



ANALYSIS REPORT

Client:	EnviroWaste Services Limited	Lab No:	1783632	SPV1
Contact:	Laurence Dolan C/- EnviroWaste Services Limited Private Bag 92810 Penrose Auckland 1642	Date Received:	30-May-2017	
		Date Reported:	09-Jun-2017	
		Quote No:	85703	
		Order No:	202145	
		Client Reference:	Pond	
		Submitted By:	Danielle Davies	

Sample Type: Aqueous

Sample Name:	Wetland 29-May-2017 11:50 am	Site Outlet Stream 29-May-2017 12:00 pm			
Lab Number:	1783632.1	1783632.2			

Individual Tests

pH	pH Units	7.3	7.6	-	-	-
Electrical Conductivity (EC)	mS/m	63.1	73.0	-	-	-
Total Suspended Solids	g/m ³	10	9	-	-	-

Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn

Total Arsenic	g/m ³	< 0.0011	< 0.0011	-	-	-
Total Cadmium	g/m ³	0.00024	0.000094	-	-	-
Total Chromium	g/m ³	0.00080	0.00069	-	-	-
Total Copper	g/m ³	0.00092	0.00115	-	-	-
Total Lead	g/m ³	0.00015	< 0.00011	-	-	-
Total Nickel	g/m ³	0.021	0.0142	-	-	-
Total Zinc	g/m ³	0.038	0.0156	-	-	-

Haloethers in SVOC Water Samples by GC-MS

Bis(2-chloroethoxy) methane	g/m ³	< 0.005	< 0.005	-	-	-
Bis(2-chloroethyl)ether	g/m ³	< 0.005	< 0.005	-	-	-
Bis(2-chloroisopropyl)ether	g/m ³	< 0.005	< 0.005	-	-	-
4-Bromophenyl phenyl ether	g/m ³	< 0.005	< 0.005	-	-	-
4-Chlorophenyl phenyl ether	g/m ³	< 0.005	< 0.005	-	-	-

Nitrogen containing compounds in SVOC Water Samples by GC-MS

2,4-Dinitrotoluene	g/m ³	< 0.010	< 0.010	-	-	-
2,6-Dinitrotoluene	g/m ³	< 0.010	< 0.010	-	-	-
Nitrobenzene	g/m ³	< 0.005	< 0.005	-	-	-
N-Nitrosodi-n-propylamine	g/m ³	< 0.010	< 0.010	-	-	-
N-Nitrosodiphenylamine + Diphenylamine*	g/m ³	< 0.010	< 0.010	-	-	-

Organochlorine Pesticides in SVOC Water Samples by GC-MS

Aldrin	g/m ³	< 0.005	< 0.005	-	-	-
alpha-BHC	g/m ³	< 0.005	< 0.005	-	-	-
beta-BHC	g/m ³	< 0.005	< 0.005	-	-	-
delta-BHC	g/m ³	< 0.005	< 0.005	-	-	-
gamma-BHC (Lindane)	g/m ³	< 0.005	< 0.005	-	-	-
4,4'-DDD	g/m ³	< 0.005	< 0.005	-	-	-
4,4'-DDE	g/m ³	< 0.005	< 0.005	-	-	-
4,4'-DDT	g/m ³	< 0.010	< 0.010	-	-	-
Dieldrin	g/m ³	< 0.005	< 0.005	-	-	-
Endosulfan I	g/m ³	< 0.010	< 0.010	-	-	-
Endosulfan II	g/m ³	< 0.010	< 0.010	-	-	-



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Organochlorine Pesticides in SVOC Water Samples by GC-MS					
Endosulfan sulfate	g/m ³	< 0.010	< 0.010	-	-
Endrin	g/m ³	< 0.010	< 0.010	-	-
Endrin ketone	g/m ³	< 0.010	< 0.010	-	-
Heptachlor	g/m ³	< 0.005	< 0.005	-	-
Heptachlor epoxide	g/m ³	< 0.005	< 0.005	-	-
Hexachlorobenzene	g/m ³	< 0.005	< 0.005	-	-
Polycyclic Aromatic Hydrocarbons in SVOC Water Samples by GC-MS					
Acenaphthene	g/m ³	< 0.003	< 0.003	-	-
Acenaphthylene	g/m ³	< 0.003	< 0.003	-	-
Anthracene	g/m ³	< 0.003	< 0.003	-	-
Benzo[a]anthracene	g/m ³	< 0.003	< 0.003	-	-
Benzo[a]pyrene (BAP)	g/m ³	< 0.003	< 0.003	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	g/m ³	< 0.003	< 0.003	-	-
Benzo[g,h,i]perylene	g/m ³	< 0.003	< 0.003	-	-
Benzo[k]fluoranthene	g/m ³	< 0.003	< 0.003	-	-
1&2-Chloronaphthalene	g/m ³	< 0.003	< 0.003	-	-
Chrysene	g/m ³	< 0.003	< 0.003	-	-
Dibenzo[a,h]anthracene	g/m ³	< 0.003	< 0.003	-	-
Fluoranthene	g/m ³	< 0.003	< 0.003	-	-
Fluorene	g/m ³	< 0.003	< 0.003	-	-
Indeno(1,2,3-c,d)pyrene	g/m ³	< 0.003	< 0.003	-	-
2-Methylnaphthalene	g/m ³	< 0.003	< 0.003	-	-
Naphthalene	g/m ³	< 0.003	< 0.003	-	-
Phenanthrene	g/m ³	< 0.003	< 0.003	-	-
Pyrene	g/m ³	< 0.003	< 0.003	-	-
Phenols in SVOC Water Samples by GC-MS					
4-Chloro-3-methylphenol	g/m ³	< 0.010	< 0.010	-	-
2-Chlorophenol	g/m ³	< 0.005	< 0.005	-	-
2,4-Dichlorophenol	g/m ³	< 0.005	< 0.005	-	-
2,4-Dimethylphenol	g/m ³	< 0.005	< 0.005	-	-
3 & 4-Methylphenol (m- + p-cresol)	g/m ³	< 0.010	< 0.010	-	-
2-Methylphenol (o-Cresol)	g/m ³	< 0.005	< 0.005	-	-
2-Nitrophenol	g/m ³	< 0.010	< 0.010	-	-
Pentachlorophenol (PCP)	g/m ³	< 0.10	< 0.10	-	-
Phenol	g/m ³	< 0.010	< 0.010	-	-
2,4,5-Trichlorophenol	g/m ³	< 0.010	< 0.010	-	-
2,4,6-Trichlorophenol	g/m ³	< 0.010	< 0.010	-	-
Plasticisers in SVOC Water Samples by GC-MS					
Bis(2-ethylhexyl)phthalate	g/m ³	< 0.03	< 0.03	-	-
Butylbenzylphthalate	g/m ³	< 0.010	< 0.010	-	-
Di(2-ethylhexyl)adipate	g/m ³	< 0.005	< 0.005	-	-
Diethylphthalate	g/m ³	< 0.010	< 0.010	-	-
Dimethylphthalate	g/m ³	< 0.010	< 0.010	-	-
Di-n-butylphthalate	g/m ³	< 0.010	< 0.010	-	-
Di-n-octylphthalate	g/m ³	< 0.010	< 0.010	-	-
Other Halogenated compounds in SVOC Water Samples by GC-MS					
1,2-Dichlorobenzene	g/m ³	< 0.010	< 0.010	-	-
1,3-Dichlorobenzene	g/m ³	< 0.010	< 0.010	-	-
1,4-Dichlorobenzene	g/m ³	< 0.010	< 0.010	-	-
Hexachlorobutadiene	g/m ³	< 0.010	< 0.010	-	-
Hexachloroethane	g/m ³	< 0.010	< 0.010	-	-
1,2,4-Trichlorobenzene	g/m ³	< 0.005	< 0.005	-	-

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Other compounds in SVOC Water Samples by GC-MS						
Benzyl alcohol	g/m ³	< 0.05	< 0.05	-	-	-
Carbazole	g/m ³	< 0.005	< 0.005	-	-	-
Dibenzofuran	g/m ³	< 0.005	< 0.005	-	-	-
Isophorone	g/m ³	< 0.005	< 0.005	-	-	-
BTEX in VOC Water by Headspace GC-MS						
Benzene	g/m ³	< 0.003	< 0.003	-	-	-
Ethylbenzene	g/m ³	< 0.005	< 0.005	-	-	-
Toluene	g/m ³	< 0.003	< 0.003	-	-	-
m&p-Xylene	g/m ³	< 0.005	< 0.005	-	-	-
o-Xylene	g/m ³	< 0.003	< 0.003	-	-	-
Halogenated Aliphatics in VOC Water by Headspace GC-MS						
Bromomethane (Methyl Bromide)	g/m ³	< 0.003	< 0.003	-	-	-
Carbon tetrachloride	g/m ³	< 0.003	< 0.003	-	-	-
Chloroethane	g/m ³	< 0.003	< 0.003	-	-	-
Chloromethane	g/m ³	< 0.003	< 0.003	-	-	-
1,2-Dibromo-3-chloropropane	g/m ³	< 0.003	< 0.003	-	-	-
1,2-Dibromoethane (ethylene dibromide, EDB)	g/m ³	< 0.003	< 0.003	-	-	-
Dibromomethane	g/m ³	< 0.003	< 0.003	-	-	-
Dichlorodifluoromethane	g/m ³	< 0.003	< 0.003	-	-	-
1,1-Dichloroethane	g/m ³	< 0.003	< 0.003	-	-	-
1,2-Dichloroethane	g/m ³	< 0.003	< 0.003	-	-	-
1,1-Dichloroethene	g/m ³	< 0.003	< 0.003	-	-	-
cis-1,2-Dichloroethene	g/m ³	< 0.003	< 0.003	-	-	-
trans-1,2-Dichloroethene	g/m ³	< 0.003	< 0.003	-	-	-
Dichloromethane (methylene chloride)	g/m ³	< 0.003	< 0.003	-	-	-
1,2-Dichloropropane	g/m ³	< 0.003	< 0.003	-	-	-
1,3-Dichloropropane	g/m ³	< 0.003	< 0.003	-	-	-
1,1-Dichloropropene	g/m ³	< 0.003	< 0.003	-	-	-
cis-1,3-Dichloropropene	g/m ³	< 0.005	< 0.005	-	-	-
trans-1,3-Dichloropropene	g/m ³	< 0.005	< 0.005	-	-	-
Hexachlorobutadiene	g/m ³	< 0.003	< 0.003	-	-	-
1,1,1,2-Tetrachloroethane	g/m ³	< 0.003	< 0.003	-	-	-
1,1,2,2-Tetrachloroethane	g/m ³	< 0.003	< 0.003	-	-	-
Tetrachloroethene (tetrachloroethylene)	g/m ³	< 0.003	< 0.003	-	-	-
1,1,1-Trichloroethane	g/m ³	< 0.003	< 0.003	-	-	-
1,1,2-Trichloroethane	g/m ³	< 0.003	< 0.003	-	-	-
Trichloroethene (trichloroethylene)	g/m ³	< 0.003	< 0.003	-	-	-
Trichlorofluoromethane	g/m ³	< 0.003	< 0.003	-	-	-
1,2,3-Trichloropropane	g/m ³	< 0.003	< 0.003	-	-	-
1,1,2-Trichlorotrifluoroethane (Freon 113)	g/m ³	< 0.003	< 0.003	-	-	-
Vinyl chloride	g/m ³	< 0.003	< 0.003	-	-	-
Haloaromatics in VOC Water by Headspace GC-MS						
Bromobenzene	g/m ³	< 0.003	< 0.003	-	-	-
Chlorobenzene (monochlorobenzene)	g/m ³	< 0.003	< 0.003	-	-	-
2-Chlorotoluene	g/m ³	< 0.003	< 0.003	-	-	-
1,2-Dichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-
1,3-Dichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-
1,4-Dichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-
4-Chlorotoluene	g/m ³	< 0.003	< 0.003	-	-	-
1,2,3-Trichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-
1,2,4-Trichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-
1,3,5-Trichlorobenzene	g/m ³	< 0.003	< 0.003	-	-	-

Sample Type: Aqueous						
Sample Name:	Wetland 29-May-2017 11:50 am	Site Outlet Stream 29-May-2017 12:00 pm				
Lab Number:	1783632.1	1783632.2				
Monoaromatic Hydrocarbons in VOC Water by Headspace GC-MS						
n-Butylbenzene	g/m ³	< 0.005	< 0.005	-	-	-
tert-Butylbenzene	g/m ³	< 0.003	< 0.003	-	-	-
4-Isopropyltoluene (p-Cymene)	g/m ³	< 0.005	< 0.005	-	-	-
Isopropylbenzene (Cumene)	g/m ³	< 0.003	< 0.003	-	-	-
n-Propylbenzene	g/m ³	< 0.005	< 0.005	-	-	-
sec-Butylbenzene	g/m ³	< 0.003	< 0.003	-	-	-
Styrene	g/m ³	< 0.005	< 0.005	-	-	-
1,2,4-Trimethylbenzene	g/m ³	< 0.003	< 0.003	-	-	-
1,3,5-Trimethylbenzene	g/m ³	< 0.003	< 0.003	-	-	-
Ketones in VOC Water by Headspace GC-MS						
Acetone	g/m ³	< 0.5	< 0.5	-	-	-
2-Butanone (MEK)	g/m ³	< 0.5	< 0.5	-	-	-
Methyl tert-butylether (MTBE)	g/m ³	< 0.003	< 0.003	-	-	-
4-Methylpentan-2-one (MIBK)	g/m ³	< 0.10	< 0.10	-	-	-
Trihalomethanes in VOC Water by Headspace GC-MS						
Bromodichloromethane	g/m ³	< 0.003	< 0.003	-	-	-
Bromoform (tribromomethane)	g/m ³	< 0.003	< 0.003	-	-	-
Chloroform (Trichloromethane)	g/m ³	< 0.003	< 0.003	-	-	-
Dibromochloromethane	g/m ³	< 0.003	< 0.003	-	-	-
Other VOC in Water by Headspace GC-MS						
Carbon disulphide	g/m ³	< 0.0010	< 0.0010	-	-	-
Naphthalene	g/m ³	< 0.005	< 0.005	-	-	-

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22 nd ed. 2012 / US EPA 200.8	0.000053 - 0.0011 g/m ³	1-2
Semivolatle Organic Compounds Screening in Water by GC-MS	Liquid/Liquid extraction, GPC cleanup (if required), GC-MS FS analysis	-	1-2
Volatile Organic Compounds Screening in Water by Headspace GC-MS	Headspace, GC-MS SIM analysis [KBIs:37857,37921]	0.0010 - 0.5 g/m ³	1-2
Total Digestion	Nitric acid digestion. APHA 3030 E 22 nd ed. 2012 (modified).	-	1-2
pH	pH meter. APHA 4500-H ⁺ B 22 nd ed. 2012. Note: It is not possible to achieve the APHA Maximum Storage Recommendation for this test (15 min) when samples are analysed upon receipt at the laboratory, and not in the field.	0.1 pH Units	1-2
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B 22 nd ed. 2012.	0.1 mS/m	1-2
Total Suspended Solids	Filtration using Whatman 934 AH, Advantec GC-50 or equivalent filters (nominal pore size 1.2 - 1.5µm), gravimetric determination. APHA 2540 D 22 nd ed. 2012.	3 g/m ³	1-2

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental