG-19
1,1,1-Trichloroethane			111.5		%		70-130	09-AUG-19
1,1-Dichloropropene			102.3		%		70-130	09-AUG-19
Carbon tetrachloride			107.2		%		70-130	09-AUG-19
Benzene			106.9		%		70-130	09-AUG-19
Trichloroethene			112.5		%		70-130	09-AUG-19
1,2-Dichloropropane			109.7		%		70-130	09-AUG-19
Bromodichloromethane			112.2		%		70-130	09-AUG-19
Dibromomethane			115.5		%		70-130	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch	**R4745457**							
WG3128532-10	**LCS**							
cis-1,3-Dichloropropene			99.4		%		70-130	09-AUG-19
trans-1,3-Dichloropropene			112.0		%		70-130	09-AUG-19
Toluene			109.6		%		70-130	09-AUG-19
1,1,2-Trichloroethane			117.9		%		70-130	09-AUG-19
1,3-Dichloropropane			115.3		%		70-130	09-AUG-19
Tetrachloroethene			115.3		%		70-130	09-AUG-19
Dibromochloromethane			117.4		%		70-130	09-AUG-19
1,2-Dibromoethane			109.1		%		70-130	09-AUG-19
Chlorobenzene			101.7		%		70-130	09-AUG-19
Ethylbenzene			100.7		%		70-130	09-AUG-19
1,1,1,2-Tetrachloroethane			112.7		%		70-130	09-AUG-19
m+p-Xylenes			106.5		%		70-130	09-AUG-19
o-Xylene			99.4		%		70-130	09-AUG-19
Styrene			99.2		%		70-130	09-AUG-19
Bromoform			98.6		%		70-130	09-AUG-19
Isopropylbenzene			107.6		%		70-130	09-AUG-19
1,1,2,2-Tetrachloroethane			113.1		%		70-130	09-AUG-19
1,2,3-Trichloropropane			110.1		%		70-130	09-AUG-19
n-Propylbenzene			107.5		%		70-130	09-AUG-19
Bromobenzene			105.9		%		70-130	09-AUG-19
1,3,5-Trimethylbenzene			106.6		%		70-130	09-AUG-19
2-Chlorotoluene			115.0		%		70-130	09-AUG-19
4-Chlorotoluene			107.0		%		70-130	09-AUG-19
tert-Butylbenzene			115.8		%		70-130	09-AUG-19
1,2,4-Trimethylbenzene			114.3		%		70-130	09-AUG-19
sec-Butylbenzene			122.1		%		70-130	09-AUG-19
p-Isopropyltoluene			115.3		%		50-150	09-AUG-19
1,3-Dichlorobenzene			110.8		%		70-130	09-AUG-19
1,4-Dichlorobenzene			114.7		%		70-130	09-AUG-19
n-Butylbenzene			118.8		%		70-130	09-AUG-19
1,2-Dichlorobenzene			111.2		%		70-130	09-AUG-19
1,2-Dibromo-3-chloropropane			101.2		%		70-130	09-AUG-19
1,2,4-Trichlorobenzene			108.2		%		70-130	09-AUG-19
Hexachlorobutadiene			127.9		%		70-130	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-10 LCS								
1,2,3-Trichlorobenzene			106.8		%		70-130	09-AUG-19
WG3128532-6 LCS								
Dichlorodifluoromethane			86.3		%		60-140	08-AUG-19
Chloromethane			73.1		%		60-140	08-AUG-19
Vinyl chloride			89.0		%		60-140	08-AUG-19
Bromomethane			92.4		%		60-140	08-AUG-19
Chloroethane			110.8		%		60-140	08-AUG-19
Trichlorofluoromethane			111.8		%		60-140	08-AUG-19
1,1-Dichloroethene			95.5		%		70-130	08-AUG-19
Methylene chloride			108.1		%		60-140	08-AUG-19
trans-1,2-Dichloroethene			101.2		%		70-130	08-AUG-19
1,1-Dichloroethane			108.1		%		70-130	08-AUG-19
2,2-Dichloropropane			116.5		%		70-130	08-AUG-19
cis-1,2-Dichloroethene			107.3		%		70-130	08-AUG-19
Chloroform			110.5		%		70-130	08-AUG-19
Bromochloromethane			110.1		%		70-130	08-AUG-19
1,2-Dichloroethane			110.5		%		70-130	08-AUG-19
1,1,1-Trichloroethane			112.2		%		70-130	08-AUG-19
1,1-Dichloropropene			103.0		%		70-130	08-AUG-19
Carbon tetrachloride			107.3		%		70-130	08-AUG-19
Benzene			106.4		%		70-130	08-AUG-19
Trichloroethene			114.2		%		70-130	08-AUG-19
1,2-Dichloropropane			106.5		%		70-130	08-AUG-19
Bromodichloromethane			109.6		%		70-130	08-AUG-19
Dibromomethane			114.9		%		70-130	08-AUG-19
cis-1,3-Dichloropropene			99.0		%		70-130	08-AUG-19
trans-1,3-Dichloropropene			116.8		%		70-130	08-AUG-19
Toluene			109.8		%		70-130	08-AUG-19
1,1,2-Trichloroethane			116.9		%		70-130	08-AUG-19
1,3-Dichloropropane			113.3		%		70-130	08-AUG-19
Tetrachloroethene			117.9		%		70-130	08-AUG-19
Dibromochloromethane			115.2		%		70-130	08-AUG-19
1,2-Dibromoethane			108.7		%		70-130	08-AUG-19
Chlorobenzene			107.3		%		70-130	08-AUG-19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-6 LCS								
Ethylbenzene			104.4		%		70-130	08-AUG-19
1,1,1,2-Tetrachloroethane			110.5		%		70-130	08-AUG-19
m+p-Xylenes			108.6		%		70-130	08-AUG-19
o-Xylene			106.1		%		70-130	08-AUG-19
Styrene			111.7		%		70-130	08-AUG-19
Bromoform			98.6		%		70-130	08-AUG-19
Isopropylbenzene			108.3		%		70-130	08-AUG-19
1,1,2,2-Tetrachloroethane			103.5		%		70-130	08-AUG-19
1,2,3-Trichloropropane			106.8		%		70-130	08-AUG-19
n-Propylbenzene			108.7		%		70-130	08-AUG-19
Bromobenzene			111.1		%		70-130	08-AUG-19
1,3,5-Trimethylbenzene			112.6		%		70-130	08-AUG-19
2-Chlorotoluene			113.9		%		70-130	08-AUG-19
4-Chlorotoluene			105.2		%		70-130	08-AUG-19
tert-Butylbenzene			112.3		%		70-130	08-AUG-19
1,2,4-Trimethylbenzene			122.5		%		70-130	08-AUG-19
sec-Butylbenzene			117.1		%		70-130	08-AUG-19
p-Isopropyltoluene			113.3		%		50-150	08-AUG-19
1,3-Dichlorobenzene			110.9		%		70-130	08-AUG-19
1,4-Dichlorobenzene			112.8		%		70-130	08-AUG-19
n-Butylbenzene			115.5		%		70-130	08-AUG-19
1,2-Dichlorobenzene			109.4		%		70-130	08-AUG-19
1,2-Dibromo-3-chloropropane			108.6		%		70-130	08-AUG-19
1,2,4-Trichlorobenzene			119.7		%		70-130	08-AUG-19
Hexachlorobutadiene			120.5		%		70-130	08-AUG-19
1,2,3-Trichlorobenzene			122.2		%		70-130	08-AUG-19
WG3128532-1 MB								
Dichlorodifluoromethane			<0.0010		mg/L		0.001	08-AUG-19
Chloromethane			<0.010		mg/L		0.01	08-AUG-19
Vinyl chloride			<0.00050		mg/L		0.0005	08-AUG-19
Bromomethane			<0.010		mg/L		0.01	08-AUG-19
Chloroethane			<0.010		mg/L		0.01	08-AUG-19
Trichlorofluoromethane			<0.0010		mg/L		0.001	08-AUG-19
1,1-Dichloroethene			<0.0010		mg/L		0.001	08-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-1 MB								
Methylene chloride			<0.0010		mg/L		0.001	08-AUG-19
trans-1,2-Dichloroethene			<0.0010		mg/L		0.001	08-AUG-19
1,1-Dichloroethane			<0.0010		mg/L		0.001	08-AUG-19
2,2-Dichloropropane			<0.0010		mg/L		0.001	08-AUG-19
cis-1,2-Dichloroethene			<0.0010		mg/L		0.001	08-AUG-19
Chloroform			<0.0010		mg/L		0.001	08-AUG-19
Bromochloromethane			<0.0010		mg/L		0.001	08-AUG-19
1,2-Dichloroethane			<0.0010		mg/L		0.001	08-AUG-19
1,1,1-Trichloroethane			<0.0010		mg/L		0.001	08-AUG-19
1,1-Dichloropropene			<0.0010		mg/L		0.001	08-AUG-19
Carbon tetrachloride			<0.0010		mg/L		0.001	08-AUG-19
Benzene			<0.0010		mg/L		0.001	08-AUG-19
Trichloroethene			<0.0010		mg/L		0.001	08-AUG-19
1,2-Dichloropropane			<0.0010		mg/L		0.001	08-AUG-19
Bromodichloromethane			<0.0010		mg/L		0.001	08-AUG-19
Dibromomethane			<0.0010		mg/L		0.001	08-AUG-19
cis-1,3-Dichloropropene			<0.0010		mg/L		0.001	08-AUG-19
trans-1,3-Dichloropropene			<0.0010		mg/L		0.001	08-AUG-19
Toluene			<0.0010		mg/L		0.001	08-AUG-19
1,1,2-Trichloroethane			<0.0010		mg/L		0.001	08-AUG-19
1,3-Dichloropropane			<0.0010		mg/L		0.001	08-AUG-19
Tetrachloroethene			<0.0010		mg/L		0.001	08-AUG-19
Dibromochloromethane			<0.0010		mg/L		0.001	08-AUG-19
1,2-Dibromoethane			<0.0010		mg/L		0.001	08-AUG-19
Chlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
Ethylbenzene			<0.0010		mg/L		0.001	08-AUG-19
1,1,1,2-Tetrachloroethane			<0.0010		mg/L		0.001	08-AUG-19
m+p-Xylenes			<0.0010		mg/L		0.001	08-AUG-19
o-Xylene			<0.0010		mg/L		0.001	08-AUG-19
Styrene			<0.0010		mg/L		0.001	08-AUG-19
Bromoform			<0.0010		mg/L		0.001	08-AUG-19
Isopropylbenzene			<0.0010		mg/L		0.001	08-AUG-19
1,1,2,2-Tetrachloroethane			<0.0050		mg/L		0.005	08-AUG-19
1,2,3-Trichloropropane			<0.0020		mg/L		0.002	08-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-1 MB								
n-Propylbenzene			<0.0010		mg/L		0.001	08-AUG-19
Bromobenzene			<0.0010		mg/L		0.001	08-AUG-19
1,3,5-Trimethylbenzene			<0.0010		mg/L		0.001	08-AUG-19
2-Chlorotoluene			<0.0010		mg/L		0.001	08-AUG-19
4-Chlorotoluene			<0.0010		mg/L		0.001	08-AUG-19
tert-Butylbenzene			<0.0010		mg/L		0.001	08-AUG-19
1,2,4-Trimethylbenzene			<0.0010		mg/L		0.001	08-AUG-19
sec-Butylbenzene			<0.0010		mg/L		0.001	08-AUG-19
p-Isopropyltoluene			<0.0010		mg/L		0.001	08-AUG-19
1,3-Dichlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
1,4-Dichlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
n-Butylbenzene			<0.0010		mg/L		0.001	08-AUG-19
1,2-Dichlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
1,2-Dibromo-3-chloropropane			<0.0010		mg/L		0.001	08-AUG-19
1,2,4-Trichlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
Hexachlorobutadiene			<0.0010		mg/L		0.001	08-AUG-19
1,2,3-Trichlorobenzene			<0.0010		mg/L		0.001	08-AUG-19
Surrogate: 1,4-Difluorobenzene			103.3		%		70-130	08-AUG-19
Surrogate: 4-Bromofluorobenzene			101.1		%		70-130	08-AUG-19
Surrogate: 3,4-Dichlorotoluene			126.5		%		70-130	08-AUG-19
WG3128532-7 MB								
Dichlorodifluoromethane			<0.0010		mg/L		0.001	09-AUG-19
Chloromethane			<0.010		mg/L		0.01	09-AUG-19
Vinyl chloride			<0.00050		mg/L		0.0005	09-AUG-19
Bromomethane			<0.010		mg/L		0.01	09-AUG-19
Chloroethane			<0.010		mg/L		0.01	09-AUG-19
Trichlorofluoromethane			<0.0010		mg/L		0.001	09-AUG-19
1,1-Dichloroethene			<0.0010		mg/L		0.001	09-AUG-19
Methylene chloride			<0.0010		mg/L		0.001	09-AUG-19
trans-1,2-Dichloroethene			<0.0010		mg/L		0.001	09-AUG-19
1,1-Dichloroethane			<0.0010		mg/L		0.001	09-AUG-19
2,2-Dichloropropane			<0.0010		mg/L		0.001	09-AUG-19
cis-1,2-Dichloroethene			<0.0010		mg/L		0.001	09-AUG-19
Chloroform			<0.0010		mg/L		0.001	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-7 MB								
Bromochloromethane			<0.0010		mg/L		0.001	09-AUG-19
1,2-Dichloroethane			<0.0010		mg/L		0.001	09-AUG-19
1,1,1-Trichloroethane			<0.0010		mg/L		0.001	09-AUG-19
1,1-Dichloropropene			<0.0010		mg/L		0.001	09-AUG-19
Carbon tetrachloride			<0.0010		mg/L		0.001	09-AUG-19
Benzene			<0.0010		mg/L		0.001	09-AUG-19
Trichloroethene			<0.0010		mg/L		0.001	09-AUG-19
1,2-Dichloropropane			<0.0010		mg/L		0.001	09-AUG-19
Bromodichloromethane			<0.0010		mg/L		0.001	09-AUG-19
Dibromomethane			<0.0010		mg/L		0.001	09-AUG-19
cis-1,3-Dichloropropene			<0.0010		mg/L		0.001	09-AUG-19
trans-1,3-Dichloropropene			<0.0010		mg/L		0.001	09-AUG-19
Toluene			<0.0010		mg/L		0.001	09-AUG-19
1,1,2-Trichloroethane			<0.0010		mg/L		0.001	09-AUG-19
1,3-Dichloropropane			<0.0010		mg/L		0.001	09-AUG-19
Tetrachloroethene			<0.0010		mg/L		0.001	09-AUG-19
Dibromochloromethane			<0.0010		mg/L		0.001	09-AUG-19
1,2-Dibromoethane			<0.0010		mg/L		0.001	09-AUG-19
Chlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
Ethylbenzene			<0.0010		mg/L		0.001	09-AUG-19
1,1,1,2-Tetrachloroethane			<0.0010		mg/L		0.001	09-AUG-19
m+p-Xylenes			<0.0010		mg/L		0.001	09-AUG-19
o-Xylene			<0.0010		mg/L		0.001	09-AUG-19
Styrene			<0.0010		mg/L		0.001	09-AUG-19
Bromoform			<0.0010		mg/L		0.001	09-AUG-19
Isopropylbenzene			<0.0010		mg/L		0.001	09-AUG-19
1,1,2,2-Tetrachloroethane			<0.0050		mg/L		0.005	09-AUG-19
1,2,3-Trichloropropane			<0.0020		mg/L		0.002	09-AUG-19
n-Propylbenzene			<0.0010		mg/L		0.001	09-AUG-19
Bromobenzene			<0.0010		mg/L		0.001	09-AUG-19
1,3,5-Trimethylbenzene			<0.0010		mg/L		0.001	09-AUG-19
2-Chlorotoluene			<0.0010		mg/L		0.001	09-AUG-19
4-Chlorotoluene			<0.0010		mg/L		0.001	09-AUG-19
tert-Butylbenzene			<0.0010		mg/L		0.001	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-7 MB								
1,2,4-Trimethylbenzene			<0.0010		mg/L		0.001	09-AUG-19
sec-Butylbenzene			<0.0010		mg/L		0.001	09-AUG-19
p-Isopropyltoluene			<0.0010		mg/L		0.001	09-AUG-19
1,3-Dichlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
1,4-Dichlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
n-Butylbenzene			<0.0010		mg/L		0.001	09-AUG-19
1,2-Dichlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
1,2-Dibromo-3-chloropropane			<0.0010		mg/L		0.001	09-AUG-19
1,2,4-Trichlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
Hexachlorobutadiene			<0.0010		mg/L		0.001	09-AUG-19
1,2,3-Trichlorobenzene			<0.0010		mg/L		0.001	09-AUG-19
Surrogate: 1,4-Difluorobenzene			102.4		%		70-130	09-AUG-19
Surrogate: 4-Bromofluorobenzene			95.6		%		70-130	09-AUG-19
Surrogate: 3,4-Dichlorotoluene			125.0		%		70-130	09-AUG-19
WG3128532-9 MS		**L2323109-1**						
Dichlorodifluoromethane			79.8		%		50-140	09-AUG-19
Chloromethane			71.2		%		50-140	09-AUG-19
Vinyl chloride			85.0		%		50-140	09-AUG-19
Bromomethane			92.5		%		50-140	09-AUG-19
Chloroethane			114.3		%		50-140	09-AUG-19
Trichlorofluoromethane			106.9		%		50-140	09-AUG-19
1,1-Dichloroethene			96.6		%		50-140	09-AUG-19
Methylene chloride			111.7		%		50-140	09-AUG-19
trans-1,2-Dichloroethene			103.1		%		50-140	09-AUG-19
1,1-Dichloroethane			112.6		%		50-140	09-AUG-19
2,2-Dichloropropane			109.4		%		50-140	09-AUG-19
cis-1,2-Dichloroethene			107.6		%		50-140	09-AUG-19
Chloroform			111.3		%		50-140	09-AUG-19
Bromochloromethane			113.9		%		50-140	09-AUG-19
1,2-Dichloroethane			117.6		%		50-140	09-AUG-19
1,1,1-Trichloroethane			110.1		%		50-140	09-AUG-19
1,1-Dichloropropene			100.1		%		50-140	09-AUG-19
Carbon tetrachloride			106.2		%		50-140	09-AUG-19
Benzene			106.9		%		50-140	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-9 MS		**L2323109-1**						
Trichloroethene			111.4		%		50-140	09-AUG-19
1,2-Dichloropropane			110.8		%		50-140	09-AUG-19
Bromodichloromethane			114.0		%		50-140	09-AUG-19
Dibromomethane			119.9		%		50-140	09-AUG-19
cis-1,3-Dichloropropene			102.9		%		50-140	09-AUG-19
trans-1,3-Dichloropropene			117.9		%		50-140	09-AUG-19
Toluene			108.5		%		50-140	09-AUG-19
1,1,2-Trichloroethane			120.6		%		50-140	09-AUG-19
1,3-Dichloropropane			119.6		%		50-140	09-AUG-19
Tetrachloroethene			113.1		%		50-140	09-AUG-19
Dibromochloromethane			118.4		%		50-140	09-AUG-19
1,2-Dibromoethane			111.0		%		50-140	09-AUG-19
Chlorobenzene			106.5		%		50-140	09-AUG-19
Ethylbenzene			96.6		%		50-140	09-AUG-19
1,1,1,2-Tetrachloroethane			107.3		%		50-140	09-AUG-19
m+p-Xylenes			107.6		%		50-140	09-AUG-19
o-Xylene			99.1		%		50-140	09-AUG-19
Styrene			N/A	K	%		-	09-AUG-19
Bromoform			97.5		%		50-140	09-AUG-19
Isopropylbenzene			98.8		%		50-140	09-AUG-19
1,1,2,2-Tetrachloroethane			99.5		%		50-140	09-AUG-19
1,2,3-Trichloropropane			105.4		%		70-130	09-AUG-19
n-Propylbenzene			103.3		%		50-140	09-AUG-19
Bromobenzene			104.6		%		50-140	09-AUG-19
1,3,5-Trimethylbenzene			N/A	K	%		-	09-AUG-19
2-Chlorotoluene			108.2		%		50-140	09-AUG-19
4-Chlorotoluene			102.5		%		50-140	09-AUG-19
tert-Butylbenzene			107.4		%		50-140	09-AUG-19
1,2,4-Trimethylbenzene			100.3		%		50-140	09-AUG-19
sec-Butylbenzene			111.6		%		50-140	09-AUG-19
p-Isopropyltoluene			104.4		%		50-140	09-AUG-19
1,3-Dichlorobenzene			101.3		%		50-140	09-AUG-19
1,4-Dichlorobenzene			106.0		%		50-140	09-AUG-19
n-Butylbenzene			103.9		%		50-140	09-AUG-19

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-8260-CL	**Water**							
Batch R4745457								
WG3128532-9 MS		**L2323109-1**						
1,2-Dichlorobenzene			96.6		%		50-140	09-AUG-19
1,2-Dibromo-3-chloropropane			83.9		%		50-140	09-AUG-19
1,2,4-Trichlorobenzene			96.3		%		50-140	09-AUG-19
Hexachlorobutadiene			96.6		%		50-140	09-AUG-19
1,2,3-Trichlorobenzene			98.4		%		50-140	09-AUG-19

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.
M	A peak has been manually integrated.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Inorganic Parameters							
Chlorine, Free							
	1	06-AUG-19 07:30	06-AUG-19 15:30	0.25	7.9	hours	EHTR-FM
Chlorine, Total							
	1	06-AUG-19 07:30	06-AUG-19 15:30	0.25	7.9	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2323109 were received on 09-AUG-19 14:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

COC #
Page 1 of 2

Report To:		Report Format / Distribution		Service Turn-Around Time (TAT) Requested (Rush for routine analysis subject to availability)
Company:	Town of Cochrane (acct# 25461)	☑ CDWQGQC_ALS (PDF + Excel)	☑ EDD: AEPMUN	● Regular (Standard Turnaround Times - Business Days)
Contact:	Richard Gaida (cell: 403-669-4983)	Email 1:	Richard.Gaida@cochrane.ca	○ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address:	101 Ranchehouse Rd	Email 2:		○ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
	Cochrane, AB T4C 2K8	Email 3:		○ Same Day or Weekend Emergency - Contact ALS to Confirm TAT
Phone:	403-851-2596 Fax:	Email 4:		Analysis Request
Invoice To	Same as Report ? ☑ Yes ☐ No	Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)
Hardcopy of Invoice with Report ?	☐ Yes ☑ No	Job #:	Schedule 4 Monitoring (bi-annual)	
Company:				
Contact:	Richard.Gaida@cochrane.ca	PO / AFE:		
Address:		LSD:		
Phone:	Fax:	Quote #:	Q58367	
Lab Work Order # (lab use only):		ALS Contact:	~~Nelson Kwan~~ Patryk	Sampler: Richard Gaida

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	ALGAE-CYANO-BACT-WP	BROMATE-KL	C-TOT-ORG, COLOUR-TRUE	CHLORAMINES-CL	CN-TOT-WT, HERBSCR-P-WT	DIURON, GLYPHOSATE (WT)	NDMA-IHM-HRMS-BU	MET-TOT-ABT1-CL	MICROCYSTIN-WP	PEST-MISC, PEST-OC, NTA (WT)	NH3-F-CL, ROU-CL	PHN-ABT1-ED, SULPHIDE-CFA-E	CHLORATE + CHLORITE-KL	VOC-8260, XYLENES-CALC	THM-PT-MS-CL	(REP) WT-METHOXYCHLOR	Number of Containers
	WTP	06-Aug-19	7:30	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	32
	pest: (REP) WT-METHOXYCHLOR																				

L2323109-COFC

Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

~~[illegible]~~ R.

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.
By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.
Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by: [illegible]	Date: 8/6	Time: 1336	Temperature: 6	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF

Municipal Drinking Water Facility Sample Reque

(as per Alberta Environment and Parks (AEP) Approval/Registration) (one sa

L2323109-COFC

LABORATORY INFORMATION:

Name:			
Address:			
Phone:		FAX:	

Lab: Please email receipt of this sample to: dwq.datacoord@gov.ab.ca ☐ done, DATE:

FOR LAB USE:

Lab Sample Number:		Date Received:	
Account:			

BILLING / SAMPLE REQUESTER INFORMATION:

Contact Name:	Town of Cochrane - Richard Gaida				
Mailing Address:	101 RancheHouse Rd. Cochrane AB T4C 2K8				
Phone:	403-851-2590	FAX:		E-mail:	richard.gaida@cochrane.ca

Send Report to: same as above OR

Name:	
Mailing Address:	

Send Invoice to: same as above OR

Name:	
Mailing Address:	

FACILITY WATER SAMPLING (Annual/Quarterly/Semi-annual/Monthly); Project Code: ABMDWQ

Facility Sample Identifier (Sample No.)	WTP	MUST match label on bottle(s)				Date Sent:	Aug 6/19			
Sample Date:	2019	/	Aug	/	06	Time: (24 hr clock)	07	:	30	
	YYYY	/	MMM	/	DD		HH	:	mm	

AEP Approval/Registration #	545		
Facility Name:	COCHRANE WATERWORKS SYSTEM		
Sampled at Station No.	AB05BH1592	Station Description:	DISTRIBUTION: RANDOM LOCATIONS
Sample Matrix:	TREATED WATER (10)	Raw Water Source: ☐ Ground Water ☑ Surface Water ☐ Ground Water under Influence of Surface Water	
Sample Type:	DISCRETE SAMPLE (GRAB (1)		
Sample Frequency:	(2 Samples per ANNUM) (ANNUL)		
Sample Location / Comments:			
Send results to AEP electronically:	☑ YES	☐ NO	

ANALYSIS TYPE: (check which is appropriate for this sample) see reverse for details.

☑ Physical	☑ Inorganic	☑ Organics & Pesticide
☑ Trihalomethanes	☐ Fluoride Only	☐ *Giardia / Cryptosporidium* / Viruses
☐ Other:		☐ Other:

All Municipal Drinking Water Facilities, regulated by AEP, must have their annual, semi annual, and / or specific monthly samples analyzed at an ISO/IEC 17025 accredited laboratory. AEP will only accept data in their specific electronic format. Billing / payment is the responsibility of the facility. **The above information must be submitted by the facility and recorded by the laboratory to insure that it is forwarded with the sample data.**